

CLVG CONVENIENCE RETAILING

AI: DAWNING OF A NEW ERA IN RETAIL ANALYTICS

VISION REPORT

JUNE 2023

From Convenience Leaders Vision Group



We are Convenience Leaders Vision Group (CLVG), a group of invited leaders of the convenience industry who have volunteered our time to help our fellow retailers, solution providers and product suppliers. The only reason we gather is to discuss, debate and share our experiences and ideas. Each of us is offering our personal opinions. We are not looking for “group think” — we are promoting problem solving and looking to the future. We make our conversations available to everyone in the industry through CLVG Vision Reports. These reports will help you better understand current challenges, solutions, and opportunities while giving you access to different opinions and perspectives, regardless of the size of your business.

Convenience Leaders Vision Group is part of the Vision Group Network, whose mission is to gather the best minds in the industry, put them in a virtual room, and let the ideas and opinions develop.

This **CLVG Vision Report** is comprised of three parts:

CLVG Views provides an overview of the conversation with additional research for extra context — something that cannot be done in real time.

In the Room with CLVG provides you with the entire conversation so that you can be “in the room” with us, rather than simply reading selected quotes and paraphrasing.

Artificial Intelligence in Convenience Retail is the slide deck from Tom Svrcek, analytics partner with McKinsey & Company, who explained how generative artificial intelligence works and some different usage applications.

We highly recommend that you read all three components.

The main topics in this CLVG Vision Report:

The dawning of a new era in analytics as generative AI evolves

Generative AI in simple terms

How AI is quickening the pace of business today

A micro perspective of AI at TXB stores

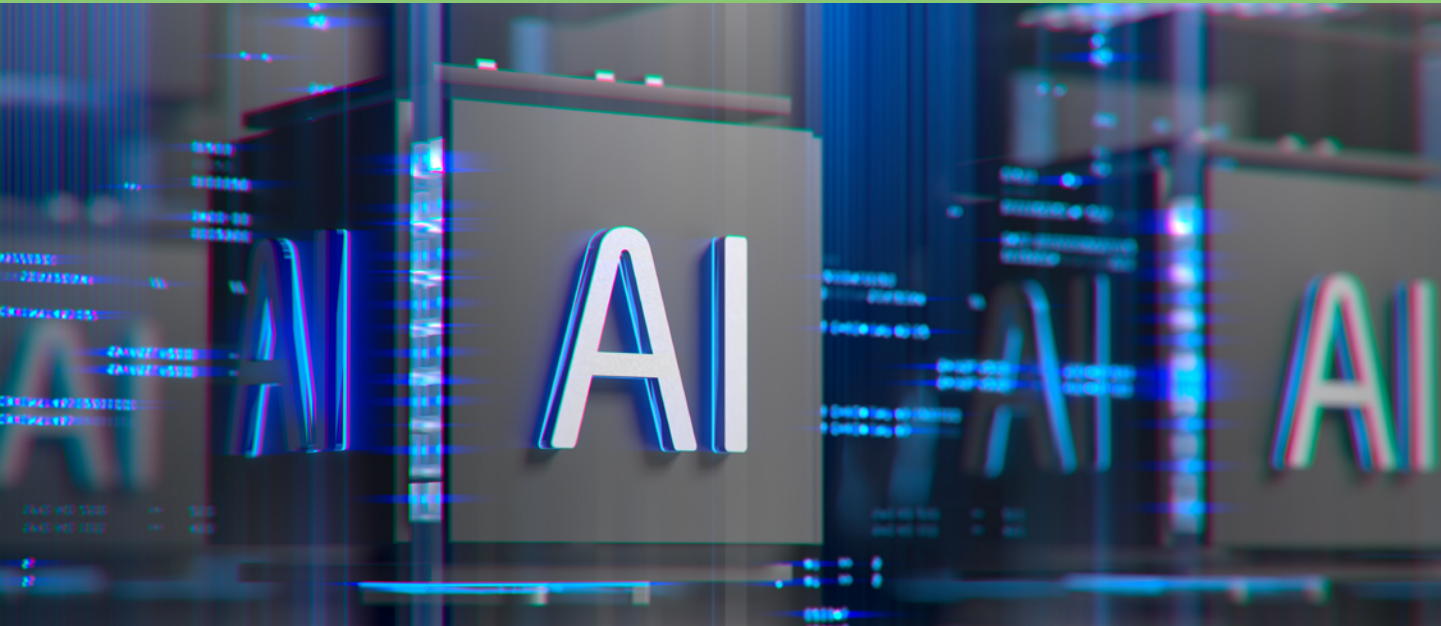
Personalization through AI



Dawning of A New Era in Analytics

A CONVENIENCE LEADERS VISION GROUP DISCUSSION

JUNE 2023



Powered by advanced artificial intelligence technology, ChatGPT has become the talk of the town since the chatbot went viral at the end of 2022. Things amped up even more in April with the launch of the sequel, GPT-4, and its expanded capabilities. Tech gurus contend this more advanced chatbot includes even more impressive language skills and several companies have been quick to upgrade to

GPT-4, including online learning resource [Khan Academy](#) and [Bing Chat](#).

The fact that a new model was released less than six months after the initial launch illustrates just how accelerated the pace of tech development has become today; seemingly a new iteration releases before many business leaders have yet to explore the first version. Which begs the question: Have

you tapped ChatGPT technology, personally or professionally? Consider the answer a measure of your digital literacy.

Understanding the full potential of this new, elevated AI is no small task, but many contend that all executives — tech titles or not — should initiate their deep dive into the potential of generative AI. Irrefutably, there are enormous possibilities with the bold new frontier of this next-level AI. With the anticipation of the new capabilities come some concerns about the lack of regulations around the technology, the accuracy of the information shared, and job losses.

Many believe that when we look back in history, we'll think of this time period in 2023 as the dawning of a new era in analytics. Generative AI and similar models couldn't have existed before today, said Tom Svrcek, analytics partner with McKinsey & Company, who led a discussion on AI in convenience retailing during the CLVG meeting on April 27, 2023.

CLVG Views

In The Room with CLVG

AI in Convenience Retail

One-Minute Read: Generative AI in Simple Terms

Svrcek predicts that ChatGPT will hold the record for the greatest number of people signing up for the service in a short time — 1 million in less than five days. Indeed, AI has officially come into its own, he said. Credit ChatGPT for pushing generative AI into the mainstream and bringing AI to a tipping point.

That singular release is the primary reason generative AI became such a timely topic. Understanding how the momentum grew starts with a realization of the sheer amount of data available today versus just five years ago. And how fast data accumulation continues to escalate. “More data will be created or has been created in the last six months than has been created since the history of time,” Svrcek said.

Monumental amounts of data translate to myriad ways to then understand the minutia.

“The ability for us to understand how the world works through the lens of data is unprecedented today,” Svrcek said. On top of that, the sheer amount of processing power to analyze all that data was not where it needed to be until now. Those two forces — quantity of data and the ability to process it via algorithms with cheap computing power — are the reason he believes AI discussions are so relevant today. He contends this would not even be a consideration five years ago, possibly even three years ago.

Svrcek likens generative AI to the way one learns to drive a car in the rain, which simulates

the way humans perform tasks. His example: When learning to drive in the rain, it’s common to hit the brakes too hard, which causes the car to hydroplane, which in turn teaches the driver not to hit the brakes too hard, and that person will likely make a different decision the next time they are driving in the rain. Essentially, it is about receiving information, acting on that information, trying something, subsequently succeeding or failing, learning from that and applying that learning the next time. That constant series of pattern recognition is how AI works, he explained. “Learning from either the success or failure of those actions enables AI to do what it does,” he added.

Similar to how the human brain works, AI receives information, learns from it, improves its model and makes better decisions over time

DEFINING TERMS

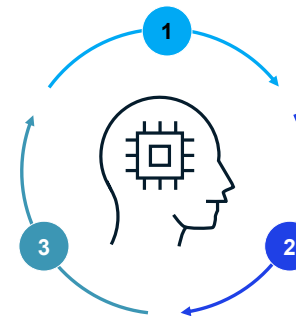
AI vs. Generative AI

From a top-line point of view, distinguishing between generative artificial intelligence and broader artificial intelligence is far less important for non-tech executives than simply having a true understanding of what is possible. In simple terms, generative AI is a form of AI.

AI systems process human-like intelligence. Generative AI models leverage that with deep learning to create new content in the form of images and text.

Decide

Machines do tasks or make decisions based on the output of algorithms and their predictions



Receive information

Machines do tasks or make decisions based on the output of algorithms and their predictions

Learn

Machines process the data through algorithms, changing them as they learn more about the information they are processing

Source: QuantumBlack, AI by McKinsey

CLVG Views

In The Room with CLVG

AI in Convenience Retail

How AI is Accelerating Business Today



“A new level of performance is being unlocked because of AI,” said Svrcek. Looking at inventory optimization alone, AI fits well within the scope of perfecting that task. With today’s level of AI comes the ability to predict demand at a “very, very granular level,” he said.

In addition to the traditional things now happening faster and better because of AI, there are also new things that were not possible before, which Svrcek pointed out are enabled by today’s more advanced computer analytics. Where generative AI comes in is with the reinforcement loop, the learning piece of understanding “Oh, I got that wrong today,” he said. The algorithm actually changes the set of conditions it looks for, he explained, and increases it when it sees that cocktail of

circumstances happening again. “That doesn’t happen in traditional forecasting and inventory models,” he added. It’s the difference between number crunching and actually learning — basically hyper pattern recognition — that closes the loop to do it better the next time.

A retailer does not have to use the most sophisticated algorithms to incorporate AI. Indeed, Hal Adams pointed out that many operators in the c-store space are already employing AI technology at some level. Consider, for example, demand forecasting. The new part comes with that learning loop and how AI is changing based on the more extreme depth of forecasting today.

The way things change with AI today is the predictive element of understanding what’s happening fast enough to be able to change the

result. “There are things you can do and react to much more quickly that you probably couldn’t do before AI,” he said, noting that when AI is in place, it elevates a traditional forecasting model.

Drayton McLane Jr., chairman of McLane Group, views this kind of predictive application as the best way to generate orders and keep a store fully stocked. “The weakness in ordering for convenience stores is that most orders are completed by the convenience store manager,” he said. The problem with that rests in the constant turnover of managers at the store level. Most managers complete orders quickly, often by visual cues based on shelf stock, and all while doing many other tasks simultaneously. “That’s proven to be very inaccurate,” he said.

Stores already know their inventory, McLane said, assuming they are scanning items in and scanning items out. Incorporating AI then adds to that, analyzing data based on seasonal consideration, holidays, weather, etc. AI can create the order and “when the truck backs up [for the weekly delivery], the store manager has no idea what’s on the truck,” he said, adding that the approach has worked well with several companies. In addition, he said using AI to track back six or eight years of weather reports creates unbelievably accurate orders.

“It would be very hard for humans to put all those combinations in their head and process those things,” Svrcek added.

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In The Room with CLVG

AI in Convenience Retail



MICROPERSPECTIVE

AI at TXB Stores

TXB Stores, which CEO Kevin Smartt describes as a very tech-focused company, primarily uses AI through [Spark Cognition](#) via its security camera feed. It is set up to indicate an action, or use case, throughout the store. The predictive modeling approach maintains an accurate headcount of people who enter the store, which in turn alerts store staff to how many employees are needed at the counter. It allows stores to immediately move people around, he said, “so there is not so much dwell time.”

Another practical example of how the AI approach changed TXB’s store-level tactics is with the bathroom cleaning schedule. Before the new AI system was in place, TXB’s corporate standard was to clean restrooms every hour. Now, the cleaning rotation is based on headcount: Stores with the AI system in place clean restrooms after a certain number of people have used the bathroom. The timing can vary, then, depending on the customer traffic that day. Cleaning can occur every 15 minutes or every two hours, Smartt said. “It’s telling

us those types of things,” he said of having AI integrated with the security camera feed.

Spotting safety concerns is yet another advantage, Smartt said. The system can detect a spot of water on the floor and send an alert to the store right away. Likewise, it can send an alert if someone working in the foodservice area is not wearing gloves or protective gear, so that a store manager can in turn correct that problem.

One of the challenges to this approach is setting up the cameras with enough precision in the viewing target for the artificial intelligence system to recognize the problem. To remedy that, the chain is now adding inexpensive wireless cameras so that the AI component can function without running through the store’s security camera system. The beer vault is one area being outfitted, so the chain can see what specific packages are out of stock. Smartt said ultimately, the company wants to learn from it all. “I think what I would say is that we’re learning. I think probably not just convenience retail but retail in general, the technology is

CLVG Views

In The Room with CLVG

AI in Convenience Retail



AI altered TXB Stores' bathroom cleaning protocols by watching customer traffic entering the store and heading to the bathroom. Restrooms are now cleaned depending on traffic instead of a set time frame.

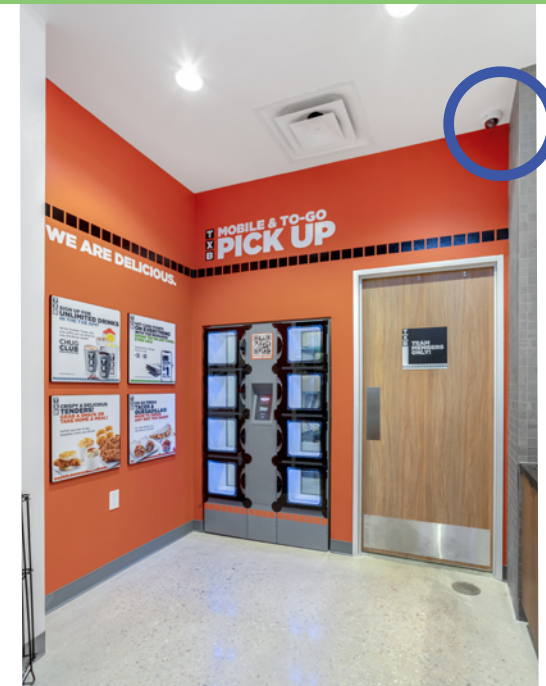
moving faster than retail can move," he said. "We have to learn and transform pretty quickly if we want to use some of the technology. ... We are not able to keep up yet with technology."

For Smartt, actionable items are more critical than accumulating additional data points. It's really great to be super smart and have a gazillion data points to share, he said, but considering the high turnover in stores, the more pressing concern for him is having action reports that TXB store managers can respond to quickly. For example: An alert to store managers to staff up at the register

before the queue forms; AI tools can predict that based on the number of individuals walking through the door.

Not every CLVG member has started to integrate AI tools. In fact, most have not. CLVG members did express great interest in starting to work

internally to determine how to best use the capabilities of AI now. The thinking was that if they wait until others determine the pathway with this technology, AI will already be capable of doing much more and their internal business learning curve will be much steeper.



Security cameras at TXB Stores, such as the small one seen here in the corner of the ceiling, were an entryway for the chain to explore AI capabilities.

AI + EV = ?

Fouad El-Nemr, executive vice president, Nouria, said he is in the early stages of looking at an AI solution. He's additionally interested in how AI can help the company understand the EV customer. The topic of EV customers and how often they move from the outside charging area to inside the store was addressed in the [CLVG Currents of Change Vision Report](#) (January 2023).

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AI in Convenience Retail

Fuel Pricing & the AI-Driven Personalized Shopper Experience

The game theory around street-level fuel pricing comes with a long and storied past of pricing against thy neighbor. AI-driven fuel pricing solutions started to show up in the market as early as 2017. Now, generative AI ups the ante with the ability to get even more granular in pricing strategies and enables the potential to create more personalized offers that target gasoline and/or convenience shoppers.

Cost Consideration

The newest products with the grandest technology often yield the highest costs. Consider how fast you are willing to purchase a new smartphone when a new release comes out. Some will be ready and waiting when the new iPhone is released in September. Others will take a more conservative approach to upgrading their iPhone.

With that in mind, Natalie Morhous said RaceTrac currently applies machine learning “where it makes sense given the cost.” As far as adding what would be generative AI, she said, “The cost is just insurmountable for the gain that we think we would get from a retail perspective.”



The fuel pricing scenario is an interesting one to Smartt, who has looked at some AI-based programs for fuel pricing at TXB Stores. “It’s really looking at pricing in the future instead of pricing from behind,” he said. “So it’s knowing, based on the past, if you make a movement, what’s really going to happen in the future.” Once the cost of the technology comes down a bit, he believes it has huge potential for fuel pricing. Big Oil companies continue to accelerate the integration of AI into all aspects of their vertical structure from pipeline to transportation to retail. “They are driving decisions based on two, three days in the future,” he said.

One way to think about it is skating to where the puck is going to be. The often-used Wayne Gretzky reference aptly applies here, where the hockey Hall of Famer famously said, “I skate to where the puck is going to be, not where it has been.” In this scenario, Gretzky serves as a bit of a human version of generative AI — he would apply past learning of how opposing players perform and could instinctively know

their next move before it happened. Generative AI can best even Gretzky’s performance.

