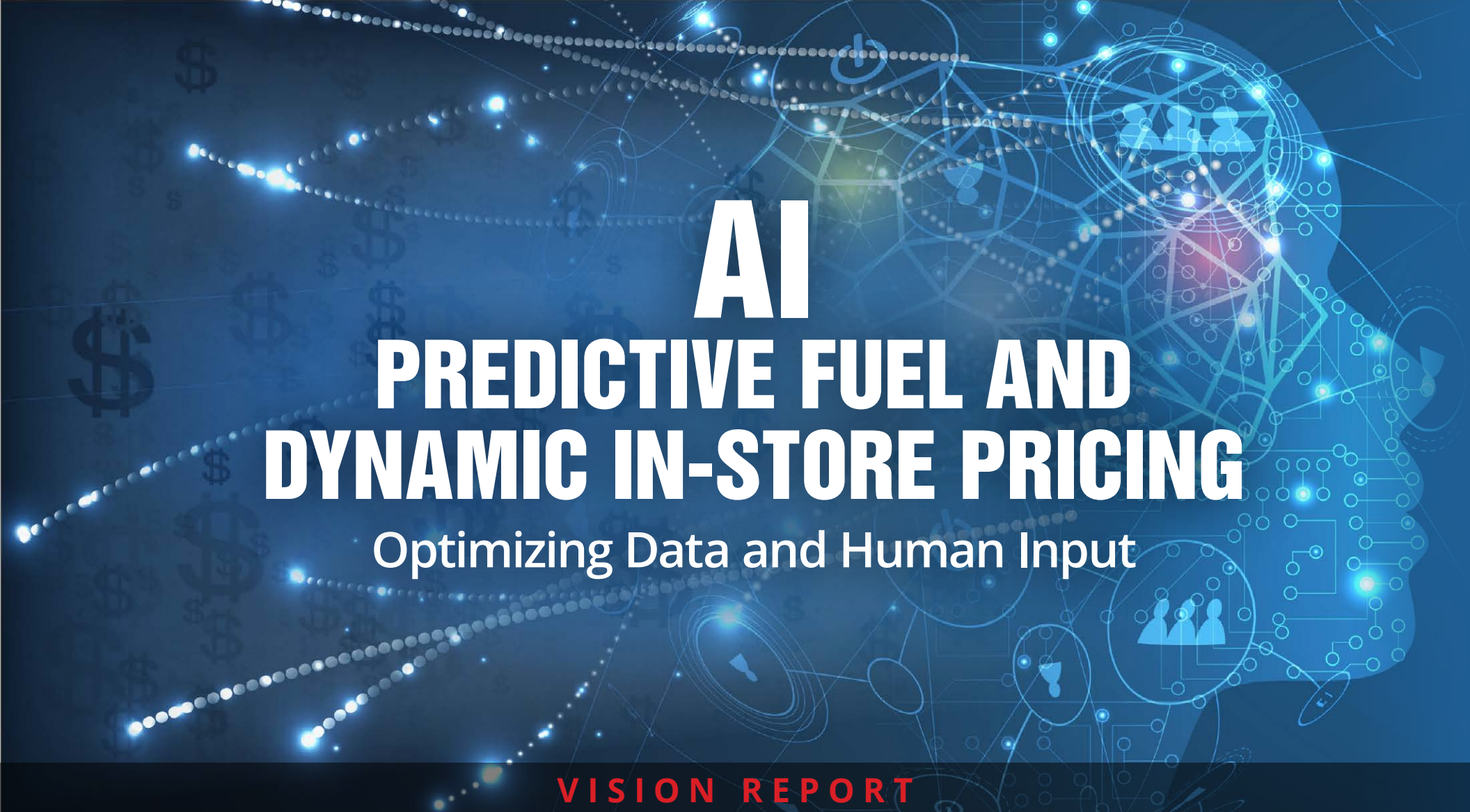




AI PREDICTIVE FUEL AND DYNAMIC IN-STORE PRICING

Optimizing Data and Human Input

VISION REPORT

DECEMBER 2023



We are the Convenience Leaders Vision Group (CLVG), a group of invited leaders of the convenience industry who have volunteered our time to help our fellow retailers. 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.

The 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 resources 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.

Appendix: Frodi Hammer, founder and CEO of A2i Systems, presentation “Unleashing the Winning Formula.”

We highly recommend that you read three components.

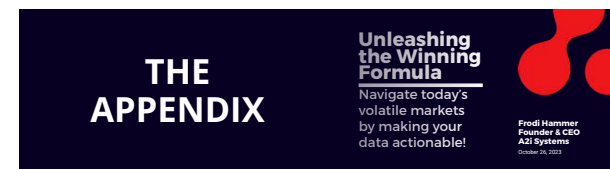
The main topics in this CLVG Vision Report:

How Does AI Fuel Competitive Growth?

Fuel Price Prediction and AI

Diverse Perspectives on an AI-Driven Future

Tailoring a Customer-Centric Approach



CLVG VIEWS

A CONVENIENCE LEADERS VISION GROUP DISCUSSION

This meeting of the Convenience Leaders Vision Group (CLVG) focused on the use of artificial intelligence (AI) for predictive fuel pricing and dynamic in-store pricing in convenience retailing. Two members are already using AI predictive pricing while others are skeptical. The group also explored additional possibilities of using AI to harness data.



How Does AI Fuel Competitive Growth?

Facilitated by Vision Group Co-Founder **Myra Kressner**, the October 26, 2023, CLVG quarterly meeting began with an in-depth presentation about AI predictive fuel and in-store dynamic pricing, followed by a group discussion on its applicability in convenience and fuel retailing.

AI has been a hot topic in the past few years, especially since Chat GPT burst onto the scene in late 2022 and continues to dominate conferences and headlines. AI was the topic of the April 2023 CLVG meeting where members heard the business case for generative AI from Tom Svrcek, analytics partner with McKinsey & Company. Members were keen to learn additional practical applications for AI to help improve their businesses. The specific use of AI predictive fuel and dynamic in-store pricing was raised by **Greg Parker**, CEO Parker's Kitchen and **Kevin Smartt**, President of TXB Stores, which interested others to learn more. Parker, Smartt, and others theorized this model would keenly look at fuel pricing in the future rather than analyzing history.

CLVG Views

In The Room With CLVG

Appendix



Frodi Hammer, founder and CEO of A2i Systems, was invited to present a comprehensive view of how AI can bring transformative changes to the industry. In his presentation, “Unleashing the Winning Formula, Navigate Today’s Volatile Markets by Making Your Data Actionable,” he spoke about navigating today’s volatile fuels market and using AI for predictive retail fuel pricing and other operational opportunities.

The central theme of Hammer’s presentation was the power of AI in harnessing data, a critical asset in a volatile market. After

a review of fuel price volatility, oil demand, and the forthcoming vehicle electrification, he envisages a drop in fuel demand, and a rapid increase of customer expectations for food and beverage. He suggested that retailers are in the midst of a VUCA situation (volatility, uncertainty, complexity, and ambiguity) given the unpredictable nature of human behavior. In his opinion, “humans with AI will replace humans without AI.”

Using real-world examples, Hammer explained how AI can help retailers optimize pricing strategies based on consumer behavior.

DEFINING TERMS

Predictive Pricing

Predictive pricing is a data-driven pricing strategy that uses historical data and external factors to establish prices. It uses predictive analytics, which is a method of establishing prices based on collected and analyzed data.

Dynamic Pricing

Dynamic pricing is a pricing strategy that adjusts prices in real time based on market demand. It’s also known as surge pricing, demand pricing, or time-based pricing. Dynamic pricing uses variable prices instead of fixed prices.

Digital Twinning

A digital twin is a virtual model of a physical product, system, or process. It is a digital counterpart that looks and behaves identically to its real-world counterpart.

Related Vision Group Network Report

“CLVG AI: Dawning of a New Era in Retail Analytics” focuses on understanding the full potential of generative AI. [**Download the full report here.**](#)



Fuel Price Prediction and AI

Hammer keyed in on the nuanced nature of pricing strategies in the retail industry, highlighting the need for AI to adapt to these complexities. While some members expressed a fair amount of reservation on the timing for critical mass usage of AI in convenience retail, many participants recognized the potential of AI to facilitate granular price increases without affecting customer loyalty.

In terms of optimizing AI retail fuel pricing, Co-Founder of the Vision Group Network **Roy Strasburger** asked whether a retailer would need the ability to change prices multiple times a day, at various store locations, to maximize the impact of AI-generated retail pricing. Hammer acknowledged that the speed of price adjustment is important but

countered that optimization can still occur even with a delay in price changes in some markets. He emphasized that factors beyond price, such as location, cleanliness, staff, and overall customer experience, are vital in maintaining a competitive advantage.

Regarding the issue of transparency in retail pricing, particularly in the gasoline market, where price changes are widely visible and known to competitors and customers, Hammer addressed how retailers can differentiate themselves and avoid a price war. He underscored the importance of the unique value propositions offered at each location, emphasizing, again, that it's not just about the price but also the overall customer experience and location-specific factors.

EVP of Convenience Retailing for Dash In/The Wills Group **Mark Samuels** raised questions about the AI system's ability to account for missing information and qualitative factors that affect pricing, such as when a nearby gas station runs out of gas, local construction blocks access to the site, or the impact of a competitors' pricing. Hammer explained that the AI model, when built correctly, can fill information gaps and adapt based on data patterns, similar to how humans recognize patterns. He also emphasized the importance of historical transaction data in providing recommendations and mentioned cases where AI has worked effectively without competitor pricing data.

Hal Adams, senior advisor/project lead U.S. proximity FEMSA/OXXO, posed a scenario where Retailer A has a disciplined approach to fuel pricing, while Retailer B has been inconsistent and sloppy. Both retailers have



the same market share and gross profit growth goals. Adams pondered if one retailer will take longer to achieve their objectives using AI, or if the system will learn from both retailers equally.

Hammer asserted that the model would learn from each retailer's pricing history and customer behavior. However, if one retailer has been sloppy, it may take a bit longer for that model to understand price elasticities in the market. In the future, when both retailers are using AI and have similar goals, Hammer emphasized that the effectiveness will depend on the quality of the AI model and the strategies employed, just like in the current competitive landscape.

Vision Group Co-Founder **Eva Strasburger** inquired if anyone on the call is currently using predictive fuel pricing and, if so, how they find it working. **Joe Sheetz**, Board of Directors chairman for Sheetz, Inc. responded affirmatively that Sheetz is engaging AI modeling, especially in highly competitive markets. Sheetz emphasized that the effectiveness

still depends on the pricing manager's strategies and cleverness, acknowledging that while they are not perfect at using it, predictive pricing has been a helpful tool for pricing across multiple sites. He added that it's important for the industry to consider the whole store, not just fuel, and how pricing impacts other aspects of the business, such as beverage and food sales. He also pointed out that being the lowest price is not always the key to success; it's crucial to understand the context of each location.