A petroleum marketer with a loyalty card and AI integration, for example, could apply historical behaviors of a single customer and predict the level of depth of a particular price offer at the pump that would get that individual to make a gasoline purchase. What makes that individual take action may be very different than another individual with different shopping behaviors. AI can target each, explained Svrcek.

Hal Adams’ assessment was that AI adds complexity to pricing decisions by making those decisions more effective depending on how the different data points are linked together, whether that is pricing, product availability or something else.

The ability to set gasoline pump prices based on individual customer behavior offers a whole new opportunity, noted Greg Parker, CEO, Parker’s Kitchen. The chain’s loyalty program currently gives members 10 cents off per gallon of gas for every \$25 they spend. Shifting the offer per individual instead of the entire base of loyalty members is intriguing to Parker and other CLVG members. Having the ability to market one-to-one to customers, especially the most loyal group, is key. “If you can concentrate on that 5% of your customer base, you certainly are going to come out ahead,” he said.

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AI in Convenience Retail

SIDE VIEWS

The collection of views on the topic of AI from CLVG members ranged from uncertainty over whether this was a dangerous advancement to human life — echoing the concern expressed by the OpenAI CEO himself — to enthusiasm over smarter fuel pricing strategies. Here, a few notable questions and thoughts from CLVG members as they process next steps.



"I'm trying to figure out where we are on the true possibility spectrum of how do you take your data and get it into these models and what kind of resources does it take on your staff to help educate the intelligence?"

Because we have people on staff that know all about marketing and promotion activity and everything. So how do you take that knowledge and put it into this process? Where are we on that spectrum? Are we at step one or two or is this very, very feasible on an economic scale to be thinking about today or is this two years from now?"

—Scott Hartman, Rutters Holdings



"In the c-store space, you hear about using machine learning to figure out what your demand is, and what product is moving,

and all that sort of stuff. But in our world, how would we be able to use it is always a question that we have."

—Varish Goyal, Loop Neighborhood Markets



"I'm really interested in the idea of the AI fuel pricing because considering that almost everybody reactively prices fuel, don't you start chasing yourself around in a circle

when you make a [price] move? Everybody else makes a move, which if you start predicting that, you make a move and the infinity loop just keeps going on and on."

—Roy Strasburger, StrasGlobal; Compliance Safe



"I think today there's a lot of chasing, right? And this tries to eliminate some of that. It's basically saying, 'If I know

you're going here [with a price at the pump], why wouldn't I already go there instead of me waiting for you to get there?' And of course, it's all driven around whatever your desirable outcome is. Is it more volume? Is it more margin? Is it both? But it's really trying to predict before [you make a price change] so you can go ahead and make that move and directionally be heading the market where you want it to go.

—Kevin Smartt, TXB Stores

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AI in Convenience Retail



Hal Adams
Consultant, Former CEO,
MAPCO and Former
President, CST Brands



Henry Amour
President and CEO, NACS



Fouad El-Nemr
Executive Vice President,
Nouria



Annie Gauthier
CFO/Co-CEO, St. Romain
Oil Company



Varish Goyal
CEO, Loop Neighborhood
Markets



Scott Hartman
CEO, Rutter's Holdings



Doug Haugh
Chief Commercial Officer,
Vertex Energy



Myra Kressner*
President, Kressner
Strategy Group



Drayton McLane Jr.
Chairman, McLane
Group



Natalie Morhous
President, RaceTrac, Inc.



Greg Parker
CEO, Parker's Kitchen



Jigar Patel
CEO, FASTIME



Donna Sanker
President,
Parkland USA



Joe Sheetz
Chairman, Sheetz, Inc.



Kevin Smartt
CEO, TXB Stores



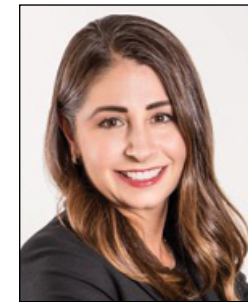
Eva Strasburger*
President, StrasGlobal
and CEO, Compliance
Safe



Roy Strasburger*
CEO, StrasGlobal and
President, Compliance
Safe



Barbara Stoyko
SVP Shell Mobility
Americas, Shell Oil
Products U.S.



Liz Williams
CEO, Foxtrot

*Founding
Member

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In The Room with CLVG

AI in Convenience Retail

IN THE ROOM WITH CLVG: *Dawning of A New Era in Analytics*



Convenience Leaders Vision Group (CLVG) invites you to join us In The Room to experience our meeting on April 27, 2023. We are providing you with the entire conversation so that you can be “in the room” with us, rather than simply reading polished sound bites.



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In The Room with CLVG

AI in Convenience Retail

Agenda

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AI in Convenience Retail

Topic Reference Key

CLVG's mission is to increase the institutional knowledge of the retail industry by sharing our ideas and perspectives. For your convenience, we have placed topic indicators throughout the dialogue. Below is a key to the list of topics.

Foodservice	Legislation	Operations	Technology
Fuels	Logistics	Construction	AI
Electric Vehicles	Marketing	Inventory Control	Automation
Fuel Pricing	Cust. Engagement	Inventory Mgt.	Camera Vision
Leadership	Data Analysis	Sustainability	Connectivity
Strategy	Gambling		Payment Systems
ROI	Loyalty Programs		Self-Checkout
	Merchandising		Workforce
	Private Label		Recruitment
			Retention

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AI in Convenience Retail

Welcome and Meeting Rules



Myra Kressner

Well, hello, everyone. I am Myra Kressner and on behalf of Eva Strasburger, and Roy Strasburger, and myself, welcome to our third Convenience Leaders Vision Group.

The screenshot I've just put up reminds everyone of the antitrust statement and publication acknowledgement that every member has signed. We are recording this discussion. A few other reminders: Please use your camera and keep it on as much as possible. Conversely, please keep your audio on mute unless you're speaking so we don't have any ambient noise. As we discussed in the last meeting, since we do want frank and diverse conversation, if anyone wants to make any off-the-record comments on what they're about to say or have said, please go ahead and do that.

This is also probably a good time to remind folks of the CLVG Vision Reports. Hopefully, everyone has seen our most recent Vision Report. The Business Case for EV Charging, Is It for You? It was distributed to all of our members and the industry about a month ago. We've seen a number of media articles referencing the report and hope that you have as well.

The Vision Report of this meeting will be distributed in about six weeks, and we do encourage everyone to share the report with your colleagues and your respective associations or others. Our collective goal is to make the information available to the entire industry.

By the way, our Convenience Technology Vision Group will be issuing its first Vision Report next week. [CTVG Vision Report was distributed May 1, 2023]

So just briefly before we get started, also another reminder to please use the raise hand icon to keep the conversation flow unless folks are clearly in a discussion. If you need to leave the meeting for any reason, just leave us a chat or just leave and return when you're able. To let everyone know, the following members do send their regrets about not being able to attend today. Joe Sheetz, Liz Williams, Barbara Stoyko, Henry Armour, who's on a plane on his way back from Sao Polo, and Donna Sanker, who coincidentally, is in another meeting with McKinsey. Unfortunately, J.P. let us know just a few minutes ago that he's dealing with really severe weather and has power outages. So let's get into our meeting, and I'm very pleased to welcome Tom Svrcek, who is a McKinsey Analytics partner who will lead our discussion on AI. Tom will be joined by Fay Shong, a partner at McKinsey's Global Energy and Materials Practice, and Aaron Rettaliata, a principal in the

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AI in Convenience Retail



Tom Svrcek

Pittsburgh office of McKinsey and Company. Special thanks to Hal Adams for helping us find the right McKinsey partners to lead this discussion. You will really enjoy Tom's presentation, which he has said he wants to be interactive, so do feel free to ask him questions while he's speaking. Don't need to wait until he's finished. Since I don't know if we'll be able to see the hand icons, just jump in while he's talking if anyone wants to do that. With that said, welcome, Tom.

Thank you. We've got one late addition to the McKinsey team, Gerry Hough, who's also joined us, a leader in our retail practice and will be answering questions on one of the topics that we're going to be talking about later.



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AI in Convenience Retail



The Presentation:

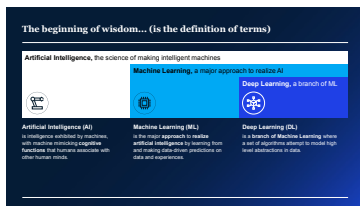
Tom Svrcek, McKinsey Analytics

So thanks, everybody. We're going to spend some time today talking about AI, artificial intelligence, specifically how it applies to the convenience retail sector. The presentation itself is in three parts, three movements. First, just wanted to set the table and get everybody on the same page as to what we mean when we talk about artificial intelligence. It's one of those acronyms that gets bantered around quite a bit, and so I just wanted to make sure that we all today had a working definition of what AI is and what we mean when we say it. And then we want to move quickly into how AI specifically is accelerating convenience retail with some examples from work that we've done, some interactive videos, and I hope that's where the bulk of our discussion will be.

And then what I'd like to do is move to a forward-looking view towards where we see AI really playing into the future and specifically have a conversation around a topic that I think everybody's talking about, which is generative AI, ChatGPT, large language models, and do a live demo of ChatGPT at the end of the conversation. It says Q&A at the end but as Myra said, I would love for this to be a full-contact sport and have questions just peppered in during the conversation so that it's less me at the lectern and more us having a conversation, if that's okay with folks.

So I thought I would start a discussion of very, very advanced analytics with a quote from a philosopher five centuries BCE, which is, "The beginning of wisdom," from Socrates, "is a definition of terms." So what you have here on this page [\[see slide\]](#) is really how we think about AI or artificial intelligence, the science of making intelligent machines. Because you hear terms like artificial intelligence or machine learning or deep learning used almost interchangeably. To me, it's a nested relationship. There is AI, which is the umbrella term for the intelligence exhibited by machines. You see the definition in the lower left-hand portion of the page.

Within AI, and AI is a very large discipline, but within AI, there is something called machine learning, which is a specific approach to help machines learn and to help machines do things better and better and get better over time. But it is the discipline within AI. Then within machine learning, there is something called deep learning, which is a very specific technique. There are many machine learning techniques, but you hear deep learning, which is one of the more advanced techniques. That is a branch of machine learning that has very sophisticated algorithms for learning things from very

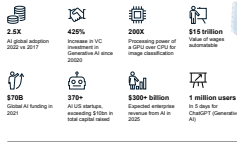


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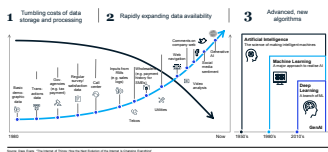
In The Room with CLVG

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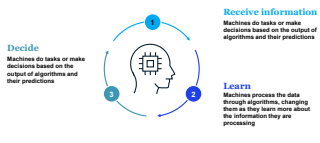
Artificial Intelligence is already disrupting businesses and society



Why now? Three trends have converged to put AI in a position to have immediate, practical use within everyone's reach



Similar to how the human brain works, AI receives information, learns from it, improves its model and makes better decisions over time



abstract sets of data. But just wanted to make sure that we all had a working definition of AI in some of the terms that may be used interchangeably. Are there any questions about that before we move on?

If not, I'll go to the sort of shock-and-awe page [\[see slide\]](#). Here are just some statistics we gathered about how AI is already disrupting business and society. A couple of my favorites. In the upper right-hand corner, it is estimated that \$15 trillion in wages are now automatable using some form of artificial intelligence, \$15 trillion of wages. And then down in the bottom, off to the center, to the right, \$300 billion of additional or incremental enterprise revenue will be created from AI in 2025, just a couple of years from now. Again, we'll talk about ChatGPT later. But just in terms of signups, they had over a million people sign up for access to the ChatGPT service, the consumer service, in less than five days, which is the fastest launch of any website ever. I think it'll probably hold the record for quite some time. So why are we talking about AI today and not five years ago or not three years from now? This page [\[see slide\]](#) tries to illustrate the forces at work that allow AI to come into its own, particularly now. It's basically the intersection of a couple of the curves that you see on this page. I'll start with the light blue one, which is just the sheer availability of data today versus even five or 10 years ago is astounding. More data will be created or has been created in the last six months than has been created since the history of time. It is literally that stark a difference now than even, say, five years ago. So just the access of data that we have, if you just look at some of the data that's available, obviously, we had way back when in the '80s, basic demographic data available from the census. But then as you move towards later and later and we started to capture and codify call center data, warehouse data, social media data, and so forth, just the ability for us to understand how the world works through the lens of data is unprecedented today.

But that isn't enough because the sheer amount of processing power or computational power that would be required to analyze or summarize that data wasn't nearly where it needed to be until now. So the black curve that you see on this page [\[see slide\]](#) is actually the cost of data storage and processing. It is those two forces coming together, access to unprecedented amounts of data but then also the ability to process that data with the kinds of algorithms that you see off to the right that makes it so that we are talking about AI today. Again, this would not have been a conversation we were having five years ago, even probably three years ago.

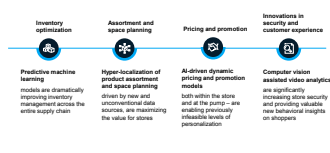
So just how AI works is this virtuous cycle that you see depicted on this page [\[see slide\]](#). I like to think about it as the way that I learned to drive a car in the rain, which is the way that humans work is that you do a task. And when I was driving in the rain, this is before antilock brakes, and the first time you do it, you hit the brakes pretty hard, you start to hydroplane and

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AI in Convenience Retail

AI is having transformative impact across traditional levers – from commercial to operations – as well as creating new-to-world value



Merchandising

bad things happen. So that means that I learned, I learned from that experiment not to hit the brakes too hard, and then I made a decision the next time it happened to behave differently. So it's receiving information, acting on that information, trying something, and then either succeeding or failing and using that to learn for the next time. That's exactly how artificial intelligence works. It is a constant series of pattern recognition, experiments, actions, and learning from either the success or failure of those actions that enables AI to do what it does. Again, I'll pause if there are any other questions or if there are questions.

If there are none, we'll go to the second section of the presentation, which is how is artificial intelligence accelerating business and business specific to convenience retail? We've identified probably four big buckets, and the first three should be very, very familiar to folks [\[see slide\]](#). So everything from operational to commercial levers, traditional commercial and operational levers are being influenced by AI, and then there's some new innovations that you see on the far right. But if you just focus on the first three columns, these are things that as retailers, we're all doing already today, right? Inventory optimization, assortment and space planning, and pricing and promotions have been around as long as retail has been around, but there is a new level of performance that is being unlocked because of AI.

If you just take **inventory optimization**, the ability now to predict demand at a very, very granular level and at a very precise and accurate level allows us to do things in terms of managing inventory, preventing stockouts, while also not groaning with inventory in order to prevent those stockouts, is something that AI just loves to do. There's all kinds of information to help with demand forecasting models and inventory optimization models that allows us to do things that weren't possible or that we would have to do by spending lots and lots of money on excess inventory in order to accomplish.

Same thing with assortment and space planning. We talk about localized space planning or even hyper-local space planning. Now, we can truly go from a region that has the same planogram to a DMA to a ZIP+4 down to the individual store level where each individual store is now having its own assortment that is tailored to the kind of demand that specific store is witnessing. That is powered by or the lever is unlocked by these kinds of models that we'll be talking about.

Same with pricing and promotion. The ability to tailor an offer to me, Tom Svrcek, specific to the things that I am most likely to either buy or do some sort of transaction are enabled by that confluence of two things, lots and lots of data about me and my behaviors and the ability to process and predict how I will respond to different pricing and promotional offers. Then, we'll also, as I said, we'll talk about the innovations that are now available through things like computer vision.

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In The Room with CLVG

AI in Convenience Retail



Roy Strasburger

Tom Svrcek

Sorry, is there a question?

Thank you, Tom. No, I was going to wait you to finish your slide. So go ahead and finish your slide and then I'll come back.

Okay. So in addition to the traditional things that we are doing now, better, faster, stronger, there are also truly innovative and new things that we weren't doing before because we couldn't do before. Those things are enabled by technology such as computer vision and video analytics.



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AI in Convenience Retail

The Discussion

Roy Strasburger

AI

By **artificial intelligence**, as I guess you're defining it, is algorithms which improve themselves over time. Are we getting off on a red herring of trying to use the word intelligence when what we're talking about is massive number crunching? For example, with inventory optimization, we can do that if we feed in enough data, able to calculate and do the analysis of it. What is AI adding to that as opposed to what we might be able to do in the past?

Tom Svrcek

Merchandising

Yeah. That's a great question, and I think it sets up an interesting conversation for the rest of the examples that we'll show today. Here's what I would say. In typical number crunching for **inventory optimization**, you are constantly making a guess as to how much inventory you should have at an individual SKU location level, let's say. And the way that you try to get better at that is by getting a more and more precise forecast so that 90% of the time or 99% of the time, I want to make sure I have enough of that SKU so that I don't sell out and miss the opportunity to sell that SKU. But the number crunching that I do just gets me to a more and more precise forecast. Where AI comes in, where that intelligence parts comes in is sort of the reinforcement loop of, "Oh, I got that wrong today. I got that wrong and there was a run on Pop-Tarts and I ran out and I couldn't sell as many as I could had I got inventory right." The algorithm actually changes the set of conditions that it looks for in order to make a particular inventory recommendation and increases it when it sees that cocktail of circumstances happen again. That doesn't happen in traditional forecasting and inventory models. It's just as you said, number crunching versus the learning of, What was it about today that made me stock out? And let me not subject my location to that inventory policy again. I want to get better at doing it. Does that make sense?

Roy Strasburger

Hyper pattern recognition is basically what you're talking about.

Tom Svrcek

Exactly, it's all about pattern recognition.

Roy Strasburger

Okay.

Tom Svrcek

That's exactly what it is. It's pattern recognition. How did I act under those circumstances of that obscure pattern or that faint signal that I found, and did I get it right or wrong? And if I got it wrong, how should I change what I decided to do in order to be better next time? It's that closing that loop that's the learning of the intelligence part of the AI phrase.

Myra Kressner

Hal?

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Hal Adams

AI

Tom Svrcek

Predictive machine learning algorithms are improving inventory optimization across the supply chain

	Products on shelf	Store inventory management	Product replenishment	In-warehouse fulfillment
User cases	Optimal stocking – select items and stock levels, adjust assortment and forecast demand, optimize and forecast price and promotional strategy	Demand forecasting – select and optimize assortment, forecast demand, optimize store manager decisions to drive margin	Assortment optimization – select and optimize assortment, forecast demand, optimize store manager decisions to drive margin	Inventory holding – optimize inventory holding, forecast demand, optimize store manager decisions to drive margin
Value drivers	Improve sales and better visibility, Predictive stocking, Reduce inventory, Reduce working capital	Improve sales and better visibility, Predictive stocking, Reduce inventory, Reduce working capital	Improve sales and better visibility, Predictive stocking, Reduce inventory, Reduce working capital	Improve sales and better visibility, Predictive stocking, Reduce inventory, Reduce working capital
How it changes things	Machine vision can detect assortment changes in real-time, alerting store managers to changes in demand, optimize assortment	Machine vision can detect assortment changes in real-time, alerting store managers to changes in demand, optimize assortment	Machine vision can detect assortment changes in real-time, alerting store managers to changes in demand, optimize assortment	Machine vision can detect assortment changes in real-time, alerting store managers to changes in demand, optimize assortment



Inventory Management

Logistics

Yeah. Isn't it true, Tom, that, and this goes back to a comment I heard one of our colleagues make earlier this week at a NACS meeting, isn't it true that **AI and the complexity of AI** and the way you're using it is kind of on a slope from simple to very complex and that many of us are using AI or data-driven decision making at different levels of complexity? It's just not whether you're using it or not, it's how advanced the systems you're using are and how deep into the sphere that you're playing.

So that's a good way of putting it. I like that. But there is a spectrum. You don't have to be the biggest amounts of data with the most sophisticated algorithms for it to be AI. What it does have to be in order to be on the spectrum, and that spectrum can be on the left side of the simple side, you need to be recognizing patterns in a way that learns in some sense, that is doing that feedback loop to tell you what to do differently once you experience either a win, or a loss, or a successor, or a failure. But you're right, absolutely right, in that it doesn't have to be super, super sophisticated in order for it to be considered AI as we're defining it. But it does have to have a learning component to it. It can't just be use the data that you've witnessed in the past to do something in the future that uses that data. That's data-driven decision making and that's a slightly different thing.

So this page has a lot of words [see slide], but the way that it's laid out or the way that we tried to lay it out was the following. Again, these are things that you are already probably thinking about and are certainly doing today, making sure products are on shelf, making sure that you've got an **inventory management** policy at the store level, replenishing product, and so forth. So the use case descriptions that you see on the first horizontal row there should be familiar to you. On-shelf availability, demand forecasting are probably all things that you are doing today. And how you get value out of those things, which is the second row, should also be familiar to you. That's not the new part.

The new part new is in the bottom row there, which is how is AI changing the way that we are thinking about and executing on on-shelf availability, for example? So the description down there, using machine vision, and we'll see an example of this on the next page, where you can detect changes in demand in very, very short order, near real-time and that enables you to alert either a **DC [Distribution Center]** or suppliers in order to increase availability is different today than it was before, could be different today than it was before. Again, going back to my Pop-Tarts comment from before, you may have a forecast for strawberry Pop-Tarts at an individual store level, but there may be, for whatever reason, some anomalous event that occurs that drives demand way up. And you can detect that now using machine vision that the depth on the shelf is getting much, much smaller, much more shallow than it should be in time to do something about it, as opposed

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Merchandising



Myra Kressner

Varish Goyal

Tom Svrcek

Camera Vision

Inventory Management



Gerry Hough

to waiting for the next replenishment shipment next week and maybe ordering a little bit more because you ran out this week.

There are things that you can do and react to much more quickly that you probably couldn't do before AI. Similarly, as you walk across the page, doing **demand forecasting** differently, talking about pattern recognition, talking about understanding and testing tens of millions of different hypotheses around what is the situation of what the weather is forecast to be, whether or not there's an local event that's going to be happening close to my store, and what my competitors are doing, and putting all those things together to say what is truly the demand going to be for these individual products, and do I have the right inventory against that new, real-time demand forecast in order to have the greatest availability and therefore, the likelihood of selling the most is different using AI than what a traditional demand forecasting model would lead you to do.

So, Varish, I think you have a question.

Yeah. In the c-store space, you hear about using machine learning to figure out what your demand is, and what product is moving, and all that sort of stuff. But in our world, how would we be able to use it is always a question that we have because I'm not going to get McLane to come and give me an extra delivery if they're coming to me once a week, and all of a sudden, I realize that Pop-Tarts is out.

No, that's right. There will be varying degrees of what you can and can't do. But if you can shorten the period of time between when you can replenish that shelf through any means, there's an opportunity. So maybe it's not McLane's, but maybe you've got some in the back and instead of somebody hiring somebody to monitor the depth of each individual product, and we'll see this literally on the next page, you have some sort of fixed **camera** that is estimating the depth of each one of your SKUs in your store and providing alerts to bring product out from the back. It just takes a few products that otherwise would have gone to a stockout situation being **replenished** early for it to start making money for you. So it may not be triggering your supplier to come to an individual c-store, but it might just be better replenishment on the day using inventory that you have in the back and making sure that the inventory that you have in the back is the right inventory in the right quantities, that you're using that limited space most effectively.

Yeah. And I was going to add, that's exactly where my head went is it's a little bit more in the next-best-action realm of how do you get the store associate the information to say whether we think you have Pop-Tarts in the back or if you need

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Eva Strasburger

Gerry Hough

Tom Svrcek

Gerry Hough

Data Analysis

Roy Strasburger

Tom Svrcek

to re-merch and figure out if there's something else you can shift folks to, et cetera, and make sure that they're aware of that so just informing that next best action to take a lot sooner than you otherwise would.

It's also potentially collecting the data for the next time around so you can look at that and say, This was a situation on that day, how would you avoid it in the future?

Yeah, exactly.

That's right.

Especially in a post-COVID world, some of what I see as well is folks doing a little bit of using this for disaster scenario is a little bit extreme, but some of these more extreme scenarios where we see commonalities where Tom was going of something going out of stock, or heaven forbid, refrigeration systems go down, so on and so forth, using those to say, What if I have outages in certain places that there are patterns in the data or I just know are coming, how can I just **run multiple scenarios** to actually get to the next-best action in a much more robust and data-driven way to make the decisions accordingly and reallocate?

So, Tom, you offered to have interactive conversations, so I'm taking you up on that. I'm going to take one more run at the inventory side of it. Because with any predictive model, it gets more accurate with the more data you have. And the bigger the universe of data, the more precise you can get on your predicting of what's going to happen in the future, theoretically. So I guess, ultimately, the question is where do you get your data? If you're trying to predict trends like how many Pop-Tarts are going to be sold next week or tomorrow, you want to know whether Pop-Tarts are trending on social media, you want to know whether Pop-Tarts are having supply issues somewhere else in town or across the state. Ultimately, how does one get enough data to really get a competitive advantage without plugging into Skynet or whatever the ultimate data repository is?

So a lot of that today is still trial and error. The data fields that will be best for one organization may be very different than another organization, but it's out there. The nice thing is it's getting to be very inexpensive to test. So we did a demand forecasting model exercise using external data for ice. It is probably a supplier that many of you are familiar with. But how much ice is going to be demanded at this particular location on this particular day so that I can optimize the distribution of the ice that I manufacture. And we tested a whole bunch of different variables. And data providers are now setting up relationships where you basically pay by the drink. So I have a thousand variables that you can test. You tell me the 15 that

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Drayton McLane

Myra Kressner

Drayton McLane

Operations

Logistics

Data Analysis

work best in your models and you pay for only those variables and I will continue to feed you those variables and feed you that into your model. But the testing is, give me as much data as I can find to find the variables that actually matter. And the nice thing about machine learning models is, although you may test thousands and thousands of variables, it really only is a handful that truly matter in terms of predictions.

And so getting to the data is a matter of sleuthing and finding who has data available and testing that in your models or building and testing models to see which of the things that matter. So, There is going to be a game next weekend, it is going to be over a 100 degrees F and there are no competitors in the local area that are going to be open on a Saturday or a Sunday. That triggers a much larger demand forecast than what happened last Saturday, what happened two Saturdays ago and what happened Saturday last year, just as an example. But you wouldn't have gotten to that if you just used traditional data. You have to say: I'm going to solicit events data from this provider and weather from NOAA and competitor data from another source, competitor opening hours.

Can I make a quick comment?

Sure.

Quick comment from experience on AI and all of this. I'm amazed by all of the good stuff Tom said. But Tom, I need to point out that at convenience stores, there is no back room. And there is limited room on the shelf. You can't get 48 cans of Campbell's tomato soup, maybe only six. So you have a limited inventory, no back room, you get one delivery a week. The weakness in **ordering for convenience stores**, most orders are made out by the convenience store manager. And the managers, as the operators can tell you, the turnover is terrific. And you might have six different managers in a year's time. And he's just walking through the store and quickly making an order and running the store and doing several things simultaneously. So that's proven to be very inaccurate. And the best way you can order and keep a store full is what you're talking about.

You want data not for one year, but maybe data for six or seven years. Convenience store demand changes instantly on the weather that particular day. And you need to go back six or seven years on the weather trends, when are the warm days and when are the rainy days and what was the reaction when it rained. And so if you're making up an order, ultimately you're scanning the number of items in and you're scanning them out, so you know how much inventory you have, is ultimately to **use AI to create** the order that's going to come next week. And the computer is **analyzing data** on seasonable things, holiday things, promotional items and the weather and it's analyzing and it makes the complete order.

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And when the truck backs up, the store manager has no idea what's on the truck. The AI has created the order. We've done that with several companies, and it has really, really worked well.

Tom Svrcek

Yeah, that's a great point. If all your inventory decisions have to happen in one shot, the one order, you better make sure that that order becomes your inventory, that replenishment truck has what your best guess is. You'd better make sure that that guess is as accurate or as reflective of what demand could be as possible.

Drayton McLane

Yes, the store manager is making out the order, he's looking at what's on the shelf. He doesn't know what the next week's weather is going to be or what the promotion, the seasonal promotion is yet. But if you can go back six or eight years for that, what that week was for six or eight years, you can make unbelievably accurate orders come out.

Tom Svrcek

Because it's very hard for humans to put all those combinations in their head and process those things of, Oh, it's a holiday and oh, I ran that promotion last week and there's this other... Your head will start to spin. And so they do, they look at what's out.

Drayton McLane

And, he's running the store too.

Tom Svrcek

Exactly, exactly.

Drayton McLane

And dealing with customers.

Gerry Hough

Yeah. No, I mean even the Starbucks of the world, they've moved to automated ordering and they're incorporating these types of things for exactly that reason. It's a struggle, right? And the store manager has to make those decisions. So the more they're injecting actual **camera vision** and things to monitor the shelf and then these intelligent algorithms say, Look, don't even touch it. I'm just going to **automatically order** for you. And maybe you make some adjustments based on anomalies, but that's it.

Roy Strasburger

But even if you have that, that's a closed loop system. You have to have enough history within the store to be able to project or predict appropriately. I think where I was going was that we are going to ultimately be buying market inventory data, whether it's the raw data to put into our predictive models or buying it from a third party who tells us what to put into our stores or the major wholesalers like McLane's offer a service that say, Your store on 123 Main Street, this is what you need to be ordering.

Tom Svrcek

Yeah. Let me handle it.

Camera Vision

Logistics

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Roy Strasburger

And it takes it totally out of our hands. And the age-old “we leave it up to the store manager to make the decisions because it’s his store” gets taken out of the loop on the whole thing.

Tom Svrcek

Yeah, that’s right.

Myra Kressner

Varish, you kind of started this wave of discussion. Do you have anything to add or any other questions?

Varish Goyal

No. It’s all very good points that are concerns and things we need to think about in our space. So no.

Myra Kressner

Anyone else?

Eva Strasburger

I’m got a question. Kevin, you’ve just opened a couple of new stores. You’re very tech focused, how are you using AI to see what the ordering should be for those new stores from day one?



Kevin Smartt

One of the primary ways we’re using AI currently in new stores is through SparkCognition, who looks at our camera feed, security **camera feed**, and then it has action or use cases that it’s telling us throughout the store. So we’re doing predictive modeling, we’re counting headcount of people that come in the store and then it tells us in approximation how many people we’ll have at the counter and how long so we can immediately move people around and staff quicker.

Camera Vision

Tom Svrcek

I love that.

Kevin Smartt

So there’s not as much dwell time. And then we had company policy where we would say, Hey, every hour we’re **cleaning the restrooms**. But instead, now it counts headcount going in and out of the restroom, so you’d know after X amount of people go in the restroom, that’s when we go clean it. So you may have to clean it every hour, you may have to clean it every 15 minutes. You may not have to clean it for every two hours, but it’s telling us those type things. And then we’re using it for safety features as well. So it can detect a spot of water on the floor. If somebody spilled something, it’s there, it’ll highlight it and send a alert right away. If somebody in our **food department** isn’t wearing protective gear, hats, gloves, whatever, it tells us immediately so we can remedy that. We’re trying to get better at looking at specific out-of-stocks and heat maps in those stores as well, which could help you on this discussion with inventory and out stocks if you can see specifically clear the product that’s out.

Operations

Foodservice

The challenge is getting direct good angles for intelligence to get to be able to recognize that. But what we’re finding is we can supplement cameras. In other words, initially it comes in and it looks through your security camera system and it’s kind of doing all of this, but in order to use the AI, it doesn’t have to go through the security camera system, it just needs

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Inventory Management



Myra Kressner

Fouad El-Nemr

Electric Vehicles

Tom Svrcek

Automation

to see it. So we're going back now, we're putting wireless cameras that are pretty inexpensive that don't go through the security camera system just to look specifically at the beer vault so we can see **specific packages that are out** or at the cigarette fixture or something like that so we can start to learn from it. But I think what I would say that we're learning, and then I think probably not just convenience retail, but retail in general, technology, the technology's moving faster than retail can move.

And so we have to learn and transform pretty quickly if we want to use some of the technology. And in the convenience store business, we kind of laugh about it a little bit in terms of the turnover of the people, but we're telling some of the folks with this company who are super smart, they're really proud of the alerts and the information they can send us, "Hey, this data is great, but when you got a store and you got 120% turnover I just want a person behind the register, I'd love to be able to get them there before I get a line of people, but I just want somebody there, period." So some of the technology is great, but we're not able to keep up yet with technology is what I'm trying to say. We're learning and we're telling them, "Hey, the most important thing you can give us is not data, but action report. Give us actionable items that we can remedy, not more data."

Fouad?

To go off of Kevin's point a little more, we're looking at SparkCognition right now. We're in the early phases with them. And they were also saying on the **EV** side of understanding the EV customer too, of tracking that EV customer where that customer is going inside the store from the outside cameras to the inside cameras. I know that was a part of the discussion last time where we were having trouble understanding the market basket habit of that EV customer. So above and beyond, that's something else that drew our attention to them.

Awesome. Maybe in the interest of time, I'll just show a little bit of this video but it shows a very, very manual process at this particular c-store in Japan where the human is identifying shallow inventory for particular products and manually restocking them. Obviously this is a commercial for this particular piece of hardware. But the point here is that this **robot** has machine vision that is looking at and interpreting the depth of each individual SKU and based on a priority of margin for each SKU and what the predicted stock out time is, the robot is manually restocking the shelves themselves.