Samuels shared Dash In's experience with a predictive pricing model that lacks AI and learning components. They found it challenging to optimize results because the model could push prices down continuously if the initial strategy was unrealistic.

Loop Neighborhood Markets CEO **Varish Goyal** acknowledged that while they haven't yet employed AI for fuel pricing, they are testing electronic shelf tags to enhance pricing strategies. They are currently leveraging AI to analyze point-of-sale data to detect patterns and trends that can help them make timely decisions.

According to Hammer, AI can be used to simulate different pricing strategies and provide a second opinion which can be valuable for pricing managers.

Hammer proposed creating a "digital twin" with AI which can serve as a method to generate concurrent simulation of pricing, considering real-time variables, and it may offer a means to validate a "manual" pricing strategy.

“ I love technology and I love what technology does most of the time in the world, but I do believe that the artificial or AI term is way overused today. I think it's as much of a selling, marketing thing because people don't understand what it is, they think it must be the greatest, latest, brightest thing. I think people are using that term way too much. I think we're still in a world of needing a lot of human insight. I think we're getting better at being able to know how to do, I call it just data analytics and provide some human intelligence into the power and the speed of technology. But I don't see convenience stores very close to being able to use it in a way a lot of people throw around.

Scott Hartman, CEO, Rutter's

Diverse Perspectives on an AI-Driven Future

Scott Hartman, Rutter's CEO, believes that the term "AI" is overused. He points out that the convenience industry still must rely heavily on human insight and programming, and AI is not as automatic as it's often portrayed. Hartman thinks it will take a considerable amount of time before the industry can fully utilize AI in pricing, mainly due to the complexity of data in the industry.

Donna Sanker, president of Parkland USA, agreed with Hartman, stating that changing prices quickly, especially at the forecourt, can be challenging for many stores in the industry, and frequent price changes might upset customers. She believes that the industry is still a long way off from fully adopting AI for pricing but sees real potential in using data and analytics to enhance decision-making.

Questioning how AI impacts the competitive landscape if all businesses adopt similar AI models, **Natalie Morhous**, president of RaceTrac, thinks this could potentially lead to a marketplace with little differentiation. Without personalized, company-specific AI-generated data, Morhous fears generic data will not help, but hinder, competition.

Hammer acknowledged the industry's conservative nature and the challenges of integrating AI into store operations. He continued to emphasize the importance of pattern recognition and the need to recognize the role of humans in using data analytics effectively.

“ I will admit I am struggling to wrap my head around this a little bit, and I suppose I'll chime in with a question in particular that I've been trying to understand. Most of us don't have the talent to build these AI machines in-house. So we would be reaching out to a third party to acquire or use a resource for this pricing model that you're describing. And the part that I'm struggling to understand is: without something proprietary that distinguishes you in-house, I don't understand how we don't as a marketplace all just end up right in the same place. And then if you're ultimately all ending up in the same place, where is your competitive advantage and why is it worth the investment in the AI in the first place?”

Natalie Morhous, President, RaceTrac



Tailoring a Customer-Centric Approach

The role of external data in the AI process, and the possibility of selling this data to retailers, was also discussed. Participants acknowledged the value of external data but highlighted the challenges in structuring and standardizing it for effective integration.

Platforms like Google have access to vast amounts of real-time data (weather, traffic flow, special events, etc.) for specific locations and there could be a future business model of paying a subscription for external information to integrate into a pricing model.

The adaptability of AI models to changing market dynamics and their potential extension into areas like car washes were also explored.

Hammer emphasized the importance of using AI to understand and cater to individual

customers. He explained that AI models are trained on the data from each specific store, which includes customer behavior. This, he said, allows businesses to tailor their services and pricing to stand out in the marketplace.

Hartman suggested that the immediate impact of AI could come from the customers themselves. Devices, such as smartphones and cars, are already incorporating AI to help customers find fuel stations, place mobile orders, and interact with their surroundings.

Samuels shared his skepticism about putting trust in AI systems when the inputs and outputs are not entirely transparent. He highlighted the importance of understanding how the system functions and the need for trust.

Bottom Line

AI is gradually influencing convenience and fuel retailing.

This CLVG meeting underscored the importance of understanding individual customer behaviors and tailoring AI models to fit the unique characteristics of each store and specific customer profiles.

While AI is a powerful tool, it works best when integrated with the industry's specific nuances, company culture and human expertise.



NOTABLE AND QUOTABLE

“ The idea of pattern recognition is really exciting when you consider all the data that we’ve got. For decades we, as an industry, and other retail industries have been collecting all this data and what do you do with it? I mean, you drown in the data. So if we can rethink this in regards to using the pattern recognition side of AI to help us better understand all that data, it will enhance, shall we say, the human component of the marketing and the retailing side of the business. **Roy Strasburger, Co-Founder, The Vision Group Network**

“ There’s no question that humans with AI will replace humans without AI. It becomes such a powerful tool, just like humans with electricity will replace humans without electricity. I think that’s the mindset that we should start thinking on. **Frodi Hammer, Founder and CEO, A2i Systems**

“ So, we take POS data in and we are analyzing that POS data to find trends or patterns or issues that we could potentially go and take action on before waiting until a month or two months or three months to seeing that there’s a potential problem. **Varish Goyal, CEO, Loop Neighborhood Markets**

“ My mind goes to: where is the system getting all of the missing pieces of information that it might not have, and how do you account for all the qualitative pieces of information that are happening all the time? The station down the street running out of gas, you mentioned construction earlier. This store’s down for a remodel. Pricing is going to be obvious, but if you don’t know all of the competitors’ volumes at their price compared to yours. You know yours, but where do you fill in all the gaps and how does that system work to adapt for that? **Mark Samuels, EVP of Convenience Retailing, Dash In/The Wills Group**

“ We saw at NACS that PDI is selling the digital shelf tags and, when we were in Singapore, we saw digital shelf tags changing prices while we were in the store because their AI was saying “it’s now dinner time” and you’d see the price go up. I don’t know if they were using the systems that you’re talking about, but it was very fluid. **Eva Strasburger, Co-Founder, The Vision Group Network**

“ I think what’s important for our industry ...we’re not just about fuel anymore. It used to be that’s what drove all the trips and things have changed. And so any modeling we get into has to model what’s happening to the total facility, not just what’s happening to your gas gallons or your gas margin. What are you doing to your beverage sales or your food sales based on what you’re doing with your gas pricing? It’s all one big puzzle at the end of the day. **Joe Sheetz, Board of Directors Chairman for Sheetz, Inc.**

“ Our POS systems are becoming a competitive disadvantage in attracting the customers who don’t have to come to us for gasoline. **Roy Strasburger, Co-Founder, The Vision Group Network**

CLVG Views

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VALUABLE READS

The quantity of reading materials on AI would make for an insurmountable bedside table pile. To help you navigate through the masses, here are three resources worthy of making your must-read list.



***Myra Kressner,
Vision Group Co-Founder***

As you do your own research to better understand using AI for predictive and dynamic pricing, you may find the [National Retail Federation \(NRF\)](#) website to be a useful resource.

The NRF Big Show, always at New York City's Javits Convention Center in mid-January (Jan 13-16, 2024) is essentially all about retail technology. Each year, a growing number of convenience retailing c-suite and tech execs, as well as NACS' Connexus representatives, attend and learn more to assist their tech strategies. Quite a few Vision Group Network (TVG, CLVG and CTVG) members attend to learn about the latest retail tech innovation for their business.



***Eva Strasburger,
Vision Group Co-Founder***

As we learned in this CLVG meeting, artificial intelligence can help businesses make price forecasts by analyzing historical data, market trends, geopolitical factors, supply and demand dynamics, and various other variables that influence prices. Machine learning algorithms can gather data on customer behavior and pricing to create precise models, allowing businesses to optimize pricing strategies for profitability and competitiveness. [This article](#), "The Importance of Price Prediction" by Paul Herman at Futureprocessing.com, explores the importance of price prediction.



***Roy Strasburger,
Vision Group Co-Founder***

I've always been fascinated with the idea of being able to customize a store's marketing program to an individual level – basically creating a promo for just one person. Can AI help us do it? Yes, there are practical implementation and privacy issues but that has to be the ultimate goal. [This article](#), "How AI Personalization Can Improve Your Customer Experience" at [aicontentfy.com](#), gives an overview of the possibilities in the real and digital worlds.



MEMBERS



Hal Adams
Senior Advisor/Project
Lead U.S. Proximity
FEMSA/OXXO



Fouad El-Nemr
Executive Vice President,
Nouria



**Annie St. Romain
Gauthier**
CFO/Co-CEO, Y-Not
Stop - St. Romain Oil



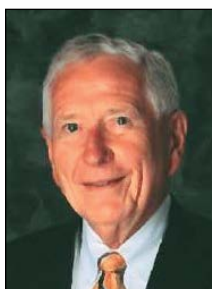
Varish Goyal
CEO, Loop
Neighborhood
Markets



Scott Hartman
CEO, Rutter's



***Myra Kressner**
President, Kressner
Strategy Group



Drayton McLane, Jr.
Chairman,
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Natalie Morhous
President, RaceTrac



Greg Parker
CEO, Parker's



JP Patel
Owner, Hari 1 dba
Fish River Food Mart



Mark Samuels
EVP of Convenience
Retailing, Dash In/
The Wills Group



Donna Sanker
President, Parkland
USA



Joe Sheetz
Executive Vice
Chairman, Sheetz, Inc



Kevin Smartt
CEO/President,
TXB Stores



Barbara Stoyko
SVP Americas Mobility,
Shell USA



***Eva Strasburger**
President, StrasGlobal



***Roy Strasburger**
CEO, StrasGlobal



Liz Williams
President & CFO,
Fox trot

*Founding Member

CLVG Views

In The Room With CLVG

Appendix

IN THE ROOM WITH CLVG:

*AI Predictive Fuel and
Dynamic In-Store Pricing:
Optimizing Data and Human Input*



Convenience Leaders Vision Group (CLVG) invites you to join us **In The Room** to experience our meeting in October 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.



CLVG Views

In The Room With CLVG

Appendix

Topic Reference Key

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

Fuels	Leadership	Operations
Conventional Fuels	Strategy	Facilities
Electric Vehicles	Marketing	Technology
Fuel Pricing	Customer Experience	AI
	Customer Behavior	Tech Standards
	Data	Workforce
	Merchandising	
	Personalized Marketing	
	Subscriptions	



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Myra Kressner:

As we chatted a little bit before everyone joined, on behalf of Eva, Roy and myself, it was great seeing many of you at NACS. It was a good way for us to spend some time together in person. And so, on behalf of Eva, Roy and myself as CLVG co-founders, welcome to the fourth Convenience Leaders Vision Group meeting. Some brief housekeeping reminders as we get started. We're going to put up that antitrust screenshot [antitrust statement is shown on the screen] that reminds everyone of the acknowledgement of the antitrust statement and publication acknowledgement that every member and meeting participant has signed, and we are recording the conversation. So, a couple of other reminders.