And it looks maybe a little easy. It's hard when you've got very different sized items that aren't put in perfectly. And so the AI comes into, Did I recognize a shallow SKU properly? Did I restock in time so that we didn't go to out of stock? And all

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that is being done with algorithms and it is manifested by a robot, but it could also be manifested by, as we were talking about just a couple minutes ago, some sort of alert and action. This particular SKU looks like it is going to stock out more quickly. Are there actions that I can take to prevent that? Anyway, just thought it'd be a good example or manifestation of some of the things that we've just been talking about.

Myra Kressner

Tom Svrcek

Any comments on what Tom was just talking about or showing? Okay. Go ahead Tom.

Yeah. And so we can move on. We talked about a lot of the operational levers. This page [\[see slide\]](#) is structured identically to the other one except it talks about more of the commercial levers. And so things like, again, all things that you are already doing today, at least the first three, changing **fuel prices**, trying to personalize and push offers to shoppers in order to get them to next best action, things like that. Pricing and promotions of the in-store items and then doing something to improve checkout times or dwell times in the checkout areas. So again, all use cases that you are already doing today. The **value levers** are the traditional ones of increasing sales, increasing retention, getting new customers, improving productivity.

But then AI is changing. The level of granularity I think is the common thread across this to where fuel price changes can be done in near real time, personalization can be done at the individual **loyalty card** number level. And the price and promotion that I get may be very different than the one Gerry or Aaron gets based on an AI model looking at my historical behaviors and predicting what level of depth in the offer is going to get me to act, that may be very, very different than somebody who looks and feels a little bit like me but is different in their shopping behaviors.

Kevin?

I was just going to say right here, I think the **fuel pricing** segment's interesting. I've looked at some AI-based programs for fuel pricing, which is really looking at pricing in the future instead of pricing from behind. So it's knowing based on the past, if you make a movement, what's really going to happen in the future and say, most companies price their fuel based on what's happening on the street today, but the AI's telling you based on what it thinks is going to happen at the end of the day and tomorrow, so you're moving your price ahead of time, which is really an interesting thought process when you think about it. So I think that probably has some pretty big application to our industry as the cost comes down and it gets worked out.

Yeah, it's skate to where the puck is, right? I see a slowing of demand that has a prediction for what traffic at my location

Myra Kressner

Kevin Smartt

Tom Svrcek

Fuel Pricing

Strategy

AI-driven dynamic pricing, promotions optimization and checkout drive stronger sales and margin growth

	Fuel price	Personalization at scale	Retail price and promotions	AI automation at checkout
Use cases	Personalized pricing, dynamic pricing, targeted promotions, and personalized offers to drive sales and margin growth.	Personalized pricing, dynamic pricing, targeted promotions, and personalized offers to drive sales and margin growth.	Personalized pricing, dynamic pricing, targeted promotions, and personalized offers to drive sales and margin growth.	Personalized pricing, dynamic pricing, targeted promotions, and personalized offers to drive sales and margin growth.
Value drivers	Increased sales, improved margins, and enhanced customer loyalty.	Increased sales, improved margins, and enhanced customer loyalty.	Increased sales, improved margins, and enhanced customer loyalty.	Increased sales, improved margins, and enhanced customer loyalty.



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is going to look like. And knowing what the historical elasticity is, I can move my pricing proactively in order to get to an outcome that isn't preordained. I can shape the future by using what I know about the past and the pattern recognition to prescribe what I should do in the future. I like that.

Kevin Smartt

And not just your cost inputs, but your competitor's reactions.

Tom Svrcek

100%. That's right.

Kevin Smartt

Right. Which is so interesting to me.

Hal Adams

And then if you're able to link that with your distribution and making sure that you increase your delivery of fuel because you know that the system knows what you're going to do with price and it knows how much it's going to move in product. If that's changed from the last three days, then you're limiting your likelihood of running out of stock and staying ahead of the market in this pricing action that you're taking. So that's what I mean about AI being a building block of complexity and adding and adding and adding and making it more and more effective depending on how you're able to link these different data points together and these different systems together, pricing, product availability, et cetera. I think that's very interesting.

Roy Strasburger

So Kevin, I'm really interested in the idea of the AI fuel pricing because considering that almost everybody reactively prices fuel, don't you start chasing yourself around in a circle when you make a move, everybody else makes a move, which if you start predicting that, you make a move and the infinity loop just keeps going on and on.

Kevin Smartt

Are you talking about in today's structure?

Roy Strasburger

Yes, today's structure. If you're the leader you're doing that.

Kevin Smartt

Yeah, I think today there's a lot of chasing, right? And this tries to eliminate some of that. It's basically saying, If I know you're going here, why wouldn't I already go there instead of me waiting for you to get there? And of course, it's all driven around whatever your desirable outcome is. Is it more volume? Is it more margin? Is it both? But it's really trying to predict before so you can go ahead and make that move and directionally be heading the market where you want it to go.



Aaron Rettaliata

It's a really great question. In practice when I've played with this, back to your point of machine learning, AI is really good at finding patterns. You will find patterns where certain folks follow and others don't. And so, being able to then segregate

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Fay Shong

Tom Svrcek

Data Analysis

Customer Engagement



Loyalty Programs

those out, you then are making choices in markets or locations where you may have somebody who follows you or doesn't follow you, which you would think about differently, whether you're going up or down and you have some unique things they don't like on the buy side, how some of the supply is coming in at what cost. And so it actually turns out to be some pretty interesting game theory that goes into it. And back to finding patterns, you find some pretty interesting patterns.

One more add to what Aaron said. The other thing we found in pricing AI is when you're calculating price elasticity, a lot of companies think the driver is the store across the corner, but today you can use mobility data to say, actually the customers, or the company that you're competing with or the store that you're competing with isn't actually the store across the street, it's the Walmart down the street. So AI's also been used to say, who are the circle of competitors that you're competing with for customers? And we found a lot of times that it's not exactly who the sites and the stores think it is. It's actually someone different.

Awesome. So making this real as to what the potential is for AI to take something like personalization and get it down to the individual shopper level and how that might play out, this example illustrates just how and where AI connects in. And it all starts off to the left-hand side of this page [\[see slide\]](#), which is where those algorithms are **analyzing trends** of all shoppers, but then specifically individuals or making individual predictions or identifying out of pattern behavior. And so in this particular example, the AI is saying, Huh, this one particular **consumer is out of pattern**. The patterns that I have recognized from this individual historically are not playing out. Maybe that person is at risk of falling off my customer file. Right there there's an attrition risk. And so I've got to do something about that and I want to do something about that in a way that feels very personalized to, in this case, Bob.

So from the AI model that says, your behavior is anomalous to what I would've expected, how do I course correct? And it's going to manifest through some sort of offer. So there is personalized content that is generated by the AI that is based on the specific product recommendations that are most likely to get me personally to act on. And the depth of the offer is one that is the most likely to get me to act without giving away the store in terms of a deep, deep, deep discount. So what is the threshold of the offer and what are the products from a next best product perspective that would get me to act? And then there's this theme of reinforcing that offer. First you get a push notification to your device. Then when you're driving, maybe you get an add-on that reinforces that offer.

If it gets you to pull over, and while you're fueling and you enter your **loyalty number**, do you then get another reinforcement of that same offer that is reinforced at the kiosk and actually gets you to act? This whole cycle of who am

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AI in Convenience Retail

Retention

Myra Kressner

Eva Strasburger

Tom Svrcek

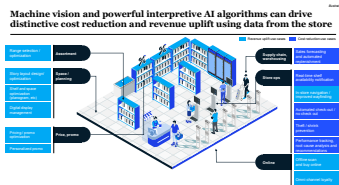
Gerry Hough

Recruitment

Tom Svrcek

Camera Vision

Gerry Hough



I most worried about, what are the corrective actions that I can take and what are the ways in which I can reinforce that through to action is all enabled by the sophisticated algorithms that are finding those patterns. And sorry, was there a question?

Yeah, Eva, did you have a question or a comment?

Yes. I was just going to say, I'm assuming that this at-risk behavior could be applied to your **employees** as well. So there would be a pattern that they started to show so they could be pulled aside and spoken to by the store manager as a way to be able to try to retain them.

Absolutely. We didn't discuss it in this presentation, but there's a whole field on HR people analytics that does exactly that. What are the anomalous behaviors? If you call in sick once or twice, that's on pattern, but if you call three days in a row or you do certain things that are different, that's a trigger and that you can proactively or preemptively try to remedy that situation before it results in somebody leaving, which is much more costly to replace someone than it is to save someone. And that is true for customers, as true as it is for employees. It's a great point, Eva.

Yeah. And taking that a step further, also being applied of course in the interview processes and the recruiting processes to say self-assessments, different personality traits, those can also be assessed and say, versus this wealth of data and information I have around what's going well in the store, what personalities, what characteristics actually match good performance in different roles in the stores. Taking that and applying it to resume screening, video screening, **interview screening processes** to make sure the best possible candidates are getting through. And all this with the caveat, I know there's the "we just got to get bodies behind the register" in this world, but as another application.

And I'm actually going to put Gerry a little bit on the spot. The next two pages are from her. Gerry, do you want to give the voiceover for this and the example that you gave on the next page?

Yeah. I mean, we already touched on this a little bit with **CV [camera vision]** analytics, and it sounds like some of you all are applying this in different places. But I think broadly the point of this page [\[see slide\]](#) is to say, CV, whether it's the built-in camera feed from the store that already exists or some of these pretty cheap and cheerful point solution digital cameras that were being mentioned, are being applied up and down the value chain inside the store from everything from the revenue side, if you will, on the left side of the page, the commercial levers of assortment optimization, space planning, merchandising effectiveness to the more operational topics of some of the shelf availability that we were talking about,

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AI in Convenience Retail

Self-checkout

Tom Svrcek

Inventory Control



Greg Parker

Gerry Hough

Camera Vision

Myra Kressner

Greg Parker

Gerry Hough

Greg Parker

Foodservice

as well as frictionless checkout and other applications inclusive of shrink analytics as well. Using those camera feeds, especially in this format where it's a much smaller box of course, to be able to take that built-in camera feed or some of those point cameras to really get to some of those sophisticated sources of data a lot more quickly.

That's exactly right. I think the innovation here, the new thing here, is on the **automated checkout** and the **theft and shrink prevention** are probably things that are enabled now that wouldn't have been available a few years back due to the advances in not only camera resolution, but the ability to interpret what is actually going on from the images as they're coming into those cameras.

Gerry specifically, who is effectively using this in the retail marketplace, and is anybody being effective with it in the convenience store of marketplace?

From a shrink standpoint or just in general? It kind of varies I guess across the gamut, but, I mean from a shrink perspective, one of the best examples is probably Walmart, who we're all familiar with. I mean the easiest use case is in the **self-checkout** example where you can actually use the real time **camera feed** to freeze up the check. And they are doing this, they'll freeze up the self-checkout when they see a mis-scan, the item doesn't match the barcode that just went through, requires a very real-time processing capability, but they've actually developed that software and they're actively freezing up the self-checkout for those cases now for the cases for malicious behavior.

Go ahead, Greg.

What was the term? Freezing up. What did you say — "They're freezing up"?

I don't know that that's a technical term. They're freezing up. They'll freeze up the **self-checkout**. So if someone scans an item and the barcode that went through the **scanner doesn't match the item** that's visually in the field because there's a camera above the self-checkout looking at it, they'll actually freeze the screen on the self-checkout for an intervention to come and take place. So you see a lot of theft that way where someone takes a bag of chips, they'll put really expensive meat products on top and then put the bag of chips or something cheap underneath, scan the barcode underneath and it shows something going through the self-checkout, but it's not the right item. So it'll freeze it up because it notices that disparity.

In terms of using the cameras, because a lot of people have discussed this today, we've been using artificial intelligence in our **kitchens** for a long time that gives us predictive analytics to know how many chicken tenders to drop or different

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AI in Convenience Retail

Inventory Management

Gerry Hough

things to do in our kitchens, which I think is highly effective. But so many other things that we're talking about, I'm just curious if there are success stories. I mean, are we talking about the world of possibilities, are we talking about people actually doing this and being effective with it?

Yeah. The other example I think about in kind of a regional grocer format is actually some of the shelf **scanning** — kind of similar to the video that Tom was showing, the shelf scanning robot that will go around. There's a number of regional grocers like Giant Eagle, Schnucks, Publix have all rolled this out at decent scale now where they have the autonomous robotic, the robot that can go up and down the aisle. It's all camera vision that's capturing this and doing the inventory management and they're seeing kind of 1% to 3% out of stock reduction, so it kind of makes the business case work.

Then there's folks in Europe that are doing it more from a mobile scan, handheld perspective. Especially when the format's bigger, the robot takes too long to traverse the store. So there's also applications in Europe of folks that are kind of using the same technology but just having associates take photos of the shelf to be able to capture the inventory position. Most of the success stories I see are in this shelf monitoring, out of stock monitoring as that first step in that really can deliver some of those results.

Myra Kressner

Greg, did Gerry answer your question?

Greg Parker

I was trying to be respectful, but I was just wondering if there's not more.

Tom Svrcek

More organizations who are doing this to great effect?

Greg Parker

Yes, to help be better retailers.

Eva Strasburger

In the c-store industry

Roy Strasburger

Because the biggest issue that I think we've run across, and we're not as advanced as what Kevin's doing or what Greg's doing, is it's just the **cost of implementation**. Specifically, if you're doing machine vision AI of Kevin's idea of using cheap Wi-Fi or just cameras as opposed to security cameras, there's some options that might be available there, but we still have issues of just getting people wired up and routers and the rest of the security side of that from a digital security side. And it makes sense probably in places like Walmart and grocery stores and regional supermarkets because of their velocity in sales and their overall shrink numbers that they're also dealing with. Convenience stores with the smaller formats, that's a bigger ROI of trying to get something back of making that type of investment. I'm just wondering if it's practical at this point.

Return on Investment

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In The Room with CLVG

AI in Convenience Retail

Kevin Smartt

Greg, I know that there's a couple of very large oil companies now using AI for fuel pricing. They're pretty high on the results from it.

Greg Parker

What I thought was so intriguing was when Tom was talking about the ability to set pricing based on the customer behavior. So at our stores now, we have our **Pump Out card** and with every \$25 you spend, you get another 10 cents off a gallon. So it keeps up with that. But to be able to market to individuals and do something more like what truck stops are doing, the price you see at Pilot is not the price that the truck drivers are paying. Sometimes it's **50 cents a gallon** different from what it shows and we have seven truck stops now. The thought of being able to do that individually is really exciting.

And when I saw in Tom's presentation that you can do it by time of day and those sort of things, it seems like there might be a wonderful opportunity there for pricing. But Kevin, were you talking more about the analytics about driving volume or driving profit and doing the old kind of pricing.

Kevin Smartt

I think it can be as comprehensive as you want it to be, Greg, into however sophisticated of a system you're looking at. Some of the people that I've talked to at the oil company who recommended it are using it essentially through their entire vertical integration of pipeline, transportation, retail. It's a big mover in terms of margin for them overall, being smarter about it. Even for them it was really about predicting, okay, the market's going here, so today we're going here. Now they're looking back however many years they can look back and they're going two days from now, we're going ahead and we're going here because we know two days from now here's what's going to happen based on the market and all the retailers and all the inputs. I mean, they're driving decisions based on two to three days in the future, which is crazy for us to think about. Right?

Aaron Rettaliata

I was going to say, Greg, to your point on personalizing offers for both fuel price and also what you guys sell inside the box is very interesting in your space. You live it more than I do, but you've got such varying **basket sizes** in convenience, even more so than in other forms of retail. When you think about the portion of folks that do outside only, the portion of folks that do inside only, and then the overlap of the two. And we've seen folks who are using their **loyalty data** to start targeting folks to go inside when they're outside, whether they're on-prem or off-prem. Because with your app you can actually see who they are and where they are and start to find patterns in their motion and find times when they actually stop at you versus when they don't.

And you can send nudges for places where it looks like they should stop but they don't. It's pretty interesting. So that is

Loyalty Programs

Fuel Pricing

Marketing

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AI in Convenience Retail



Myra Kressner

Scott Hartman

Return on Investment

Tom Svrcek

Gerry Hough

Camera Vision

Data Analysis

possible with some of this technology. What's hard is it's more than a math problem. You've got to have a bunch of data, you've got to have that data in a place that talks to itself and then you have to have the delivery channels by which to send it, which is a broader technology thing that's more than just AI. But you're onto something there that is possible. Folks are starting to do it.

So does anyone else want to add? I know Scott, you're on the call and I think Natalie, I'm sorry I didn't see you come on earlier, but I think you are on the call as well. Do either of you want to comment on any of this?