Please do use your camera and keep it on as much as possible. Conversely, keep your audio on mute unless you're speaking so we're not bothered by ambient noise. Please use the raise hand [icon] or raise your [own] hand so that we get the conversation flow going, unless members are clearly in a back and forth. For any reason, if you do need to leave the meeting, just either write a short note in chat or just leave and return when you're able. Since we want frank and diverse discussion, if anyone wants to make an off-the-record comment, just let us know that what you're about to say or have said is off the record.

I will briefly introduce our newest CLVG member and also our guest presenter. But before I do, I just want to take a moment to say that Eva, Roy, and I truly want to thank you again for helping the Vision Group Network fulfill our mission to share your insights, and challenges, and solutions as broadly as possible, guided by the premise that we've said "a rising tide lifts all boats." So as referenced in just the recent meeting reminder, in just 10 months, Vision Group Network has published Vision Reports from six CLVG and CTVG (Convenience Technology Vision Group) combined meetings. In fact, a Special Vision Report will be issued shortly covering a special breakout session with our Convenience Technology Vision Group members and five leading point-of-sale solution providers that was specifically requested by our CTVG members. So, we also hope that you're pleased with the support that Vision Group Network has received from the convenience industry media and associations. And CLVG and CTVG Vision Reports have also been shared in various automotive, technology, and financial media outlets around the world. And if you haven't seen them, let me know. And do you remember the Global Convenience Store Focus podcast on labor management that Roy moderated with Joe Sheetz and Liz Williams not too long ago? And next week in San Diego, Roy is moderating a panel with CTVG member Donnie Rhoads at the very first US EV World Congress event. And in a few weeks, I have the honor of moderating a panel in San Antonio with other VGN members from Jackson's and Campbell Oil at the first US gathering of the global ReFuel Forum. So, we're really getting a lot of traction to meet our mission. So, please do continue to share our Vision Reports with your colleagues.



Mark Samuels:

Now, let's get on with our meeting. It is a personal pleasure and privilege to welcome our newest Convenience Leaders Vision Group member, Mark Samuels, who is the executive vice president with The Wills Group/Dash In. Mark was one of the very first members of our original The Vision Group from which Vision Group Network, CLVG and CTVG were born, as well as our newest EV Vision Group and Gen Z Vision Group, which are being planned to launch Q1, 2024. So Mark, I'm going to ask you to introduce yourself, and then we'll ask Frodi to introduce himself. Mark please.

Myra Kressner:

Great. Roy, Eva and Myra, thank you so much for extending the invitation. I'm thrilled to be here and to participate as part of this group. Yes, I work with the Wills Group. I've been in the industry for over 25 years. I have a background in food service and retail. I'm really passionate about the guest experience. At Dash In, we have just under 60 locations in the Mid-Atlantic region, and we also have about 60 car washes as well. And we're looking at growing pretty exponentially over the next decade. And yeah, I'm happy to be here and look forward to all the discussions that we're going to have in the future. Thank you.

Thank you, Mark. We're glad to have you. So now let's welcome Frodi Hammer, who is the founder and CEO of A2i systems who will lead our discussion on using AI for predictive fuel pricing and dynamic retail pricing. Eva, Roy, and I have discussed, "Well, what's the best way to make this interactive and get the good dialogue going?" We suggest the following: rather than asking questions during Frodi's presentation, we think it's best that you just make note of your questions or comments that you want to make. Then, we will circle back for an extended and robust Q&A among ourselves and Frodi after he completes his presentation. So, with that said, Frodi, please introduce yourself and you can start sharing.



Frodi Hammer:

Sure, let me just get the presentation up here. As you probably can see, it's a bit dark in the background here. That's because I'm in Denmark, and it's 9:00 PM here in the evening. So, it's been a long day so far, but super excited to be here and thank you very much Roy, Eva, and Myra for having me here and for you guys at The Vision Group here asking to get a bit more insight into the field of predictive pricing within the retail fuel, and essentially also where we as a company are going.

As Myra said, I'm Frodi, I'm the founder of the company and CEO. I started the company back in 2007. Just remembering when it was, it's a while ago. Back then, I was doing AI that was capable of recognizing children's playing behavior on playgrounds -- physical playgrounds. We had these incomplete data sets, and we wanted to figure out, "Could we build an AI that was capable of recognizing these different kinds of behaviors that the kids might exhibit when they were playing on the playgrounds and make them a bit more interested in whatever they were doing on the playground to fight obesity?"



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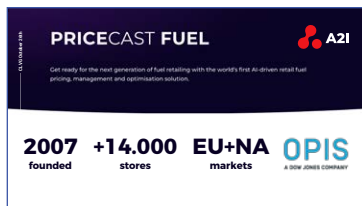
From there, we founded A2i Systems based on that technology, and in a couple of years we were looking at what kind of domain should be implemented, and that's where we stumbled upon OK [a.m.b.a] here in Denmark, which is the largest [fuel] retailer in Denmark with around 700 sites. Denmark is only 5 million people... well, 5.5, maybe around 6 soon. It's growing fast and there are a lot of fuel sites here in Denmark. So [with] that perspective, it was a very interesting domain to investigate for us and to start developing a solution that could use AI to do the retail fuel pricing. We went in production in 2011 with OK. And since then, yes, been rolling out.

So, super excited to tell you here today about what we're doing at A2i and try to talk a bit about what we think is the winning formula essentially to apply AI to harness all the data we have out there. Because there's a lot of data and it's too much for all of us to keep track of, how do we figure out which data we should utilize to traverse these volatile markets that we're all facing? It's essentially what I'm going to talk about here today.

But let's just start with some numbers. Obviously, A2i is the company. We have PriceCast Fuel, which is the product today. We chose to call it PriceCast first, like price forecasting and the fuel because we were looking into domains. That's our vision. I'll go into that further on. But essentially, when we started out there, there was no AI in this field. Back in 2011, people couldn't even spell "AI", and now we all have it at our fingertips. And the next release of Microsoft 365 coming here on November 1st will introduce Copilot, which has integrated ChatGPT into their product.

So, [with Copilot] you can ask anything to Office about your own data and not just like with ChatGPT with general data trained up until 2021, I think. It will also learn about your emails, your meetings, it will transcribe whatever's happening in a Teams call, and then you can ask for a reference or summary or something like this. **AI is already here, and it's doing a lot of stuff in our industry.** We're running [PriceCast Fuel] on a little bit more than 14,000 sites; we have one of the biggest fuel retailers in the states that we're pricing for, and then we have a lot of fuel retailers here in Europe. That's our playground, essentially. That's where we started, that's where we're grown from originally. And just to mention that OPIS (Oil Price Information Service) is a 25% shareholder of A2i as well. So, we have a great partnership there when it comes to the US, and also when it comes to playing around with some of their very nice data as well in our domain.

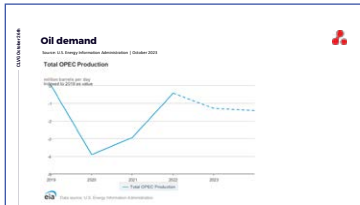
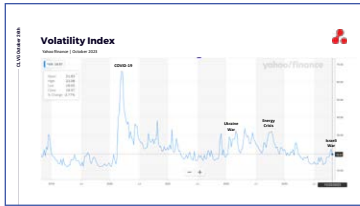
But before going into what we're doing with AI and from a pricing perspective, let me just [show] a couple of slides here. I know you were already talking about volatility and interest rates and stuff like that, but let me just take it from another overall perspective.



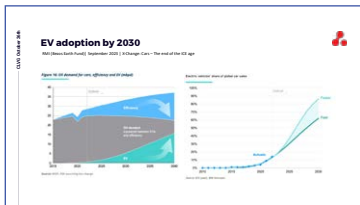
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Electric Vehicles



You all know the volatility index, the VIX index (the Chicago Board of Exchange Volatility Index); I just put it on here with the latest updates on it. And it's not only the volatility index from the US, also, if we look at the European one, it has been above average ever since COVID hit. **The markets have been completely different, behavior has been different.** We all remember when COVID hit from a fuel perspective; at least here in Europe, the driving behavior changed significantly. We had lockdowns coming in different time periods, going over to when people then were let out again; most of them got their vaccination shot, then suddenly they started buying used cars.

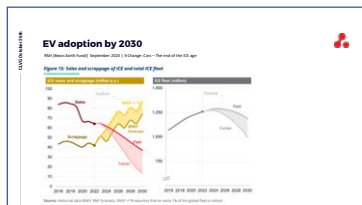
And the used car prices in Europe skyrocketed as well. It was asking for a new kind of driving behavior, so the patterns that you were seeing from a retail fuel perspective were completely different, you couldn't use the models that you used to use from a statistical point of view. And then inflation came and petrol became pretty expensive, and suddenly people got back to public transportation, again a shift. But we also know from the Ukraine war, a lot of uncertainty coming into the market, the energy crisis created a lot of uncertainty again. We'll probably, in Europe at least, see something again now in the upcoming winter. And now, we have the war in Israel as well. So, 2019 is for many people considered the last sane year, the last year in a row of years where you could essentially do this year-over-year indexes, and working with those, and ever since that, the world has been a different place.

And we also see it from the oil demand. We all know that there is a decline in total OPEC production with an index to 2019 as the zero index. And there are no expectations that the oil production will go up to the same level. Now, it doesn't mean that we are expecting necessarily a huge decline overall because you will still have fleets, you'll have airspace, you'll have heavy industries that still will demand oil, but if you just look into the cars on the road using oil, they've been squeezed from different kinds of aspects.

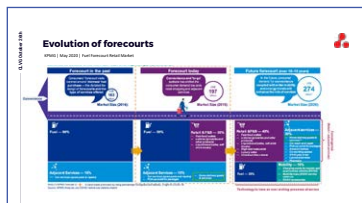
I just saw this **report here from Rocky Mountain Institute backed by the Bezos Earth Foundation where they were looking into the adoption of EV cars**, called X-Change Cars. Have a look. It's actually quite a nice report here from September. So, it's also very recent.

And the outlook, if you look at the first figure here, is as we have seen it through the couple of years, the efficiency of the cars, the introduction of the hybrid engine and such will be squeezing the oil domain in this area, and so will the rise of the EVs. So, we'll see if every country will end up like Norway. Right now, it's going pretty fast, but we are also seeing that all of these EV adoptions in Europe are driven by tax incentives. It's the government that is driving those changes towards EV, and essentially as a gap-fill until we figure out how we actually solve energy outlooks in the future. But there's a tendency

Conventional Fuels



Facilities



Customer Experience

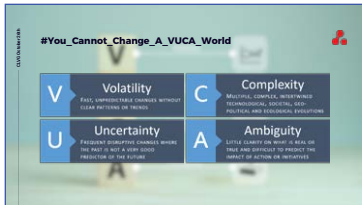
nevertheless that we'll see more and more EVs on the roads. We are seeing essentially in China, you can't even buy a new car unless it's an EV car, so that's a lot of the sales.

In the EU, we're looking into 20% of all new cars being EVs, or even higher. And then in the US, you're still lagging a bit behind, but we are seeing increased numbers there as well. So, it's a different world that we are looking into.

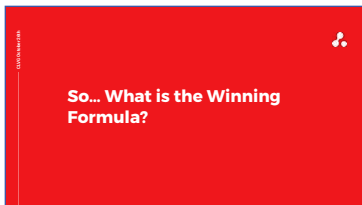
And the expectations, I would say **the fall of the ICE (Internal Combustion Engine) fleet, essentially what they're seeing in the report top around 2026, and then decline around three to 7% depending on how the EVs will take over on the ICE market.** Now, also I've said EVs several times, there's also obviously hydrogen cars, but it's a different way. It is not as convenient, and I think being in this industry, the "convenience" is essentially everything. And that's why we are seeing in countries like Denmark where hydrogen cars were suddenly a thing, but the manufacturers of the hydrogen withdrew from the markets and suddenly had a lot of hydrogen cars standing and you couldn't even use them anymore. So, it is very much driven again by the governments and the EU. And again, whatever you want to do and achieve in those countries.

Which leads me back to convenience and one of these very nice figures from **the evolution of the forecourts** from the KPMG report back in May 2020, which seems like forever ago. But still, it's a pretty good picture of what the forecourt looked like in the past, where we are today and where we're going. And I think we're already on this journey, so we have a pretty good idea of what works and what didn't work. So, in the past, yes, if the customers were on the forecourt, it was probably to fuel their car. That's why we existed. Whereas today, well, fuel is a part of it, but you also have the retail and the adjacent services being a bit more a part of the intention of the customer. Are they there to pick up a package? Are they there to buy something from a fast-food outlet, buy a coffee, and fuel their car? To [a version of the forecourt] where we see it in the future **where fuel will probably be a lot smaller part, and mobility will be taking over with regards to charging points for the EVs.**

It could also be a hub where you rent your car or whatever. There is a lot of hype going on and I think everyone is trying to follow whatever new trend is popping up just to make sure that they're not being left out. But nevertheless, convenience is a big part of it, especially when you're looking into EV cars. We see that at least in Europe. **You have to figure out what those drivers do while they're sitting out there for 20 minutes charging their cars.** Can you lure them into the shop? Can you sell them something extra there, or just have them charge a car for a bit longer than they were expecting to do? Time is still of the essence, it'll always be, but EV drivers have to accept that they have to stay at a certain location for a longer time, so you [the retailer] have to adapt the way that you're working, and **you have to adapt whatever services you will be providing besides just their [charging] time.**



Technology



So, all of this, combined, leads into a bit of a crazy world.

I like to use this picture here with the elephant on the branch, because it is crazy out there. It's pretty hard to say just from this year what will happen next year. It is not as easy as it used to be.

And there's actually quite a nice expression around this that the US military coined at one point called the VUCA world: that's for volatility, uncertainty, complexity and ambiguity, and it plays completely into what we're seeing out there.

It's volatile. We saw that on the index. It's very hard to predict changes and trends with a clear pattern. Everything is going super-fast out there and just look at all the demands during COVID. No one knew what you should do in a world like that. Uncertainty as well. Suddenly, we have several wars going on over here, one in Europe and one in the Middle East. We had a pandemic going on that hasn't happened for 100 years.

Complexity. We need to consider more and more factors when we need to figure out what's actually going on. The world is getting smaller, but it's also getting a lot more complex, again, with the wars and how they affect things. We talked about inflation earlier as well and how to solve those issues. And ambiguity is the last one. What is real and what's not real? We all remember the term with Donald Trump about fake news, and we keep seeing that as well. Just with the wars that are going on, is it a war from Russia's point perspective in Ukraine or not? Who attacked who in Israel and Hamas? That's also now suddenly being discussed. It's very hard in this world where you have so much information, sometimes, to figure out what is right and what is wrong, and what's the right decision and what's the wrong decision, going back to something as simple as just pricing.

But one of the most important things that they said about this VUCA world is that you cannot change it. You have to accept that it's there and then you have to adapt accordingly. You have to play on whatever makes sense and embrace whatever opportunities arise. That brings me back to the title.

What is the winning formula? And from us, from our perspective, within the world where we're right now, **technology-driven innovation will always be the formula that is winning**, right? Because the world is all about tech and advances in tech, and then you need to figure out which one you'll bet on.

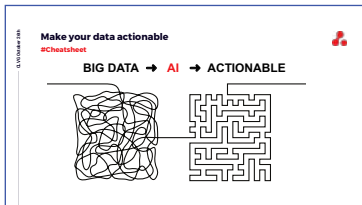
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Data



But nobody can predict the unpredictable, that's an interesting thing, even ChatGPT can't. It's a statistical model that figures out what is the most appropriate answer to the question that's being asked. But the most important thing is that most of the traditional models they have don't scale. And if we go back to what we saw in 2020 when COVID hit and all the lockdowns happened, all these traditional models that they had that you used to make predictions on what you should do, what should your budgets be, and stuff like that, came out of play. You needed a model that was capable of learning new patterns from the market. And that was actually one of the things that we could see from the AI that we were running. It's a self-learning AI, so it was capable of recognizing patterns in the markets, reinforcing these [patterns] in the model, and then utilizing them to do the predictions.

And that's really one of the most interesting things with AI as a tool, especially in the world of data. Essentially it can solve a lot of our tasks. You can essentially do everything. It will probably not take over as a lot of people think when they go all the way with Skynet and Terminator, but there's no question that humans with AI will replace humans without AI. It becomes such a powerful tool, just like humans with electricity will replace humans without electricity. I think that's the mindset that we should start thinking on.

And in order to do that, **one of the things that really makes a difference is that it makes your data actionable.** I usually use this cheat sheet here because of big data. We all know about big data, we've all been consolidating data and data warehouses, and we're all paying a lot of money to store our data such that we have it. But who's using the data from 2020? Who's using the data from 2021? It's something that we need to consider and decide upon today. It's just a huge mess of data. So, the only way that you can figure out how to untangle all of this and make it into something that you can make a decision on, is with AI. So, a very simple example, that doesn't have anything to do with fuel pricing, is a door sensor. You could invest in an IoT device (Internet of Things: a network of connected devices that can communicate and exchange data over the internet) that triggers whenever the door opens, just by using a magnet or whatever. They use these sensors here and then send a signal to your edge server (a type of [edge] device that provides an entry point into a network) or whatever it is, and then you can take action on that.

It calculates, computes the data, makes it actionable, and communicates it to you. But you could also use a camera. If you apply AI to the camera, it's a lot of data. The camera has, again, a lot of data. It's not just a matter of [the door] being open or closed. But by applying the correct AI formulas, suddenly you can have the camera also detect if the door is open or not, making the same data actionable, essentially creating the same action or the same event that you then can act on,

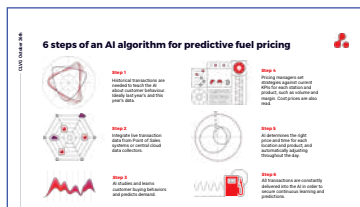
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Fuel Pricing

... making your data actionable!



but from a different kind of dataset, from the cameras that you already have inside your store. So, just to say that the data that you have, even though you have a lot of it, is still gold. And unlike gold, it can be used again and again and again. So, the patterns in that data can also be extracted in a wider range, and essentially those are some of the things that we are doing when we're looking into our solution.

Let's dig a bit deeper into how we then essentially do it from the pricing perspective.

We like to **look into pricing as being a bit more customer-centric when we're looking into a pricing solution compared to being competitor-centric**. So, we know a lot of our [software] customers are focusing a lot on how and when the competitors are pricing, and then setting up some essentially rule-based strategies, or something similar, around those prices. But when we started building PriceCast we were considering a bit more; "Well, what about those transactions that the customers are having on the forecourt? There must be some sort of a reason why they're there." There must be an incentive for them to visit your specific store. It might be the price, it might be other things, other things that are pretty hard to quantify from a sensory input.

So, if you think a bit back to what I talked about originally, where I come from with the kids playing on the playgrounds. We didn't have cameras that captured if they were happy or not. You don't have that either on the forecourt, and so there's a lot of data that it's just impossible to quantify and to correlate on the forecourt. But if you have a model that is strong enough and robust enough, it can actually fill in a lot of data for you from this incomplete dataset that you have. So what we try to figure out is, what is the correlation between whatever small data crumbs that the customers are leaving on the forecourt in the sense of transactional data correlated with whatever data we have from the competitors in the area. We then utilize that to figure out who is actually your competitor throughout the day and how price sensitive your customers are throughout the day on the different kind of [fuel] grades that you're selling on the forecourt, because it's not necessarily a one-size-fits-all. That's also where the self-learning aspects come in, building models that are essentially trained and cross-trained on different kinds of customer groups buying different kinds of fuels.

I've talked a lot about training, and for you that know a bit about AI, you know that it has its roots in how we, as people, think and reason, so it's trained on something. Just like when you learn to read English, you read a lot of books and then in the end you know how to read. It is the same with ChatGPT. It's trained on a ton of data from the internet. It's the same thing that we do here, we collect a lot of historical data, historical transactions, to figure out the trends that have been in the data and utilize that data to train the AI. What we often look into is what data we have this year and what data we had

Data

last year. If it makes sense to go further back, it doesn't always [make sense to do so] because of the problem of customers changing habits on when they buy fuel and when they don't buy fuel. So it's a matter of figuring out what are these cyclic patterns that we're seeing in the data week by week, day by day, but also on a daypart level, and on a monthly level.

Also, when we are seeing weird stuff like the tank is down for maintenance or a hurricane might come through or there's a construction work blocking one of the entrances to the side, you don't want to have some sort of solution where you manually have to intervene in these places. It's AI, right? It should be able to figure this out by itself.

So that's the first step, collecting all of this data and having the model learn from this. I have a few more slides to share how the model then essentially works based on that. The second step, and that's why I'm looking forward to the report that Myra just mentioned, is the integration to the point-of-sale system because we want to know what's going on. If you have a predictive model running on the site predicting fuel grade by fuel grade, we also want to have a pretty good idea of what's actually going on and how does this correlate to our predictions but also if something changed.