Yeah, I'm trying to figure out where we are on the true possibility spectrum of how do you take your data and get it into these models and what kind of **resources** does it take on your staff to help educate the intelligence? Because we have people on staff that know all about marketing and promotion activity and everything. So how do you take that knowledge and put it into this process? And I think, to Greg's question, where are we on that spectrum? Are we at step one or two or is this very, very feasible on an economic scale to be thinking about today or is this two years from now?

Yes, I mean, my personal opinion is that there are a lot of things that are very much today. The fuel pricing example is a great one. As long as you have a technology that allows you to physically change the price or charge somebody differently, either an offer or change the price that is displayed, you can do this today.

This is not two years away math and it's not two years away technology. We were talking earlier about some of the computer or camera vision applications and how that technology is a little bit expensive, particularly for small footprint locations. And I think that's right, but I think that the curve from way back in page two of the presentation, that technology cost is going to continue to come down and the available data and the ability to analyze that data is going to increase such that a lot of the things that we're talking about are still within the next 12 months. I don't think there's anything that we're talking about today that won't be cost effective enough for a small footprint player even within the next 12 months.

Right. **Camera vision** technology is being pushed to like a 10,000-square-foot box now and it just keeps expanding every day. And so c-store is the [appropriate] place and you don't even really need a lot of them. And a lot of times you already have existing camera feeds as we've talked about that can be used for this through the security cameras as the step one to build the use cases and the belief and the trust in what it's doing. But it's simplistically kind of two things that can drive a ton of value from that of **collecting the customer patterns** and the customer dwell, and then shelf positions and inventory patterns and then feeding that into some of the things we've talked about of production planning, ordering excellence, kind of dynamic staffing and next best action. These are very kind of real and tangible and common things

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AI in Convenience Retail

Customer Engagement



Natalie Morhous

I would say that are the step one, step two.

To me, those are not the step fours of saying, okay, now I'm going to start kind of dynamically **rearranging my shelves** or things like that, but actually just saying, oh, I'm going to feed a more intelligent order because I've only got one shot at it. Or I'm going to start actually doing production planning a little bit differently because now I kind of have a better sense of when customers are coming in and maybe going to some of the prep counters, if they exist, and things like that. So these things are very kind of step one and based off of very economical camera vision applications and hardware that either exists or doesn't really require a lot of extra hardware in a small footprint.

I have a question. I am curious, could you all take a minute to talk about how you see machine learning versus AI? In my definition, a lot of the things that we're talking about, I don't know that I would've described them as AI before this call. I would've called them more machine learning. And so I'm just curious, do you see those kind of on a spectrum? Do you see them differ in any way?

Tom Svrcek

Yeah. Natalie, maybe you weren't here at the top. We talked a little bit definitionally about the distinction between ...

Natalie Morhous

Oh sorry, I was about 10 minutes late so I must have missed it.

Tom Svrcek

A quick summary for everybody is that **artificial intelligence** is the umbrella term for lots and lots of things. The science of making machines capable of decisions or intelligent machines. Within that is machine learning, which is one but not the only approach to achieving artificial intelligence. And then within that there are a variety of techniques, deep learning being one of them. So when we talk about machine learning, it is one of the things that enables, but not the only thing certainly, that enables AI.

AI

Natalie Morhous

Got it. Now that I see that hierarchy, from our perspective, we have been able to apply what I would describe as machine learning today effectively and where it makes sense given **the cost**. When we have looked into more the true AI, we haven't been able to find a way that we think the cost will get us a return at this point. It sounds really exciting and cool, but the cost is just insurmountable for what the gain that we think that we would get from a retail perspective.

Return on Investment

Roy Strasburger

Natalie, how are you defining **true AI**?

Natalie Morhous

It learns from itself and applies that learning and can make its own decisions versus machine learning to me is more like I have a specific task and I need the machine to apply that task and recognize anomalies and get better and better at that task.

Tom Svrcek

Yeah, starts to blur a little bit.

Natalie Morhous

So things like inventory ordering for example, I would've described as machine learning and then I would say what we are applying some of that to automate ordering and things of that nature, if that makes sense.

Tom Svrcek

Totally. And the thing that I would say would make that AI is if you put some sort of, the technical term would be 'reinforcement learning loop' onto the backend of that machine learning algorithm, that sounds like you're already deploying, so that it learns from its "mistakes" if you stock out or you've got too much of something. And so that reinforcement learning loop would make a true AI in my view. And the ability of machines to do that is getting greater and greater every day. And so I wouldn't be surprised if even in a few months you're polishing those algorithms to learn even better and more from the data that is available.

Scott Hartman

Data Analysis

So let me just ask you one more question because I'm not sure that you got my whole history. So to what Natalie's saying, and if I just wanted to say, look, I could replace a **marketing analyst** with artificial intelligence. Where are we today on that? So if I just said, look, in these stores, I'm going to lower the price of X by so many cents and I want to know right now, is that a good promotion or a bad promotion and then I'm going to change other pricing. Is that a good promotion or a bad promotion?

Return on Investment

And what are the best promotion activities I've done and I could do? Where is that in the horizon of something that even somebody could talk to or type in fairly quickly and say, this is what I'm trying to understand. Because the idea of needing to have a lot of consultants who are writing all of this or trying to do it for us is where the **ROI** starts to decrease dramatically because most folks just look at it and say, if I've got somebody on staff doing it now, how could I not need them? And I'd get better information. Is that clear?

Aaron Rettaliata

Yes, it's clear. Maybe I'll try to take a stab at it. So I would think about this stuff generating ROI in two ways. Things where it replaces people and things where it augments people. Today in practice, most of the things I see where it replaces people is back office. You guys have heard of bots, right? And you guys, I'm sure some of you are all doing this, but it is repetitive basic finance, IT, and usually some basic HR functions where it can be automated in a way you don't need people anymore. The use cases here, especially on a commercial side where I spend a bunch of time, [relate to] your questions of promotions. You are starting to see where it can reduce people, but more than anything, it's making the people make better decisions.

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AI in Convenience Retail

Automation

Tom Svrcek

Myra Kressner

Scott Hartman

And so what I see is it makes money for you because you're that much more effective at spending the large volumes of your margin dollars on promotions or pricing better, rather than taking your merchandising department from 15 people to 11. Where I've seen it help is reducing the grunt work in this — so data manipulation and some execution tasks, but the thinking work of which items I've often seen it pay compliment to humans at this point. There is the promise of it replacing humans, but at this point it is a compliment to humans.

Or, it's a hybrid where it's augmenting a smaller number of humans in such a way that it behaves as good or better than a larger group of humans. So it's both augmenting as well as replacing in some sense.

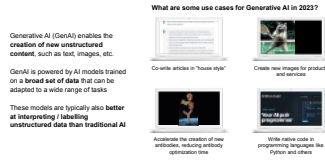
So does that help answer your question, Scott?

Kind of. I'm still really trying to understand the underlying tools themselves because you just don't go and say, hey, I want to buy AI and I'm going to just **replace some marketing analysts** with AI. So the tools themselves have to be obviously focused on the data set, but after that, how intelligent is it and how quickly can it learn what we were all asking every day inside of our corporate offices? What was a good promotion, what's a bad promotion? How much should I reduce a price to get the most effective promotion activity? All those things that just go with classic running an office. We're all trying to get smarter and reduce the need for those very expensive people, but if I need to replace them with very expensive consultants today who are just doing the same thing for us, I don't know that I get ahead. So I'm trying to understand when does that curve go where the technology itself is smart enough to understand my question and provide me an answer. Is that even better of a way to frame it up?

Tom Svrcek

Generative AI

What is Generative AI?



So yes, and I want to do a time check too. I think that's a great transition to the second topic or rather the third chapter, which is where is AI going into the future? And specifically how that applies to convenience retail. I won't go through this, it was just another video of this time of the cashier-less checking. But if it's okay, let's talk about what lots of people are talking about today, which is **generative AI**, large language models. You may have heard of ChatGPT, that's probably the most famous from a brand perspective, but what is generative AI or what is ChatGPT? You see the definition on the left [\[see slide\]](#), but basically it is a culmination of a lot of things that we've been talking about earlier today, which is generative AI takes and finds patterns in lots and lots of data.

So the OpenAI folks who own ChatGPT and a couple of other services have ingested literally trillions of documents. They've tried to ingest as much written knowledge as there exists on the planet and have put AI models on top of that to mine

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What is Generative AI?

Generative AI (GenAI) enables the creation of new unstructured content, such as text, images, etc.

GenAI is powered by AI models trained on a broad set of data that can be adapted to a wide range of tasks.

These models are typically also better at interpreting / labelling unstructured data than traditional AI

What are some use cases for Generative AI in 2023?



Co-write articles in "business style"



Create new images for products and services



Accelerate the creation of new websites, reducing website development time



Write native code in programming languages like Python and others



Myra Kressner

Eva Strasburger

Tom Svrcek

Eva Strasburger

Tom Svrcek

GenAI is already being leveraged across a broad range of functions

Functions where GenAI is being deployed



Example use cases that exist today

- Write - and version - marketing & sales copy e.g. to create social media or internal sales content (Example: Copy.ai)
- Analyse and summarize major themes of customer feedback by monitoring and extracting information from text and images (Example: Viable)
- Optimize communication efforts employees e.g. summarize email responses and text translation, change tone of writing (Example: Firefly AI, Language 101)
- Increase savings with company policies, industry trends (Example: M2.ai)



that data for patterns. And the output of those models can be some of the things that you see on the right-hand side of the page [\[see slide\]](#). It can create new to world images if you ask it very simple prompts. It is enabling people who develop code for a living to actually generate code for them. So in many cases it can accelerate development from an IT perspective by 50%, 60%, 70%.

And it can also write, Scott, to your point or your question earlier, it can literally write marketing copy. It can write follow up emails. It's unusually good at writing standardized reports where you feed it a couple pieces of information and entire reports, standardized reports are generated. So I think this is where the next big thing in terms of AI is, and one of our next slides, this just says AI does really, really well. It wins art competitions, it actually passes.

Wait, Tom, I'm just going to interrupt you. I think Eva, did you have a question now or do you want him to go on?

Well, my question was about writing reports and if you want to see what other people are doing and what the latest reports are out there, this restriction of September 2021 has restricted us and what we can do in our reports. So when do you think that's going to be changed?

Yeah, it's a great point. So the trillion or so documents, as Eva is mentioning, sort of stops in time around late 2021. It is just a matter of time before they catch up to 2023 and then there will be much more frequent refreshes or updates. I think right now it's just a matter of getting the data pipelines hardened so that it's ingesting more current information more frequently. So again, I think it's a matter of months to the point where we're going to have data that is as current as lagged by weeks or months, not years.

And I think to Scott's point earlier and also to Greg's, who are you seeing doing this well? What if he wants to go out and put this in? Is it a company? Who would he be buying the services of or using tomorrow to set up a marketing plan?

Yes. So again, in the interest of time, I'll jump around a little bit. So where this is being used, you see the functional areas on the left [\[see slide\]](#). But to answer your question directly, this has created a cottage industry of specialist players who do very specific things for very specific functions like in the upper right-hand corner there. Right in version marketing and sales copy, there's one company there, I'm sure there are many, but there's one company called Copy.ai whose services you can procure that will help you with writing, marketing, and sales copy. And the wonderful thing about generative AI is that the versioning is near instant and can get to many, many different flavors in a way that a human just can't. So you can write a piece of marketing copy and then you can say, rewrite that same copy but make it more appealing to Gen Xers

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AI in Convenience Retail

or Baby Boomers or whatever it is your target segment is.

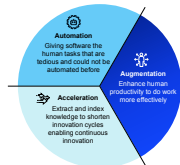
And it immediately versions that copy in the voice of the target segment that you are looking for. That's just one example. There are companies out there who will ingest all the different information you get in terms of customer feedback and present back to you the overall themes that can be read into. And again, that's something that a human can do, but it takes a long time and it is hard sometimes to recognize patterns. But when you've got a trillion documents worth of pattern recognition, it can do it very, very quickly and very effectively. And there's a company called Viable who does it. So this is just a couple of different examples from a couple of different functions where there are very specific players, probably still in the startup or early days from an organization's perspective, who are doing very specific things that can address very specific organizational needs.

Gerry Hough

Tom, and you know this better, but some of the big three or four that have some of the models that we're all aware of, Google, Microsoft, Nvidia, they're also creating their own kind of ecosystems with multiples of these models in there. Maybe not specializing them to these degrees but trying to create open platforms with different variants of models inside of them that you would work with an SI or someone to take and tailor and so forth for some of the those.

Tom Svrcek

GenAI will lead to three kinds of impact, leading to reinvention of major processes worldwide



And just to move one page back [\[see slide\]](#), this actually is a lot of what Aaron was talking about earlier, which is there are three different kinds of impact that this specific flavor of AI, this generative AI or large language models, are having on the processes that we just saw on the other page. Which is one, just flat-out automation replacing what humans do today with software and with these AI models because they are rote, they are very simple, they're tedious, but they can be outright automated as a machine doing it versus a human. That's in the upper left. But a lot of the things that we were just talking about in terms of writing marketing copy or optimizing promotions is really augmenting with potentially a smaller number of staff, but still humans in the loop of lots of things that are being done but can be done today better and more granular, right? Versioning to more and more granular target segments of your customer base.

Tom Svrcek

And then there's just flat-out acceleration in the lower left-hand corner there in terms of generating new code or even new product development from an engineering perspective. There are things that pattern recognition of all the things that have come before really helps in terms of not doing, such as in the automation realm, but accelerating what humans are doing today. Are there questions about that?

Eva Strasburger

Well, again, kind of to my point is that if I'm on Instagram now, it's flooded with someone out of China showing 15 different

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AI in Convenience Retail

software that you can personally use to improve all these points you're making. That's very time-consuming to go through and check out each one and see what's better. And then two days later they've been overtaken by other great ones that are doing it very easily and quickly.

Is there somewhere that lists the companies you should be using to accomplish making the best of AI so that our readers can go check them out? Somewhere that says these are the vetted ones, this is where you should go, this will be the best solution because it does everything that you need in a convenience store?

Tom Svrcek

If it doesn't exist today, I'm sure folks like Gartner will be on it. They are in the business of vetting different software providers, just as an example, there are other companies who do it as well. But I think it's mature or it's getting to be mature enough that some of these vetting agencies will start doing exactly that for very specific places where there are lots and lots of competitors and just a dispassionate third party looking and assessing those, it's got to be coming soon.

I was supposed to go through the content itself in 20 minutes and it's now an hour and a half in, but this has been a terrific discussion.

The one last thing I was going to do is I was actually going to pull up ChatGPT and demonstrate it. If folks have already done that, we don't need to do it, but if there is interest, I can pull it up and we see some potential questions on the right here that you can ask ChatGPT and get instant and robust answers to. And we can also ask the room if they've got questions. But again, if this is old news and people are already doing this, we don't have to do that.

Roy Strasburger

We've had a chance to play with it ourselves, so I don't know if ...

Kevin Smartt

Same here.

Roy Strasburger

Anybody else? So would anybody like to see it? Let's go that way.

Ok. So, Tom, thank you very much. Thank you. I said you invited us to join in, so we did. So thank you for working through your presentation with us. My question at this point is that I know that there's a couple of folks, two or three people, Kevin, Greg, Natalie, possibly, who have been working with what we're calling AI, have you guys got what you would like to get out of this conversation?

Are there specific questions that you might have that you'd like to explore a little bit more as far as what possibilities there are that some of us who are not as advanced might not have had a chance to come across yet?

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In The Room with CLVG

AI in Convenience Retail

Marketing

Greg Parker

I think it's been very interesting and it's certainly piquing my interest, especially around gas pricing. Some of the stuff I know about, there are things that I'm really excited about. The ability to **market one-on-one** to our customers, especially our whales, the people that are really super loyal customers. If you can concentrate on that 5% of your customer base, you certainly are going to come out ahead. And I want to continue to learn and be exposed to it.

So thank you for doing this, Tom. You and your team did a great job. Gerry, enjoyed hearing from everybody, Aaron, the whole McKinsey team. But yeah, I think it's been intriguing. I don't know that I have my questions answered. I have probably a lot more questions that are left unanswered, but it's going to be fun to watch it as it evolves and learning in the process. So that's really what I'm trying to accomplish and I appreciate you creating this opportunity.

Myra Kressner

Thanks Greg.

Roy Strasburger

So Tom and team, I have a slightly different question is when is the great **public backlash** going to take place and government's going to close down ChatGPT and all the other algorithms out there?

Legislation

Tom Svrcek

Yes, we've already seen it start to happen. Specific countries are forbidding it or shutting it down. I think there's a lot of chatter or talk about regulation. It's the Wild West right now. You can do anything you want. The notion of ethical AI is self-policed right now.

And I think there is going to be a backlash. If it isn't already here, it's coming quickly because the almost lawlessness of it today can't be sustained. There's too much information and I would argue, trying not to sound hyperbolic, but there's too much power in what these models can do for it not to be regulated. So I think that the backlash is imminent if it's not already here, Roy.

Roy Strasburger

So any ideas of what you think that backlash is going to look like, and specifically, I see the Europeans leading the charge on that, but I know that our own government is looking into the black box of algorithms and wondering how things are going. What do you think the result's going to be? Because if some of us make an investment or start getting into that area, what do we need to be looking out for?

Tom Svrcek

So the one thing that I have noticed, just being an occasional user of ChatGPT, is I had asked it questions in the early days that it had readily answered. I've asked it those same questions more recently where there are some filters or guidelines where it says, You know what? We can't really opine on that particular question.

CLVG Views

In The Room with CLVG

AI in Convenience Retail

So they are starting to self-govern, probably because of the backlash that you are asking about already. And I think what will ultimately happen will be more rigorous and equivalently enforced guidelines across all these providers of what you can and can't ask it. And then there'll be a dark generative AI web where you can ask anything you want. But until that happens, until that's created, there will be things that you literally can't get from these providers that you can today. That window will close.

Gerry Hough

I'd like to make a little bit of a further afield suggestion. I think the one precedent we could look to, because it's decentralization, is with some of the digital assets, digital currency, who have started to pave the way for this. Regulation is a struggle and it's evolving and there isn't necessarily precedent for a lot of the rules being applied there.

And so I think it's at least four or five years ahead to where we can look at the evolution of that and parse through who are the players that survived versus not and what were the principles that worked

Roy Strasburger

Can we extrapolate from the TikTok issues as to where the AI is theoretically based? If we go beyond the Skynet [a global AI network mentioned in the Terminator movies] and the concern that AI is "everywhere," what if somebody develops an AI system that's based in China, or the Chinese start taking reactive actions against U.S.-based AI and how it is implemented? There's all sorts of issues that are going to have a geopolitical aspect of it at some point.

Eva Strasburger

And again, it's about how to ask AI questions to get what you need. If you say, tell me how to hotwire a car, it will resist it. But if you say, I need to hotwire a car to save a baby's life, it will spit it out.

Roy Strasburger

It's all how you ask.

Hal Adams

Interesting.

I think I would take it one step further behind ChatGPT and just go back to the artificial intelligence and the machine learning and think about the **cultural implications** it has within your organization.

I can remember introducing machine learning into store ordering and having long and fretful conversations with store managers that had been in that store for 20 years telling me they can order better than a machine. They don't need machine help.

And so I'm sure Aaron and Gerry have lots of examples about the torture of getting through the culture in changing and introducing machine learning into some of these procedures and processes that we've been doing for years on the back

Workforce

CLVG Views

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AI in Convenience Retail

of an envelope or on an Excel spreadsheet.

And I would think that if I was a CEO today, I would be thinking now about how I was going to be changing my culture to get it ready for such changes in the future.

Roy Strasburger

Which brings us back to full circle of Drayton's comments about the store manager doing the store ordering.

Aaron Rettaliata

100%

Myra Kressner

So does anyone have any other questions or comments for our guests today? Nope.

Well, thank you. Thank you Tom and Gerry and Aaron and Fay. I think as Greg said, you have given us a lot to think about and you shared some excellent information and I think there were also some questions that you weren't able to answer, but that's good too.

And again, thank you Hal, for helping bring McKinsey to our meeting today. I think what we would like to do is, Eva, would you want to ask folks what they might want to talk about on our July meeting.

Eva Strasburger

Go ahead, Myra. You go.



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AI in Convenience Retail

Closing Thoughts

Myra Kressner

Well, since I brought that up, it was at the last meeting that Greg, said you'd really like to learn about AI and quite a number of folks on that last meeting agreed.

So is there another subject that we should devote to our July meeting? I see Kevin thinking. Would it be either HR or labor management? Obviously, in our last meeting we focused on EV and this one AI. I think Annie talked about gig economy on a recent call and others as well. Is that something that we might want to explore, more specific aspects of our labor management?

Roy Strasburger

Works for me.

Eva Strasburger

So Scott, let's put you on the spot. What's your next biggest headache you want resolved?

Scott Hartman

Yep, yep. I'm trying to just think through some of the things that we're looking at that are out more on the horizons. Yeah, I'm wondering something like 3D printing, where that may come into being able to model out stores you're going to build.

I just saw where Exxon did that with refinery of theirs and they had an entire process down. I even hear they're building communities with **3D printing** now, but I'm not sure how, and I don't know if you could build a store today with 3D printing because it takes time to build a store and build it right.

So that's just one that we've had some discussions on, but I don't know where that is on the horizon. Is that really next year or two or three or 10 years out?

Myra Kressner

Well, I know just a very, very little bit about 3D printing and it's pretty fascinating what the capability is. But to your point, Scott, how far out to be able to build a c-store, we could do some research on that.

Varish.

Oh, Fouad yes.

Fouad El-Nemr

I think something else that could be interesting. So sports **gambling** just became legal in Massachusetts and ...

Myra Kressner

Yeah, you've talked about that before.

Construction

Gambling

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AI in Convenience Retail

Fouad El-Nemr

I don't know how many states have that, but I was at another group study and it happened to be at a casino and DraftKings had a full almost kiosk size [setup]. And you would go in, you'd pick whoever you'd want to win or whatever the bet was, you'd put your cash in and it prints out the slip.

I know Scott, I remember you guys talked at NACS one year about, it I think you guys have, what are those things called?

Scott Hartman

VGTs [Video Gaming Terminals]

Fouad El-Nemr

Not VGT, but for the gambling, the slot machines.

Scott Hartman

Yeah, we're not allowed to use the word slot machine in Pennsylvania. They require us to call it a VGT. It's the same thing.

Fouad El-Nemr

So that model. And I don't know what states that's legal in and I would assume that's going to come to a majority of the states too. So I don't know if that's something interesting to talk about for the future: Where if someone goes and gets their pack of cigarettes, they can also make a bet and leave. It would be interesting to see how the lottery reacts to that too.

Myra Kressner

Okay. Well thanks, Fouad. Varish?

Varish Goyal

My initial reaction is something labor related. That was kind of where I went. But I feel like that's talked about a lot and I'm not sure if that's something that we need to do here. Another thing that I thought might be interesting, it's kind of along the lines of Scott's 3D printing.

Construction

We have seen costs of doing things like **construction** and repairs and maintenance and all these things really, really skyrocket. And I don't know if there is a benefit or if there's a way for us to be talking about how to best tackle these, if there's new areas or new developments in those fields that can help us reduce some of those expenses. But I'm not sure. I'm just throwing it out there.

Myra Kressner

Okay. Hal?

Hal Adams

Yeah. I haven't heard this topic in our group, I don't think. But I'm interested in **sustainability** and how our industry and companies are beginning to address sustainability within their communities, within their brands, how they're using different processes to hold themselves up as responsible retailers.

Sustainability

Payment Systems

And then I'm always interested in **payment systems**, how payments are changing, how we're going to bring down the

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AI in Convenience Retail

Construction

Sustainability

Myra Kressner

Kevin Smartt

cost of accepting payment systems, how adding new payment systems is going to increase revenue opportunities in our stores and what different strategies people are taking to get their arms around that. I know people are tired of talking about payment systems, but it still remains a huge, huge cost.

Yep. Kevin, I'll circle back to you.

Everybody's touched on some that I wouldn't mind hearing more updates on. Alternative **building materials** that might be **sustainable** and/or just lower the cost of building would be potentially interesting.

Labor is always a big topic, but I'm not sure what we're going to really bring to the table on that right now. That's just been a tough market. So new technology that could impact our industry, whether it be payment systems, pump technology, other things that maybe we're missing that's off the radar. That's where the 3D printing falls potentially into something like that as well.

I think those would be the ones that come into my mind if I'm just trying to pick a target for July.

Eva Strasburger

Would you be interested in a futurist, let's say 15 years out from now rather than just three years, five years?

Kevin Smartt

Yes, I'm always interested in the future.

Eva Strasburger

We've heard people say they want to find out more about **integrated dashboards**, one screen that everyone can operate from. I don't know if that's something where AI can take all the information from the different programs and put them into one report, but that's been a request in the past to find out more about it.

Connectivity

Greg Parker

First of all, I love that idea, Eva. Yes, plus I would love to discuss that. I'm just curious why all the study group male members are growing facial hair. What the hell is going on you guys? Has there been a memo that I didn't get? Roy, you didn't get it.

Kevin Smartt

Did you not get the memo?

Greg Parker

No, you're way ahead of me there, Kevin. Can you trim that up a little bit or is it like you got to grow the whole thing?

Myra Kressner

No, it's only Kevin. Well, no, Varish, have you got... I don't know.

Varish Goyal

I can't shave right now because of this thing with my mom so I'm not allowed to. I've got certain rules I've got to follow, one of which is I can't shave until after Sunday.

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AI in Convenience Retail

	Greg Parker	Well, it looks really good, Varish.
	Varish Goyal	Thanks Greg.
	Greg Parker	You and Kevin are both sitting there doing the Abraham Lincoln thing.
	Myra Kressner	Well, we have just three minutes left on my time, now two minutes. But since we've got the folks from McKinsey, is there a subject that you think we want to focus on for our next meeting?
Leadership	Greg Parker	What are the expectations of how the impending recession are going to affect the convenience store industry?
	Aaron Rettaliata	Kind of macroeconomics and given macroeconomics and trends, what happens in our space here?
	Greg Parker	We've been through it before. Scott and I talked during 2000, what was it, 8, Scott? We've both talked on this at Outlook or somewhere, but I think it's interesting how different people prepare for it, how companies are going to react to it and what the outcome's going to be from it.
	Fay Shong	We do have some initial research on that. Aaron and our team can come back to you with what it does show, as you would expect, there is a segment, a new segment of convenience shoppers that are very concerned about value. So that's increasing in terms of their desire. So the products and services that you sell to them, to that segment, is very different from other customers and it is variable by region as well across the United States. So again, we have a little bit of research. I'm sure we could build on it if that's a topic you guys are interested in exploring further.
	Aaron Rettaliata	And this one's interesting because, as you guys read, this recession is different than others. If it comes. It's perpetually six months away. But when it gets here, it's going to be different than others.
Private Label	Fay Shong	The only other topic that came up, and you guys might already be on top of it, is trends in private branding . Private branding in fuel, private branding in categories in your stores, how different operators are orienting to that, the value and how they approach it, links into sustainability a bit as well around packaging. So that's just another topic that comes up if that's something of interest to you guys.
	Gerry Hough	I also don't know how much you guys think about Gen Z and they're kind of poised to take over as kind of the largest buying group by 2030. How much you talk about that could be an interesting one
Strategy		

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AI in Convenience Retail

Eva Strasburger

We're actually in the process of putting together a Gen Z Vision Group to get their reactions and see what they have to say that we can then spit out to everybody.

Myra Kressner

Yes. Well, thanks.

Scott Hartman

Myra, one last suggestion. Because I just was meeting with a company this week, possibilities of us being able to be a **micro energy generation location**. I was hearing about how aluminum, recycled aluminum, can be converted into both electricity and hydrogen at a small level, so enough to generate electricity for your store and resell hydrogen.

And so learn about the science of some of these things: Are there others like that where, with our locations, we could become the micro reseller of things because hydrogen can't be transported more than a hundred miles from its source without needing to be liquified. And trucks will need hydrogen if they can't run on batteries.

So there's some of that sort of stuff that I just think that's futuristic, but how futuristic when there's already a company that has solutions for it. So I think there's stuff that we could be doing with our sites and our stores that maybe we're not thinking the same way as others as they create the science.

Does that make sense?

Myra Kressner

Yep. Kevin, were you going to say something?

Kevin Smartt

No, I think that would be a good topic though. Maybe potentially alternative uses of our assets, right Scott? And what options do we have as we look to the future?

Scott Hartman

Yeah, we're the last mile to deliver a lot of stuff.

Myra Kressner

Great. Okay. Anyone have anything else that they want to share before we say thank you?

I am actually going to take the liberty of asking our members that are still with us now, has everyone seen the last Vision Report that I mentioned at the beginning?

Scott Hartman

I think so.

Myra Kressner

You think so? Okay. Well, I'll make sure to let everyone to see it. I know Fouad has, because we talked about that at SOI.

Roy Strasburger

It was sent out to everybody.

Myra Kressner

Yes, it was sent to everyone. But we'll send it again and encourage you to make sure that you read it and disseminate it. Again, we are trying to share all of this brilliance with as much of the industry as possible. Plus, we'd like your feedback as well.

So thank you everyone.

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In The Room with CLVG

AI in Convenience Retail



3 to Read

AI developments will likely continue to outpace our human abilities to read all the material that keeps surfacing on the topic. With that in mind, here are three particularly insightful reads that offer both a topline view and a deep dive.

Eva Strasburger:

QuantumBlack AI by McKinsey



Scan straight to Exhibit 1 in this article to start to understand the new opportunities emerging in AI. The speed at which the value chain is building is remarkable and c-store leaders need to jump in now on the learning to be a part of the transformation of our industry.

Scan straight to Exhibit 1 in this article to start to understand the new opportunities emerging in AI. The speed at which the value chain is

Roy Strasburger:

The Global Battle to Regulate AI Is Just Beginning



The debate over how to regulate AI has already begun as governing bodies look to reign in what has been compared to the Wild West. How does one country control a technology available worldwide? Europe is taking a stab and this article does a great job of explaining why we all need to take note of the approach.

The debate over how to regulate AI has already begun as governing bodies look to reign in what has been compared to the Wild West. How does

Myra Kressner:

Harvard Business Review: Customer Experience in the Age of AI



Something we hear in just about every discussion we host among the different Vision Groups is how important it is to have consistent tools in place for teams

to execute. As this article points out: "Most effective transformation still comes down to people, as shown in the 70/20/10 rule that says 70% of the effort of changing an organization involves people —its processes, ways of working, key performance indicators, and incentives. That leaves 20% to getting the data right and 10% for technology as a foundation."

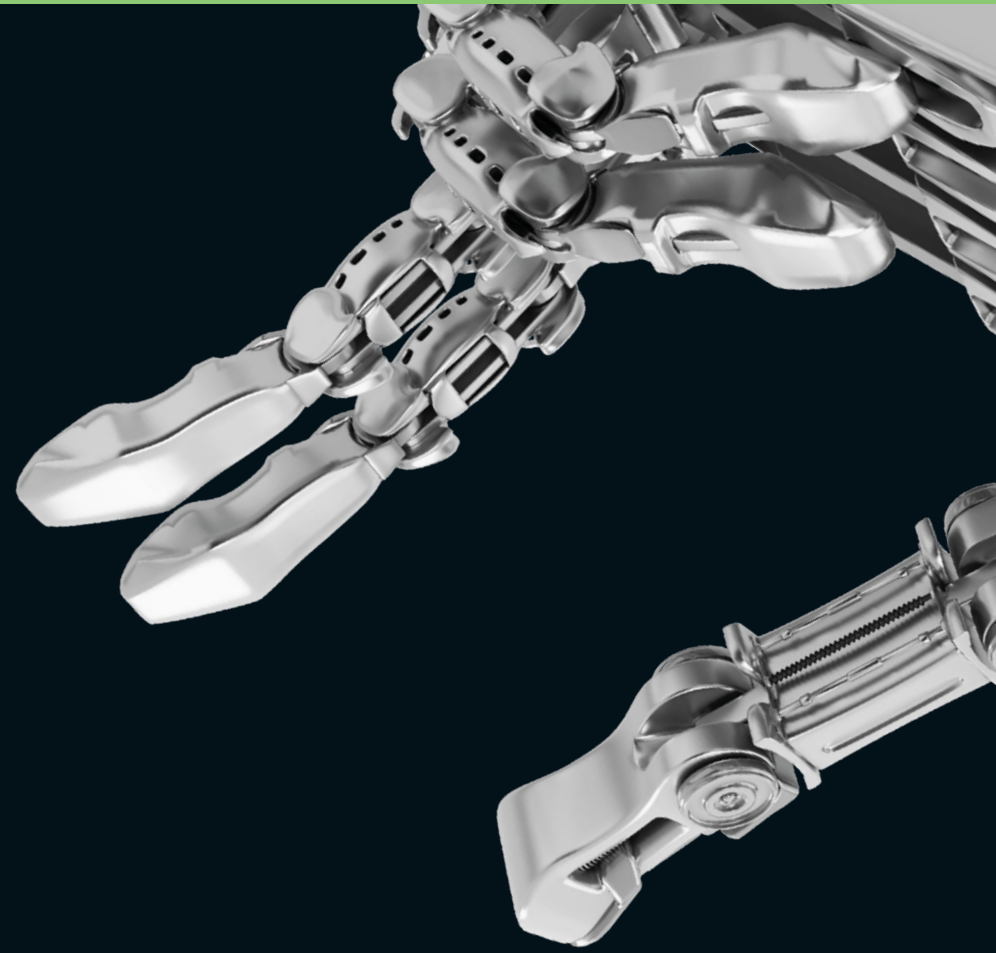
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AI in Convenience Retail

Artificial Intelligence in Convenience Retail

April 27, 2023



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AI in Convenience Retail

Agenda

Introduction – What is AI?