If something blocked one of the entrances, or whatever it might be, it could also be that one of the competitors loaded (changed) their price without us noticing it, but we can follow it on whatever the transaction levels are on the forecourt, [then] should we do something or not. So having a live feed to the data is equally important. Essentially, whenever you come to something that is predictive, **you always want to think about data as being something that's dynamic and not necessarily static.** That's a key thing.

Step three, this is where you then train all of the data that you have, blending the historical data with the real-time data that you're getting in. In our case, we're actually training our models on an hourly basis, so whenever the hour ends, we have all the transactions. We are training AI on these new things to figure out if there are any patterns that we should reinforce if something has changed, or if there is change that is ongoing.

That's also why we were capable of doing the pricing during COVID, with all the changes that happened during that time. There could be patterns that are changed, it could also be a competitor suddenly changing their strategy, or we start picking up on whatever observations we're getting in from a feed or observed by foot.

Now the fourth step. This was an important step for us, as well, because it's one thing to say, okay, you have an AI that can do stuff. We all know that ChatGPT can do stuff. But you have to prompt it with something, right? That's when we have the pricing managers come in and set whatever strategy they want to achieve against a KPI (Key Performance Indicator).

We've also learned from ChatGPT that the answer you're getting might not always be the one that you're expecting, right? It could be a wrong answer, but it could also just be an answer. Typically, what you get is an answer, it's not necessarily the best or the optimal answer because there might be several optimal answers, and that's the same here.

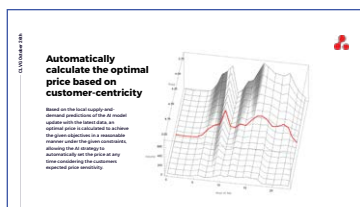
For example, even though the pricing manager is asking for something — let's say that they are asking for a volume increase of 10% — maybe it's just not reasonable to do so. Maybe you might trigger a price war or maybe you might have an idea or the AI, in this case, might have an idea that would trigger some of the competitors to start a price war, which would not be optimal from an overall volume and market perspective for a site. AI may make a decision which might not be exactly the same one the manager would make, but at least it's going in that direction as far as possible. It might be during those times when it makes more sense if you go down and do incremental price changes throughout the entire day. So, blend having an analytical AI that is capable of predicting, with input from the user, which is again, putting the user in the driver's seat and culminating into step five, which is determining the price.

Data

This is where the AI becomes a bit more creative, figuring out, “How do I combine my analytics, my predictions, and my forecast together with whatever the user's asking me and set the optimal price, or at least, the most reasonable price throughout the day?” The final step in an algorithm like ours is then the retraining I've talked about several times. It's also the coolest step. That's why I'm saying so many times that if you don't have an AI that is self-learning, it will be stuck in the old data that was there before. So let's say that we trained it on 2019 data. Well, when it reaches 2020, it will be pretty hard for it to predict some of those things that are going on because it has never seen them before unless you give it some of this new data to train on.

That's also why we're seeing large language models, which ChatGPT is based on, working towards what they call a “reflection” taking in these inputs, just like if you reflect yourself, essentially, taking in new data, taking in the inputs from the users afterwards and figuring out, “Did I actually give the best possible answer to that?”

So what we then get inside of PriceCast is essentially a model a bit like this. We like to show it like a 3D map like this where you have the hour of the day at the bottom. In this case, for the next 24 hours, you're doing a prediction and, if you're standing at zero, always having a pretty good idea of what you're expecting from the market, such as supply and demand model for the next 24 hours, volume going upward and price upwards. Meaning that at any given point you have an idea of how the market would react. You have an idea of how customers would react. You have an idea of what you're expecting from the competitors in the market and what you're expecting from the input of the competitors.



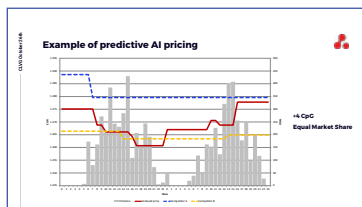
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It doesn't necessarily only mean that these are the competitors just next to you; they could also be in several radiuses or several miles around you, because if something is happening 50 miles away from you, it might impact you in a couple of hours. Should you then be proactive, or should you just wait it out? There could be different kinds of scenarios, there could be different kinds of strategies, but at the end of the day, it depends on what your strategy is, what it is you want to achieve. If it's keeping some sort of market share, but optimizing the margin if that's possible, there might be one answer to it. But if you want to also increase your market share, with the best possible margin, then it could be another answer. But anyway, if you have an idea of how the market looks like, suddenly it becomes a bit easier to do your predictions. What we are then doing on an hourly basis is going in and reiterating on whatever data we have, to figure out how to do the best possible pricing based on that information.

Fuel Pricing



So an example could be a bit like this where you have a yellow competitor with two price changes and a blue one with one price change covering these two days. If you just have a rule-based system, well, it would then be triggered whenever there was an external change. So whenever there was a price change by the competitors, it would follow whatever rules you had defined. If you had timers and stuff like that, it would also have different price changes. But what we can see with the red price here being priced by the AI is that it's following the yellow competitor on the first day. So when the yellow competitor does the price change and goes down, that's actually one of the hours where you have the most volume. You see that in the gray chart it stays up probably because it doesn't really matter if you go down on that price, so why not get that extra margin? Then in the evening hours it actually goes down below the yellow one.

On the following day, in the evenings, you can see there is a completely different pattern. It now follows the blue competitor. Maybe that's an area with a lot of restaurants on a Saturday night or something like that, that they are located on the same side of the road or something, there could be, as we talked about, a lot of reasons that you can't really quantify. But from a data perspective, the AI knows that essentially this is what we should do and how we should do our pricing. Often, we see when we compare pilot projects, compare how our solution runs compared to the existing pricing solutions, we are looking into something like a 4 cent per gallon margin increase while keeping an equal market share. Those are essentially also very interesting numbers. One thing is increasing your margin, but also being capable of recognizing the opportunities throughout the day. So I'm not saying here that you are always having a higher price than the competitors, it's a matter of figuring out when am I lower, when am I not?

Customer Behavior



But it is a journey, we learned that. So going back all the way to 2011 and doing pricing, we recognize that you always have to come up either with a second opinion or do a scaffolding approach to it. So that's one of the things that I think is important whenever we're talking AI, essentially. If we're talking AI for field pricing, or if it's whatever other AI project you're doing, the way we're doing it is that we have the capabilities of adapting rule-based pricing. Everyone knows that.

I'll put in another case study here before we go towards a vision perspective of A2i and where we are going. The slide is back from 2014, so it's a time ago, but it's still valid because [convenience stores are] a conservative industry. It doesn't always move that fast. So in this case, the software customer that we were talking to was looking to become autonomous and do fully automated prices. That was one of the key things that they wanted from pricing optimization. They wanted to find optimal daily pricing adjustments per product and per station. Again, the way that our product works is that we are building models per product and per station because their retail customers who are buying a premium product versus a mid-grade or versus regular versus diesel are completely different. So we needed to figure out how price sensitive they are.

Granted, the ones going from a regular to mid-grade or premium might be price sensitive, they might be in the ball game, some of them might buy mid-grade depending on what the price gap is between those two products. So there's a section where these two models need to cooperate. In this case also, our software customer didn't want to make the strategy obvious to their customers and their competitors on how they're pricing. So Austria is a weird market in that you were only allowed to raise the price at midday and then you could decrease the price at any time. So you had this built-in price increase that you decided how far up you wanted to go, and then you decided how and when you wanted to decrease your price. So in that perspective, the client didn't want to be very obvious on how they were pricing. They didn't want to provoke a price war. So that's also something that we built into the AI - how we should behave based on those things. They wanted to improve gross margin and improve the market share as well.

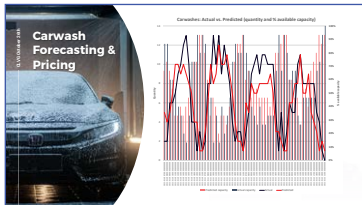
Then they obviously wanted efficient support and the software to run rock solid. It's a pricing solution, so obviously there should be a clearly defined SLA (Service Level Agreement) and have a high-level of security based on user rules. That is what they were asking for, and this is typically what we're also seeing in the market - that if you're only going for a pricing solution and you want something that you can buy off the shelf that is delivered as software as a service, there's a lot of self-service in it. You have to have the capabilities to tweak and fiddle around with some of these elements yourself because, otherwise, why would you go with an AI solution? A lot of our customers are also looking into this as a digital twin (a digital copy of a real-world situation), "What would have happened if I did this, this, and this, or if I had tweaked my strategy like this?" Now, we don't have a parallel universe where we can test this, but we can still do what we call an open loop simulation.

Customer Behavior

We simulate the impacts to see how their customers would have reacted to the changes based on our best estimates from the AI model. It gives you some indication so you at least have a better foundation for deciding if you want to change your strategy and go in a different direction. Now, the objectives of our client was to increase the market share by 5% volume and increase their gross margin by 5%. That's a pretty tricky one to do when you don't want to increase prices more. But because of the effects on the market, we were actually capable of increasing the volume 8% while increasing their margin 4.8%, so quite close to that 5%. They did put into the calculation that if it wasn't possible to increase market share and gross margin, they wanted to focus only on the market share, which is probably why we were seeing a higher volume gain on these slides.



Facilities



Subscriptions

Typically, we don't like going too much for an increase in market share because everyone likes to keep their market shares in place and you don't want to provoke a price war. But in this case, once we had the increase and we had [changed the plan] to decrease differently, we could run a different strategy [as shown] on these slides. Just to show you, again, it is an example of what you're capable of doing by being proactive in your pricing, meaning that you either move [your price] first or you know exactly how long you should wait before you move, so it typically comes down to timing and how much you move the price from time to time.

So looking a bit ahead, what we're working on right now here at A2i is obviously beyond fuels because, as I started talking about, fuel volume is declining and it probably will not be around for many years, though it's still here and it's still an important aspect. But we are seeing that these sites, the stores, are becoming, more and more, destination points. We know that from the increase in EVs, so we are obviously also doing EV pricing, and it all points to the intention of the customer.

So car wash is another motivator. Even though you have an EV, it still gets dirty so it needs to be washed, yes? It becomes a demand item, again, for these drivers out there pointing, ultimately, towards the shop. Let's go through a few more slides here that I brought with me.

Again, when we talk about car wash, well, the customers are there and the car wash is there. An idle car wash is not making money, and the margins on car wash are typically quite high. So having the possibilities to figure out the patterns when the customers are washing their car. If they are fueling or charging their EV, then do they want to wash the car afterwards? Often, those car wash visits depend on the weather and how much sand's blowing on all the cars, and stuff like that, as to when they want a wash or not. There are different ways of motivating this.