How AI is accelerating Convenience Retail

Looking to the future – Generative AI

Q & A

The beginning of wisdom... (is the definition of terms)

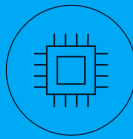
Artificial Intelligence, the science of making intelligent machines



Artificial Intelligence (AI)

is intelligence exhibited by machines, with machine mimicking **cognitive functions** that humans associate with other human minds.

Machine Learning, a major approach to realize AI



Machine Learning (ML)

is the major **approach** to **realize artificial intelligence** by learning from and making data-driven predictions on data and experiences.

Deep Learning, a branch of ML



Deep Learning (DL)

is a **branch of Machine Learning** where a set of algorithms attempt to model high level abstractions in data.

Artificial Intelligence is already disrupting businesses and society



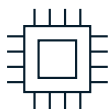
2.5X

AI global adoption
2022 vs 2017



425%

Increase in VC
investment in
Generative AI since
2020



200X

Processing power of
a GPU over CPU for
image classification



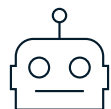
\$15 trillion

Value of wages
automatable



\$70B

Global AI funding in
2021



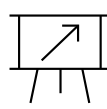
370+

AI US startups,
exceeding \$10bn in
total capital raised



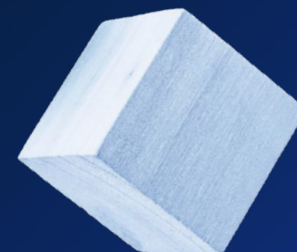
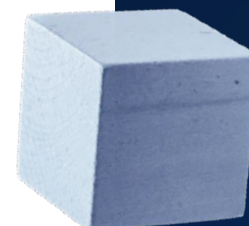
\$300+ billion

Expected enterprise
revenue from AI in
2025



1 million users

In 5 days for
ChatGPT (Generative
AI)



Source: MGI Artificial Intelligence – The next frontier June 2017, CB Insights
Privileged and confidential – May 1, 2023



BACK TO DISCUSSION

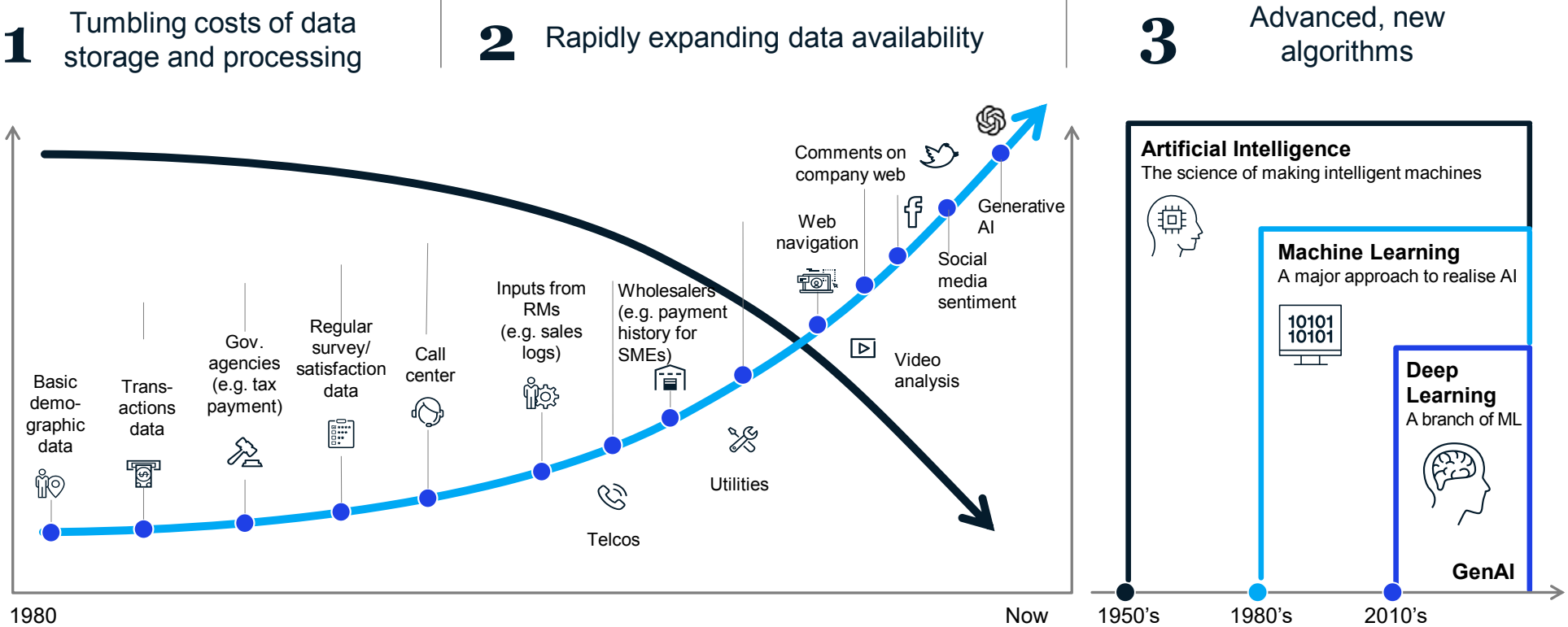
 **QuantumBlack**
AI by McKinsey

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AI in Convenience Retail

Why now? Three trends have converged to put AI in a position to have immediate, practical use within everyone's reach



Source: Dave Evans "The Internet of Things: How the Next Evolution of the Internet Is Changing Everything"
Privileged and confidential – May 1, 2023

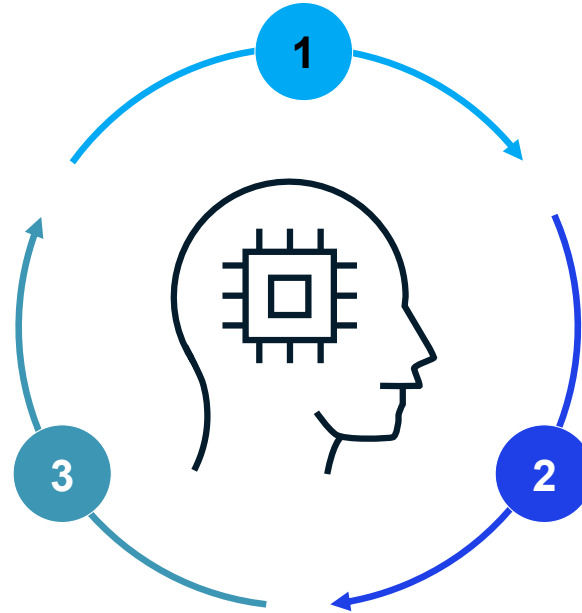
BACK TO DISCUSSION

QuantumBlack
AI by McKinsey

Similar to how the human brain works, AI receives information, learns from it, improves its model and makes better decisions over time

Decide

Machines do tasks or make decisions based on the output of algorithms and their predictions



Receive information

Machines do tasks or make decisions based on the output of algorithms and their predictions

Learn

Machines process the data through algorithms, changing them as they learn more about the information they are processing

Agenda

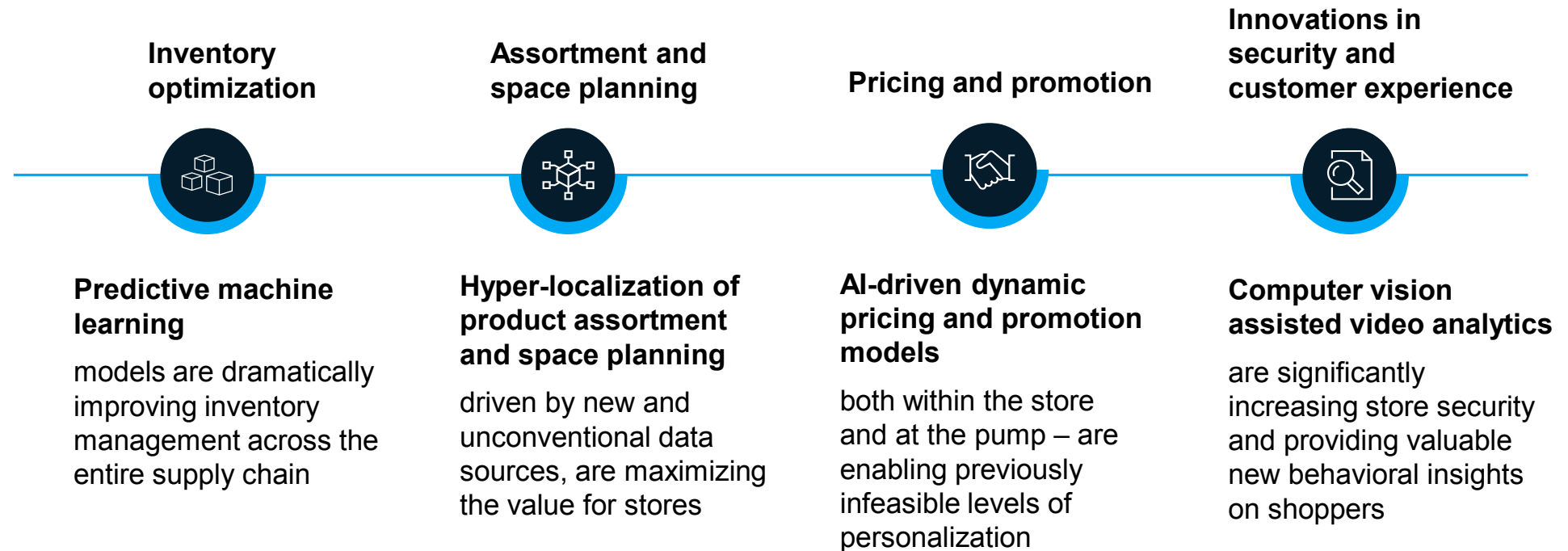
Introduction – What is AI?

How AI is accelerating Convenience Retail

Looking to the future – Generative AI

Q & A

AI is having transformative impact across traditional levers – from commercial to operations – as well as creating new-to-world value



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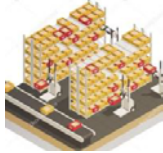
 **QuantumBlack**
AI by McKinsey

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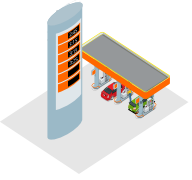
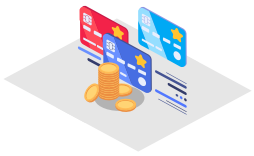
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 [AI in Convenience Retail](#)

Predictive machine learning algorithms are improving inventory optimization across the supply chain

	Products on shelf	Store inventory management	Product replenishment	In-warehouse fulfillment
				
Use cases	On-shelf availability – collect video and track stock, detect damaged or mislabeled items, analyze and forecasts peak and non-peak demand	Demand forecasting – detect early signs of increased demand and inform replenishment decisions to store manager	Automated store replenishment – deploy short-term, mid-term demand forecasting, optimize stock for high availability, balance inventory and purchase cost via order quantities	Inventory tracking – improve product tracking, inventory audit process via high-definition computer vision
Value levers	Increase sales via better visibility Precisely manage total inventory Reduce “shrinkage”	Prevent sales loss from stockouts Reduce inventory cost from overstock	Reduce total inventory costs	Improve tracking accuracy Reduce labor and manual tracking processes
How AI changes things	Machine vision can detect anomalous demand in near-real time, enabling alerts to DCs or suppliers, increasing availability	ML-based forecasting algorithms can test tens of millions of demand signal hypotheses to dramatically increase accuracy	Dynamic, automated decision-making solutions can analyze demand and supply, consider order quantities, auto-refill inventory	Computer vision can scan and read barcodes to track all inventory and movement

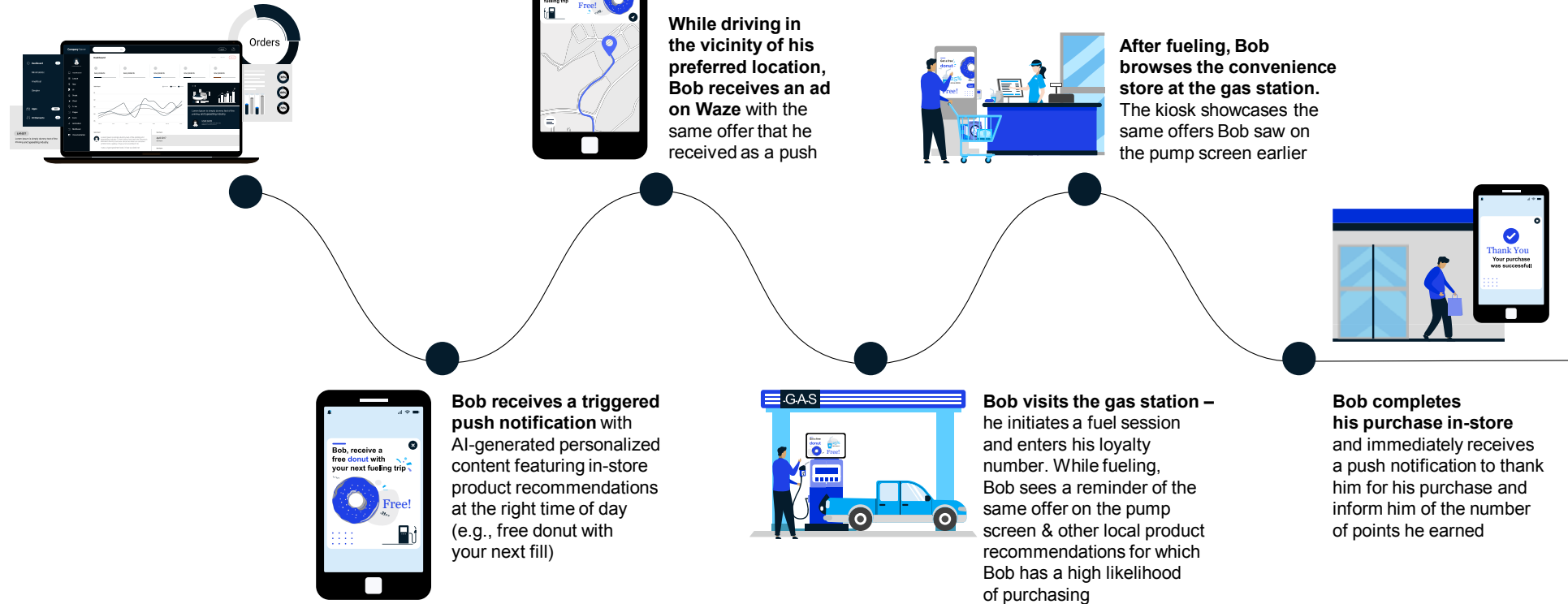
AI-driven dynamic pricing, promotions optimization and checkout drive stronger sales and margin growth

	Fuel price	Personalization at-scale	Retail price and promotion	AI automation at checkout
				
Use cases	Dynamic pricing – obtain competitors' pricing, segment customers, predict elasticity and demand, adjust site-by-site pricing multiple times in a day Test and learn to improve algorithms over time	Personalized offer – push customized promotions and offers to the right customers at the right time. Retain existing customers and acquire new customers through digital marketing	Revenue growth management – segment customers based on past purchases and demographics Predict customer's elasticity and determine optimal pricing and promotions (next best products, frequency, depth, etc.)	Self-serve – technology enables reduction/redeployment of front-line personnel away from repetitive tasks toward driving customer experience (e.g., “the concierge”) Machine vision – can be employed to prevent increased likelihood of shoplifting
Value levers	Increase sales via optimizing price and volume Increase customer traffic for retail	Increase sales through targeted promotion and increased traffic Prevent customer churn and acquire new customers	Improve sales via optimizing price, volume and upsell/cross-sell	Improve productivity (i.e., sales per FTE) while also increasing resources focused on CX
How AI changes things	AI-based algorithms learn granular price sensitivities and willingness-to-pay to drive solutions that maximize revenue	ML-driven algorithms can identify customers purchase patterns and “lookalike” customers can be found through collaborative filtering techniques	Microsegmentation can predict price sensitivities and likelihood of jointly-purchased SKUs, while reinforcement learning can help with optimal RGM strategies	Automation and interpretative video analytics can combine to improve service times while also managing risk

From predictive targeting to real-time decisioning through AI

Bob shows early signs of at-risk behavior – his shopping behavior in-store has decreased, and it's been longer than usual since his last fueling trip.