We are seeing a lot of introductions, here in Europe, of **subscriptions where you just pay a fixed fee every month** and then you'll wash your car, at certain levels, as much as you want. A lot of customers are buying subscriptions, but you still have idle car washes from time to time. So if you had the possibility to utilize that excess capacity by predicting it and using your omnichannels (multiple methods of marketing) to reach just that one customer, that will make you a bit more money in that respect. That's one of the things that we're looking into here.

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In The Room With CLVG

Appendix

Merchandising



Personalized Marketing



The other area that I talked about is obviously inside the c-store. It doesn't necessarily mean that what we are preaching is that now we should have dynamic pricing on an hourly basis on all the products in the c-store, not at all.

But there could be daypart pricing, there could be weekday pricing. Maybe beer for the college student has a different value on a Friday afternoon, than on a Monday morning. So why not include that into how you would do your pricing in the store?

It comes down to the key value indicators. What are the attractive products? What is the intention of the customer? Why are they there, and how should you be pricing those products? How would you then be thinking about promotions or the bundling of products? Is it always a soft drink and a sandwich or an apple, or should you bundle differently throughout the different dayparts? If we think about the powers of generative AI as we've seen from the large language models and as we've also seen from DALL-E (Microsoft AI system designed and trained to generate new images), when it makes these photos just from a prompt or these pictures or paintings or whatever we want to call them, AI is a very powerful tool that is capable of recognizing at least which kind of customer profiles are visiting your shop and what are they looking for. Then you can start putting basket size on top of their minds, and you can start figuring out, "Okay, what should I do, from a generic perspective, to increase the basket size whenever my customer is there?"

That thought process helps you to understand what kind of offering you should give customers, but also helps customers to get whatever it is that they're looking for. So connecting the customer's behavior with your offering through AI helps your data to become actionable again. It also gives you that digital twin. As soon as we start understanding which kind of products are interlinked and how they are connected, and you do the cross correlations between them, you also start to have an idea of the cross elasticity between products. When you start to promote one product, what impact does it have? When I'm starting to give away my coffee, how would that impact my Danish or my chewing gum, or should I increase those in price? Because then I'll end up with a much better piece of math than if I didn't do it. That's where the creative part of AI is of big interest to us, so it's one of the things that we're working on.

The next step after that is obviously **personalized pricing**, so true hyper-personalization.

It doesn't necessarily mean that it is specific to the individual person because I'm from Europe, and here we have GDPR (General Data Protection Regulation relating to consent and personalization of data), and we need to be very careful on how we're tracking people. Essentially, whenever you're doing business in the states, you're thinking from a GDPR perspective, because everything is about privacy, and it's heading in that direction. **But we can think customer profile because even though we like to think that we, as individuals, are very unique, typically we are not and we fall into**

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different kinds of profiles. So if you understand that, it will make it a lot easier for you to build these personalized pricings, personalized bundles or ads for the individual customers. Again, looking in the direction of generative AI, it's a very powerful tool to help us understand this. These creative bits are not what we were expecting 10 years ago in AI. We were always saying, "Well, AI will never be like humans. It has these superpowers from an analytical perspective, but it will never be creative."

Now we're in a world where AI suddenly is also creative and it opens up a completely new ball game and we should be sure to jump on that train as fast as possible. Typically, with technologies like this, it's winner takes most. That's also true in the markets where we introduce AI. It allows the first adaptors of technologies like this to be the significant players in the way that they do their pricing.

SLIDE 26: TO STAY OPEN AS THE NEW NORMAL: I think that brings me to my final slide for today. Usually, I put that to stay open as the new normal but, after COVID-19, the new normal is that everything changes every single day in this world. So I'm not sure what that new normal is anymore, but I think what I tried to get across and communicate here was that we have to accept volatility because it's here in one shape or another.

The principles from the VUCA world, well, we just have to face them and adapt to the new world. We have to be sure that we embrace those opportunities and follow them, and then **be sure that when you think about your data, think about "How can I make these actionable?" Because that's really where the power of AI is right now.** It can help you lift the data that is lying around in your databases to a completely new level. So, make sure that you keep that old data, because as they say, data is the new gold. But unlike gold, you can use it again and again and again. Data that you had 10 years ago suddenly can become very valuable because you now have AI. Then, going beyond fuels, customers will always be the king, but the key will be to understand their intentions and that's where, from our perspective, AI is important.

Myra Kressner:

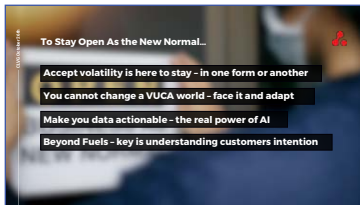
Well, thank you. Thank you, Frodi. Very comprehensive. I know we will have questions. I've got some.

Frodi Hammer:

I hope so.

Myra Kressner:

... but I know Roy has raised his hand. Thank you for the presentation, and as Roy put in the chat, this will be available to everyone. So, Roy?



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Roy Strasburger:

Frodi, thank you very much for a fascinating presentation. I'm sure there's going to be a lot of questions. I just want to say, as a reminder, that this presentation and our conversation, are going out to people beyond our group here, so I appreciate you setting the table and giving a good overview. And along those lines, I've got two questions. Would it be fair to say that in order to maximize or optimize AI pricing, or predictive pricing, you need to be able to control your retail pricing in real time? If you have one store, or if you have a thousand stores, do you need to be able to change prices basically on the hour, or minute by minute, in order to maximize your opportunities? Would that be an accurate statement?

Frodi Hammer:

It always comes down to your optimization space. The faster you can act, obviously the better you can control. But we are still seeing optimizations in countries where you're not capable of changing your price immediately and where you have to go out and change the sign manually afterwards, and still seeing optimizations because it's a matter of having the right price. Having the right price at the right time is obviously key, but in these cases, we have seen three hours as an average in delays from whenever we send out an email to the store manager and say, "Here's the new price." Then they had to go out and first change it on the point of sale and then go out to flip the sign. But in those markets, still, that gave them an optimized price from a normal perspective. But I would say yes, you should have the capabilities of changing prices on the fly.

Roy Strasburger:

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Thank you. And the follow up to that: is in the real world, and I have not personally tried using predictive pricing on new products, what happens when you have a lot of transparency on your retail market? Specifically with gasoline pricing, where everybody on every corner knows exactly when you've changed your price, or when it's reported through Gas Buddy or others? **How do you maintain an advantage when everybody can follow you and/or how do you keep from getting into a downward spiraling circle of retailers chasing the same price?**

Frodi Hammer:

Definitely. I think the right answer there is location, location, location. **Price is one thing, your location, your staff, how clean your pumps are, how safe it feels from a lighting perspective at nighttime, all of those things that are non-quantifiable are important, and then your price is obviously also important.** If you look at the German market, they have a program where you have to put in your price, at least I don't think it's later than five minutes after you change your price. So everyone knows what the price is. And if you do some economic calculation on this, it seems like the entire market is in collusion. Because whenever someone changes their price, they put it on the website, someone picks it up and so they follow it and then they go around. Everything is going up and down in that market at all times.

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Transparency isn't necessarily a key, it's about your location. It's about having the guts to say, "This is where I put my price at." We're talking about rational pricing again. What's my location? What's it actually worth on the market right now for the customers? That's where I put my price, because I know they will not take that left turn. It's a lot easier for them just to take a right turn into my store and I know it's cheaper on the other side of the road, but it's cleaner here or I have a canopy, or it could be a million things, or it's Kevin is always there to greet them or something like that. People are also forced by their habits. **At the end of the day, it's putting a price on not necessarily an equal product, but also the service. That comes down to location, location, location.**

Roy Strasburger: That's a good response. I think you're right. **It's more than just the price of the fuel, it's also the price of the offer or the value of the offer.** I want to be very clear, that was a hypothetical question. I'm not in any way suggesting that everybody should be changing their prices at the same time.

Frodi Hammer: Neither am I.

Roy Strasburger: But it was a question of visibility and transparency, and you addressed that, so thank you.

Frodi Hammer: Yeah. And to be clear, in PriceCast, the capabilities are there. That's that fourth step, where you define how many price changes do I want to do? What are the KPIs I'm following? Is it my volume budget? Is it my margin budget? Again, also all of those things play together with whatever it's capturing from the data. You, as a user, are in control of what you want to achieve from the algorithm. Just like you prompt ChatGPT.

Myra Kressner: Mark?

Mark Samuels: Frodi, thank you for the very stimulating presentation. My mind goes to where is the system getting all of the missing pieces of information that it might not have, and how do you account for all the qualitative pieces of information that are happening all the time? The station down the street running out of gas, you mentioned construction earlier. This store's down for a remodel. Pricing is going to be obvious, but you don't know all of the competitors' volumes at their price compared to yours. You know yours, but where do you fill in all the gaps and how does that system work to adapt for that?

Frodi Hammer: **That is one of the key things when it comes to building an AI model.** If you know about statistics, there's always a lot of assumptions about stuff and there's always like, "What's my domain and value model, and does this model actually work?" When it comes to AI, and if you build the model correctly, **it actually becomes capable of filling in the gaps.** That's the same thing that you're seeing with ChatGPT. It fills in the gaps whenever you ask something. It might not know whatever

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you're talking about, but it gives you an answer back, and most of the times it's a good enough answer and that's where the model fills it in. That's the same thing with us. We're learning from the data. It's not like last Monday was like this, so next Monday will probably be like this. That's stats. Or if you go a bit deeper, you're combining a bit more, then it becomes deep stats. But when you're thinking about AI, it's about recognizing patterns, just like us humans are recognizing patterns, in this case, in the data. That's what it's using to iterate on top of that.

Myra Kressner:

Mark, does that answer your question, or do you have more questions?

Mark Samuels:

One follow up if I could.

Myra Kressner:

Go ahead, follow up and then Hal.

Frodi Hammer:

It's very hard to answer without entering IP (providing proprietary Intellectual Property) in this area.

Mark Samuels:

Oh yeah, no, I don't want to do that, but is there a minimum base of information that AI needs in addition to the information that you're putting in? **The historical data...is there a minimum level to allow you to provide a recommendation that makes sense?** Because in the past there's been these predictive models that different companies have used and it's garbage in, garbage out, and it could lead you down a path that's not profitable if you don't have at least a base amount of information. If it doesn't have enough to give a good price, what does it do? Or are you convinced that in all situations, that it'll be able to give you a good recommendation?

Frodi Hammer:

At least what we've seen is in most cases, it will give you a good recommendation, yes. But we're looking a lot into historical transactions and that's why we, typically, are saying we want all the transactions from last year and this year. I'm seeing several of our clients using this AI in different kind of ways where we thought, "Okay, this is not how we designed it, but it works." I see customers configuring sites without competitor prices at all, just based on transactions, because there wasn't a competitor site just next to it, the closest one was like 30 kilometers away. That's 18 miles away from them.

It was pretty expensive for them to drive down to this little city and survey the competitor closest to them and then drive all the way back. They just let AI run based on the transactions alone figuring out where it should be from a pricing perspective. That worked. I've also seen customers linking one site up with another site further away like 50 kilometers away, where these sites are not even competing in a real-life scenario, but it gave an indication of the market, and this is the one that they wanted to follow. So we figured out...or we didn't, the AI figured it out by itself, from the transaction that I had here and the history of the competitor 50 kilometers away, what were the correlations between those and how should we then price accordingly?

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Mark Samuels:

Thank you.

Myra Kressner:

Thanks, Frodi. Hal?

Hal Adams:

Yes, thank you for your comments.

My question is, say you have retailer A who has a very disciplined approach to fuel pricing, very strong strategy, very good at changing retails. Retailer B has been for the last three years, very haphazard, changed strategies five times, has had several people doing pricing, and they've been really sloppy with their approach. They both have the same desire in terms of market share and gross profit growth or whatever. Will it take one retailer longer to get to the place using AI to where they achieve their goals than the other? Does retailer B have to get to a point to where they have to reset first and then they begin growing and retailer A can begin growing right away? Or will the system learn from each other just as efficiently?

Frodi Hammer:

That's a real good question. I'm thinking of good examples that I can give you on that aspect. First of all, it will learn from how you've been pricing. Yes, it will learn from that. That's a part of the history, but it'll also learn from the customers on when and how they bought the fuel, how many gallons they bought, and typically we'll also look into payment types, but that's a different story, and how to competitively price accordingly. From day one, the model is actually ready. It's a matter of what you're then asking from the model. The one over the other doesn't necessarily need to have an advantage as such. I will say if you're sloppy and you're not working the market, if you like it like that, it might take a bit longer for the model to figure out what are the price elasticities in the market. And I think that's where your question is leading, and it will do that.

We have seen it doing that in those markets where our customers have been asking for, for instance, I think it was a customer in the Netherlands, going from having one or two price changes a day and they wanted to do 24. Their decision. But they didn't have the data for that, so prices started to oscillate throughout the different hours throughout the day until they figured out essentially how deep the market was, and what price they were capable of achieving in the market. Naturally, they were taking their objectives into consideration as well. What's the client asking for, from a volume and margin budget perspective?

Myra Kressner:

Hal, does that answer your question?

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Hal Adams:

Yeah, I think so. And then my follow-up is: what will happen in the future when both retailer A and retailer B are using AI and they have similar goals?

Frodi Hammer:

It comes down again to, first of all, the model -- which kind of AI model are you using? As I said, humans with AI will replace humans without AI, and then it comes down to, "Okay, which AI are we using? Who has the best possible model?" It's like Formula One, who has the best car? They will essentially win. But it also depends on what you're asking from the market. It depends on what you want. It's not any different from having different pricing solutions today with different rules systems, or being capable of changing prices faster than others, as we saw in Germany, or having a more clever pricing manager than someone else. It just gives you, essentially, this additional exoskeleton. You're giving your pricing managers a lot of more insights and capabilities of playing in the market, but they are still setting the strategies. It's just a tool at the end.



Hal Adams:

Thank you.

Eva Strasburger:

I was wondering, is anyone on this call actually using predictive fuel pricing at the moment? And if so, how are you finding it? And if not, does this sound like something you would be doing?

Fuel Pricing

Joe Sheetz:

We use it a bit, and I think it's helpful when you're in multiple markets across multiple geographies with lots of different competition. But like he mentioned in his presentation, it does come down to the pricing manager, the cleverness of the pricing manager, whatever the current strategy is. I'm not going to say we're perfect at it, but I think it's been a very helpful tool to continue to price from a central location being corporate when you have a lot of stores to price at the same time.



Eva Strasburger:

So that was a good move for you, then.

Myra Kressner:

Go ahead, Mark.

Mark Samuels:

Yeah, I was going to say we've used a predictive pricing model in the past, but without AI, without that learning component. It became very difficult and the results were not optimized because it starts with you having to put in a strategy and if your strategy is not reasonable, for example, if say I want a 5% growth, well sometimes if that's not possible, it's just going to keep pushing your price down, down, down. And so you say, "Whoa, what is it doing?" And then if you go for a margin optimization plan, then it could tank your volume. Without the ability to learn, it was actually better off just having a person make the decision, because I guess it was the quality of the capability of the predictive model. This has evolved quite a bit.

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Myra Kressner:

I was just going to call on Scott, but Joe, go ahead.

Joe Sheetz:

I was just going to say, I think what's important for our industry, and you had it in one of your slides, we're not just about fuel anymore. It used to be that's what drove all the trips and things have changed. **And so, any modeling we get into has to model what's happening to the total facility, not just what's happening to your gas gallons or your gas margin. What are you doing to your beverage sales or your food sales based on what you're doing with your gas pricing? It's all one big puzzle at the end of the day.**

Customer Behavior

Frodi Hammer:

Yeah. Just as a comment on that, I completely agree. **What is the intention of the customer? Why are they there? If you could figure that out, you could give them the right offers.** And even before, if you go all the way down the path through personalized pricing through an app, or whatever it will be, that will be super important for the conversion rate. Yes, I completely agree. It's not about just fuel anymore.



Myra Kressner:

Scott, Donna, Varish, Natalie, do you have any alternative views? Or again, what have you been looking at and doing?

Scott Hartman:

I'll jump in. I like being a contrarian.

Myra Kressner:

That's why I was going to call on you.

Scott Hartman:

And so, I love technology and I love what technology does most of the time in the world, but I do believe that the artificial or AI term is way overused today. I think it's as much of a selling, marketing thing because people don't understand what it is, they think it must be the greatest, latest, brightest thing. I think people are using that term way too much. I think we're still in a world of needing a lot of human insight. I think we're getting better at being able to know how to do, I call it just data analytics and provide some human intelligence into the power and the speed of technology. But I don't see convenience stores very close to being able to use it in a way that a lot of people throw around. The data points to measure in our stores are astronomical, and we all know that. And so it's really still in its infancy. It's going to take a lot of work, a little bit like when people said, "Is scanning going to work in our industry?" And it took 18 years and there's still folks still not scanning.

It takes people, and it takes a set of people to be able to, whether you want to call it, help it learn, whether you want to call it programming. Whatever you want to call it, and I still will say a lot more of this is programming than it is automatic learning. We have to input what we want to do, how we want to do it, when it should stop, what it should be looking at. And the data points, like I said, it's not a clean industry for data points. If you want to capture your competitor's inside

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pricing, good luck. We don't even have automatic shelf label pricing in the convenience store industry today, it's in less than 1% of the stores. It's a long way away, longer than people want to think. It doesn't mean it's not going to come, but I do believe it's a fair amount of way out on our horizon still.

But the more data, the more automation we get, the more available the information becomes, and as it becomes more available, then we can start capturing it. And data was everything back with Gas Buddy, and we were the first of their customers years ago. And you start there, but then does the store have a bathroom? Okay, that's a data point and that's out there, and now people making decisions know it has a bathroom. Is the store open 24 hours? As that data becomes published or publishable, it becomes more actionable. But our industry as a whole, this is not going to happen next year. It's not going to happen in three years. And oftentimes the marketing side gets ahead of it too, just like EVs. I'm in the same boat on EVs. Everything was going to be EV in five years, then it was seven years.

Now it's out there, you read the Wall Street Journal today, car manufacturers, everybody's backing off. Countries can't afford it. The reality check comes. First the marketing comes and then the reality check comes, and somewhere in between is where many of these things in technology come about, but they're longer horizons. **I would put us using true AI as it's presented in most presentations today, 10 years out for us in a large usage of any sort.** I think small pieces, yes, we do collect tons of gas pricing data. Yes, we put rules in place. Yes, we know that. But that's not very artificial. That was created by people. Is that fair?

Myra Kressner:

Should we be talking about this on this call as The Vision Group? Then where do we position this? Or is there anyone else that agrees completely with Scott or thinks there might be a shorter lead time or there might be more engagement sooner than Scott is saying? Donna?



Donna Sanker:

I actually agree with Scott. I think we're a long way off. No, I can't change the prices in my store that quickly because we don't have the automated shelf tags, but frankly, doing it out at the forecourt and doing it at every single station that we have, and if you think more broadly about the industry, many people can do it, but many cannot. And so the fact that the AI is changing the price automatically, instantaneously and at that frequency, that to me is interesting, but I don't think it's executable today. And then I guess the other thing is thinking about your customers and upsetting them. If the price is changing that regularly, and I don't know that it happens that much, maybe I'm exaggerating it, but anyway, I think the industry is a ways off. I love the data and the analytics and all the things that it can do for you. And so if there's a way to use that with the capability that you have, then it becomes a bit more interesting sooner.

Myra Kressner:

Frodi?

Frodi Hammer:

Yeah, just wanted to comment on that bit about executing on it. One thing is setting the prices directly out in the store. For us, **it's about doing small granular price changes. It's not about jumping prices up and down.** You still want to own your own customers. You don't want to scare them away. It's very expensive to buy customer share, so you don't want to lose it. That's a key thing whenever we set up the objectives that AI should reach. The other part of the comment was about the execution part. One thing is being capable of doing the price changes automatically as well from a centralized position. I know it's not always possible, but the other end is also the second opinion. **Trying out different pricing strategies and figuring out from the digital twin perspective, what would have happened? Doing those simulations and always having someone supporting you, even though it's AI, supporting you in whatever the price could have been. That's also another aspect that we're seeing that our clients are interested in.**

Myra Kressner:

Thanks, Frodi. Donna, does that address your concerns or your needs?

Donna Sanker:

Yes, look, like I said, I think the capability of the industry to be able to execute even hourly, depending on which company you're talking about, is still going to potentially be an issue. But like I said, **I love the idea of the data and the analytics, and if you could match it and use it as a tool to help you within your capability set, then it becomes interesting.**

Myra Kressner:

Eva?

Eva Strasburger:

Frodi, I think you said you have 14,000 stores that are doing this globally, and you've got a big customer in the US. How would you react to what Scott's saying about this is 10 years out?

Frodi Hammer:

I think I did mention the industry was conservative, right? Sorry about that. Well, it is what it is. It depends, at the end of the day, what you as a company are ready to move on. That's also why I said it was a journey towards AI. When we come into the industry, we always start with doing a migration of whatever you have and then moving slowly towards a fully autonomous AI doing the pricing. And I know the AI word is used a lot everywhere, and I hate it myself, but from my perspective, that's what I've been working with always. Even before all of these tools came out, even before you could go out and buy something off the shelf, that's also why we are running a proprietary AI that we built ourselves through these years in the industry, which also essentially allows us today to run on a lot less CPU power than you would do if you ran a large language model.