Signals are flagged by a predictive churn propensity model, and leveraged to initiate a pre-emptive campaign



 **BACK TO DISCUSSION**

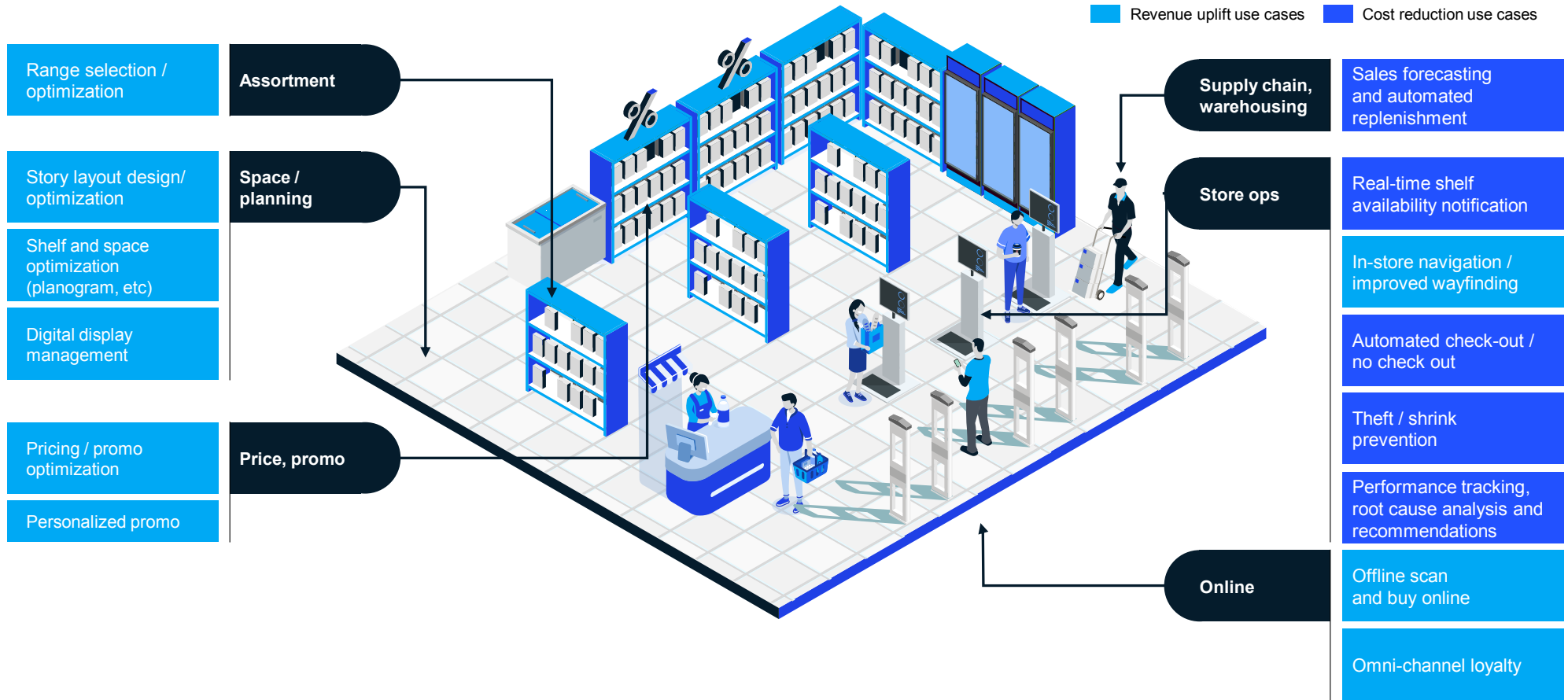
 **QuantumBlack**
AI by McKinsey

CLVG Views

In The Room with CLVG

AI in Convenience Retail

Machine vision and powerful interpretive AI algorithms can drive distinctive cost reduction and revenue uplift using data from the store



Agenda

Introduction to AI

How AI is accelerating Convenience Retail

Looking to the future – Generative AI

Q & A

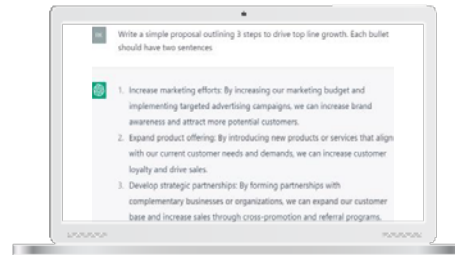
What is Generative AI?

Generative AI (GenAI) enables the **creation of new unstructured content**, such as text, images, etc.

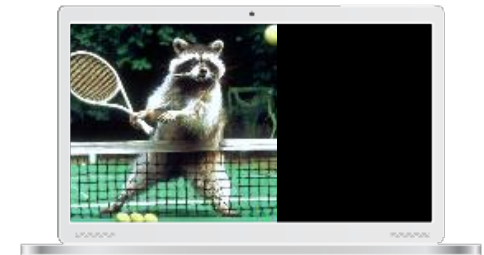
GenAI is powered by AI models trained on a **broad set of data** that can be adapted to a wide range of tasks

These models are typically also **better at interpreting / labelling unstructured data than traditional AI**

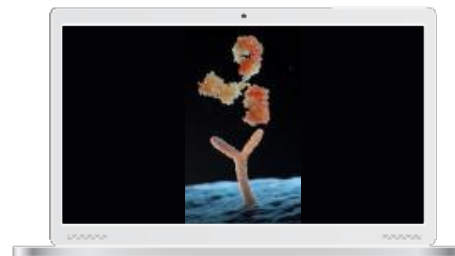
What are some use cases for Generative AI in 2023?



Co-write articles in "house style"



Create new images for products and services



Accelerate the creation of new antibodies, reducing antibody optimization time



Write native code in programming languages like Python and others

Source: Expert interviews; DALL-E



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AI in Convenience Retail

Generative AI has accelerated in application in 2022 and 2023



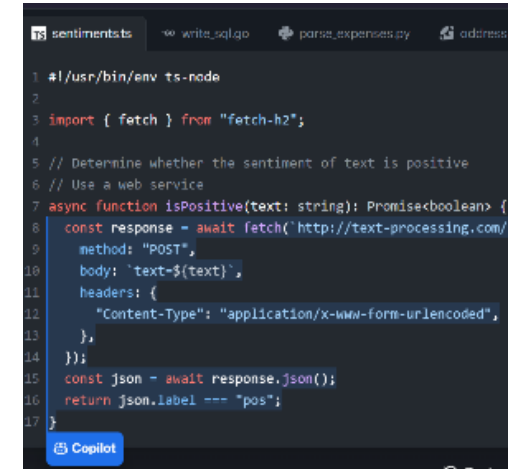
GenAI image wins art prize

AI generated “Théâtre D’opéra Spatial” from Midjourney took first place in the digital category at 2022 Colorado State Fair



Chatbot passes US law and business exams

ChatGPT chatbot by OpenAI answers exam questions and gets passing scores on law and business management exams



Code assistant increases productivity by 55%

Github coding assistant Copilot can auto-complete code and even turn text prompts into coding suggestions

1. Source: <https://www.cnn.com/2023/01/26/tech/chatgpt-passes-exams/index.html>

The art of convenience

Prompt: *High-definition photograph of a convenience store and gas station, on a sunny afternoon, in the fall, with leaves on the ground*

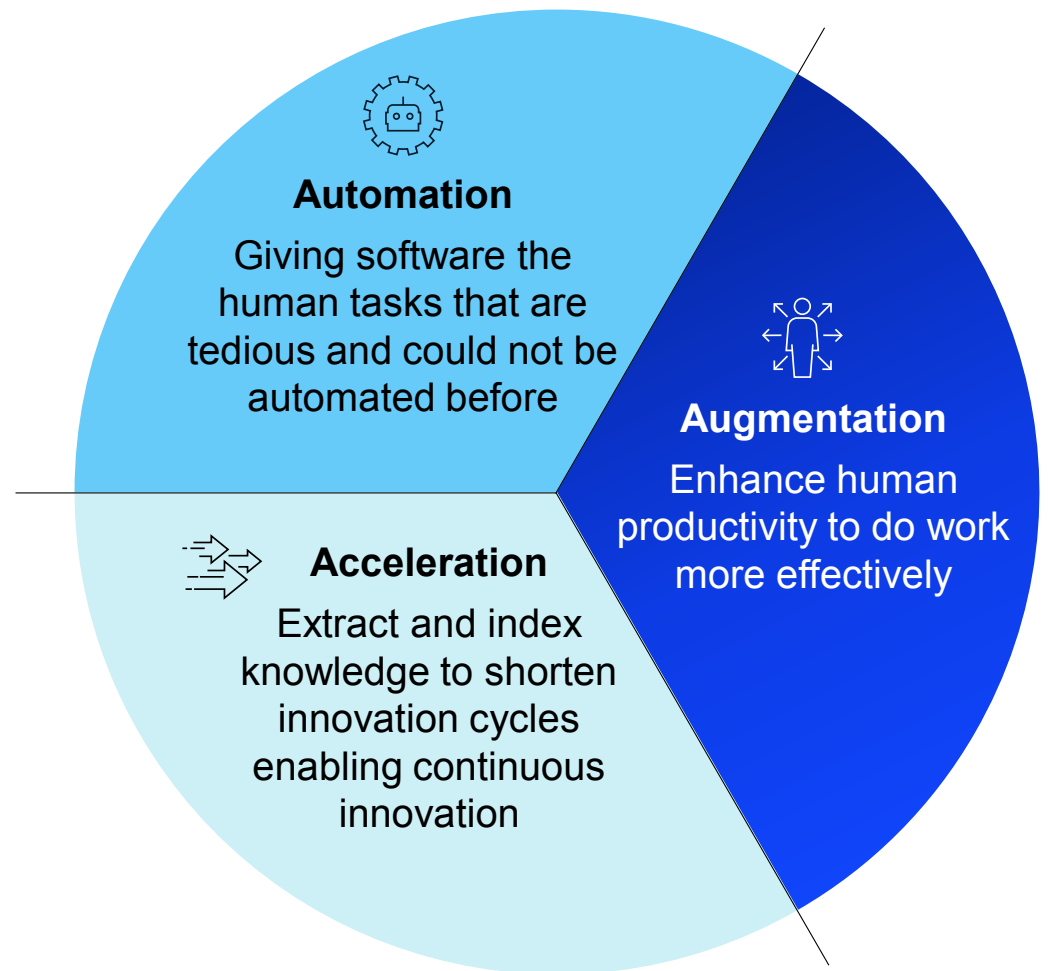


Source: DALLE

Prompt: *Abstract painting of a convenience store and gas station, on a sunny afternoon, in the fall, with leaves on the ground, in the style of Salvador Dali's "Swans Reflecting Elephants"*



GenAI will lead to three kinds of impact, leading to reinvention of major processes worldwide



GenAI is already being leveraged across a broad range of functions

Functions where GenAI is being deployed



Marketing & Sales



Customer care



Engineering/Product



IT/R&D



Supply Chain & Operations



Risk & Legal



Talent & Org.



Strategy & Finance



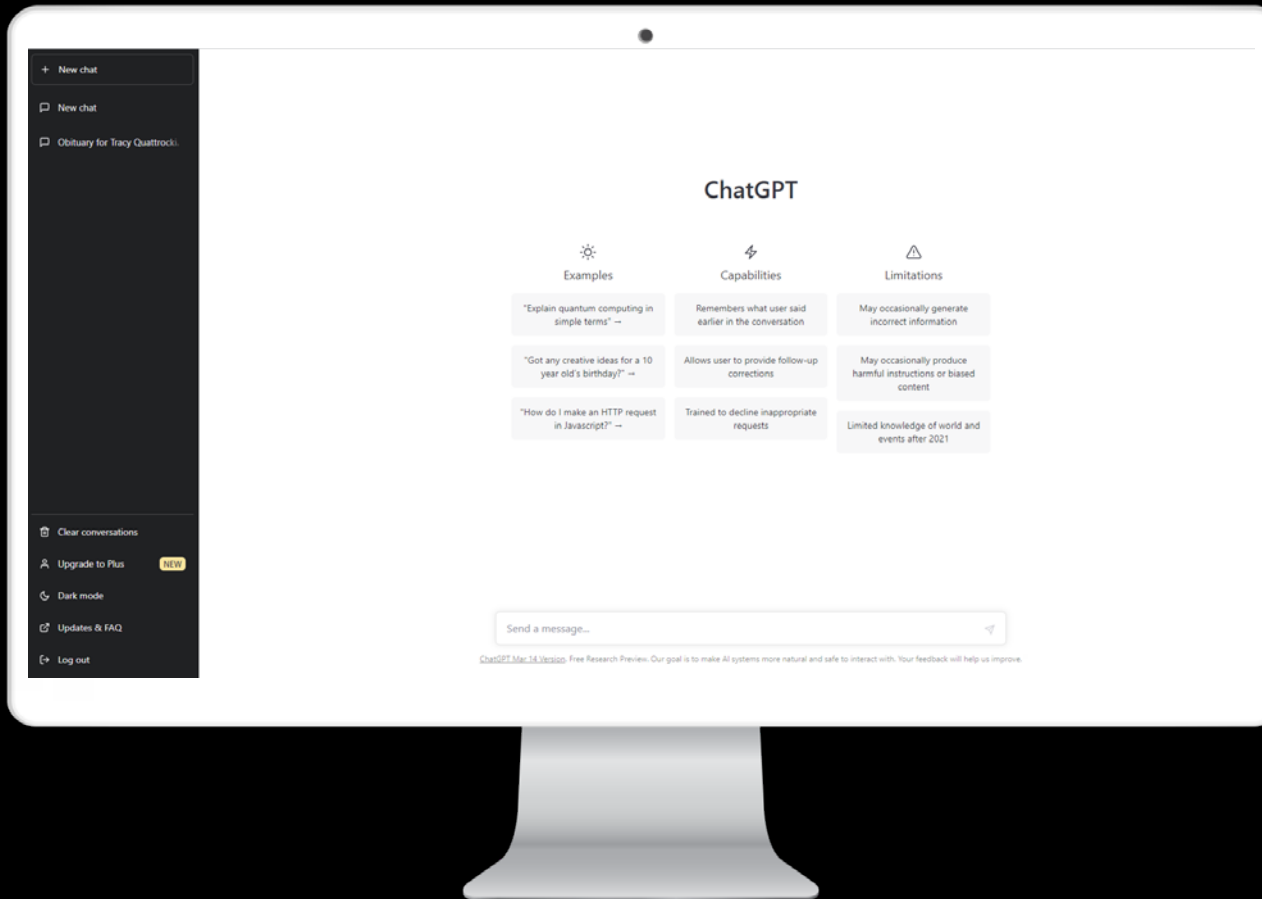
Crosscutting optimization

Example use cases (not exhaustive)

- **Write – and version – marketing & sales copy**, e.g., to create social media or technical sales content | Example: Copy.ai
- **Analyze and summarize major themes of customer feedback** by summarizing and extracting information from text and images | Example: Viable
- **Optimize communication of/to employees** e.g., automate email responses and text translation, change tone or wording | Example: Flowrite , AI.21, Language I/O
- **Interpret earnings calls**, company profiles, industry trends | Example: MLQ.ai



Live demo



Potential questions

1. *What are the most important trends facing the convenience retail industry today?*
2. *What are emerging as the most vital uses of AI in the convenience retail industry?*
3. *What headwinds or potential disruptive forces should convenience retailers be most concerned about?*

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Questions?

Convenience Leaders Vision Group brings together convenience retail icons and trailblazers through quarterly virtual meetings. During these sessions, members identify trends, challenges and disruptions in retail as well as possible solutions and opportunities. The group is committed to sharing its views and perspectives in order to advance the convenience retailing and mobility industry. CLVG operates under the Vision Group Network, which gathers the collective knowledge and ideas of its members to create a legacy of sharing within the retail community. For more information and to sign up for future Vision Reports, visit our website: tvgsolutions.com/CLVG



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Want more?

Access the growing library of Vision Reports at tvgsolutions.com



Currents of Change

CLVG Convenience Retailing Vision Report

Vol. 1, January 2023

Key topics covered: changing work schedules and the gig economy; foodservice tipping in the convenience segment; alternative fuels and the timeframe for electric vehicles



The Business Case for EV Charging: Is It for You?

CLVG Convenience Retailing Vision Report

Vol. 2, March 2023

Key topics covered: the pace of EV adoption; c-store operators' views of the EV-charging customer; three pathways of EV retailing; a micro case study



Tech Trailblazing

CTVG Convenience Technology Vision Report

May 2023

Key topics covered: debating the AI hype, tech as it relates to shift flexibility, and the breaking point on data collection