You have to apply true AI on some super expensive GPU (Graphics Processing Unit), and that consumes a lot of energy. Back in the days when we would build ours in 2009 and '10, you couldn't sell a license to a client in the oil industry and then ask them to buy a 100 X86 (family of complex instruction computer set architectures initially developed by Intel) servers as well. You had to build something that was efficient. And that's one of the things that we probably also will see. A lot of things are going on in the AI, as I mentioned, and the effectiveness is also another part of it. **But I think it's a matter of figuring out which train do you bet on and which one do you think is the right one? If Scott feels that it's not the right thing for them as a company, well, maybe that's not the one that they should be betting on,** but as Donna said, well, maybe we can't do real-time price changes out there from a centralized perspective, but the digital twinning or the second opinion is just maybe an interesting bit.

The exoskeleton for the brain, as I like to call it, is where you give the analyst some additional tools to gain insight into whatever data you have, and I know that the data points are terrible out there. I know they're delayed, and I know that sometimes it's a mess what comes in. And that's also why when you build models, they need to be robust because otherwise you end up in something like I think Mark you mentioned, where you had these predictive models that fall apart from each other if they weren't configured correctly from the beginning. That's why you need the self-learning part, and that's what we've been seeing throughout the industry and throughout the years with our clients, that the model is strong enough to cope in these regions and that's why they stick around as well.

Eva Strasbuger:

I was going to say, we saw at NACS that PDI is selling digital shelf tags and, when we were in Singapore, we saw digital shelf tags changing prices while we were in the store because their AI was saying "it's now dinner time" and you'd see the price go up. I don't know if they were using the systems that you're talking about, but it was very fluid.

Frodi Hammer:

[Merchandising] Yes, I'm not certain about that. **We are not doing c-store pricing yet.** That's on our roadmap. That's one thing that we're working with several players on doing. We're doing the overall site optimizations, if that makes sense. We're not looking at only fuel, we're looking at the overall site optimization on their behalf. **But from a store perspective, I don't think it necessarily makes sense for you to change all the products. I think it's very important for you to figure out what are your benchmark products and how should they be priced?** Because when the customer comes in and they see something is super expensive, well, then the rest of the store is probably also expensive. Figuring out from store to store and from location to location what the benchmarks are and what are the attractive products, what attracted my customer to come into my store? And these might change throughout the daypart.

I don't believe, necessarily, that we need to change prices on an hourly basis, but we need to be aware of what they are. **And we need to be aware of when you enter the shop, as a customer, you might have the average basket size of two or three products in mind when you get into the shop. If I can figure out already that when you go and pick up one product or enter the shop and go to one area, this is probably you as a customer profile, these are probably the products you are going for, how can I, I'll say manipulate, or how can I get you to go for a bigger basket size?** Because you're there anyway. It might be the chewing gum that you would probably buy somewhere else later on because you forgot it when you were in my store.

How can I help you best achieve that basket size here at my shop when you're in here? And I think that's one of the key things. It's not necessarily digital price signs all over the shop -- those are super expensive. We have them, actually, in all the stores in Denmark as well, and they're just as expensive to change batteries on as it is to change paper labels. So the technology isn't really ready, yet, but it makes it easier for you to check that everything has been changed. It's Q8 (a Kuwaiti oil company that operates retail sites in Denmark) that made all the companies in Denmark change to those electronic shelf signs. But the key is having attractive products, those are important.

Myra Kressner:

Scott.

Scott Hartman:

Yeah, I just want to clarify. It's the word artificial that bothers me the most. Because I just call BS on a lot of artificial stuff. **I mean we are not running our stores with bots, we're running our stores with people and the management teams are still people. But I'm a firm believer, always have been in data analytic collection and using the data analytics, by the people sitting behind it, whether it's our temperature monitoring or utility monitoring, those are all things that we're collecting data on.** We have software that manages it. It can change the temperature in a store, it can tell a supervisor if a refrigeration unit is out of temp. All those things are just collecting data and then taking the human brain to help define in what's still the old world of software development. People have to define those parameters.

The day when the bots are smarter than we are, that they're defining the parameters for this group here, I'll be very impressed. But that's the 10 years out and more and I'll probably be retired by then, so I'm not that worried. But I'm just saying it takes a long time to both get the collection points and put it together. And in our industry there's so many different variables and collection points that the investments themselves, whether it's cameras or monitoring units and the lights, take a long time. I mean my stores could change every gas price on the fly today in a minute. So that's all there in place. But the intelligence behind collecting all that is a little bit like saying that the weather reports are accurate today.

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They have all that capacity and they still can't tell you if it's going to rain tomorrow. So I'm telling you that's my grounding point of where artificial intelligence comes into play. When they can make sure and tell me it's going to rain tomorrow, then I also know how to do pricing. Because if it's raining, guess what? Car washes aren't going to happen. Okay. So it's as simple as that. **Until other things come together too, we're not that artificial and I just think it's a marketing term that's been way overused. But should we be talking about it? Absolutely. Because stuff takes time and as it comes together, the smarter you are at seeing the future and seeing where it's coming, that's what this should be about.**

Myra Kressner:

Yep. Okay. Thanks, Scott. Roy and then if Varish or Natalie you'd like to chime in after Roy, that would be great.

Roy Strasburger:

Well, I think last time we were having this conversation, I think Scott's question was, **"Is this going to allow me to reduce a marketing analyst person and whether or not it's going to actually save me any money going further down the road."** But, in deference to Scott, I'll use the term pattern recognition as opposed to artificial intelligence. **The idea of pattern recognition is really exciting when you consider all the data that we've got. For decades we, as an industry, and other retail industries have been collecting all this data and what do you do with it? I mean, you drown in the data. So, if we can rethink this in regards to using the pattern recognition side of AI to help us better understand all that data, it will enhance, shall we say, the human component of the marketing and the retailing side of the business.**

I think that's where the big win is for us, at the end of the day, if we can harness that. So I actually have a question, Frodi, that you might be able to help me with. In one or two of your slides, you referenced two different types of AI. You were talking about one of the types of AI gathering external information and input, weather, traffic, and other data, rather than just using internal information from the store operation. Is there a business opportunity for somebody to package that external information and start selling it to retailers, such as the folks in this group, where you can pinpoint a location and it gives you the data specific to the location such as what the special events are going to be and what the traffic counts may be for that day?

Frodi Hammer:

So just a quick remark on Scott's comment on artificial. I think everyone working with artificial intelligence hates that term, but it was coined in '54 or something like that by McCarthy and others. So that's just how it is. That's what we call the thing. (Note on McCarthy: John McCarthy is one of the "founding fathers" of artificial intelligence, together with Alan Turing, Marvin Minsky, Allen Newell, and Herbert A. Simon. McCarthy, Minsky, Nathaniel Rochester and Claude E. Shannon coined the term "artificial intelligence" in a proposal that they wrote for the famous Dartmouth conference in Summer 1956.)

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And I like the idea about pattern recognition. Because it's about programming something that programs itself to solve the problem. That's essentially what we're trying to do. **So AI is essentially just an umbrella over a lot of different kind of technologies.** And one of those things that we are using in our space, heavily, are these, again, artificial neural networks. They can do amazing stuff when you set them up and configure them correctly. With regards to the data, yes, and usually I prefer dynamic data whenever we try to build something that should act dynamically in the world.

Yes, there's a toilet at the store and that might have some sort of an impact, but that data point might also be indirectly coming from some of the other data points that we have. It could be footfall data in the shop. So that leaves the idea that there is probably a toilet in the shop because a lot of people are walking over into that corner and disappearing and coming out again or something like that. So it's going to matter how you are collecting the data points. It's a bit like Facebook with the social graphs. When introduced by Facebook way, way back they were figuring out, "Okay, there was probably someone here that wasn't connected on Facebook but that person existed." So even though you were not on Facebook, they knew that you existed because someone has been talking about you in other groups. So you always have the terms of indirect and direct data and often you don't need the indirect data because you can get a lot of that information from the direct data.

But there are a lot of people building data packages out there now. As I told you originally, one of our shareholders is OPIS. And OPIS is doing a lot of data collections out there for their products and all of this can be embedded and integrated into our product as well. It just depends on if it makes sense for you to put that information in there. It could be from a performance perspective, let's say traffic data if you want to have that data, if that makes sense for you to have that information. It's typically very expensive. Yes, it can maybe lift the classification or the precision of your model a bit higher up and make you exploit that, but maybe you only have that information indirectly or good enough essentially from your transactions. But on the other hand, the traffic could also help you explain AI. And that's one of the things I'd like to say, that we are working with true AI and are doing a lot on explaining why the models are acting as they do.

Because a lot of the things that have been pushed out there, like large language models and deep learning, all of these models are very disconnected. It's very hard at the end of the day to explain why did it actually say what it did? Was it because of this and this and this? That's what we are trying to push with ours, was it because the competitor did it like this and they work like this or that we are seeing the customers coming in the patterns like this because we've seen that before? As soon as we can put this in front of our client, it helps them to build trust in the system and allow the system

Tech Standards



Merchandising

Data

to do pricing with AI or allow AI to do pricing by itself. **So yes, there is a business model in collecting data. Data is valuable. There's also a business model in selling your data to other companies that sell it [further] on.**

And there's a lot of work also in Conexus and figuring out how to standardize all of these data.

Well, you're collecting a lot of data, but all of this data is essentially unstructured. Because Scott is collecting data one way, Joe might be collecting another way, Varish in a third way. And how does all of this fit together in a way that accomplishes the same thing for you. I know Conexus is working a lot on figuring out how to label or structure data in such a way that it's easier for guys like you to say, "Okay, let's plug in a new pricing solution and test it out and see how it works. And here are the data points that I have. I put this one in and this one in because I know this is minimum requirements, but I can put these four in as well and then I'll get more information from the explainability perspective or from the performance perspective."

Roy Strasburger:

I was just wondering when I'm going to start paying a subscription to Google for all the external information for the zip code within a half mile radius of my store. Because between Maps and everything else that they're doing, Google have a lot of that dynamic information in real time. Anyway, we'll see where it goes.

Myra Kressner:

We've got a few minutes and I want to give Varish and Natalie a chance if you want to chime in.

Varish Goyal:

I can go. I think a lot of stuff that we're doing has already been talked about. We have not used any kind of AI model tool for fuel pricing. We still do it [manually]. A fuel pricing person looks at the stores and looks at competition and does it that way. Similar to some of the other comments, we don't have the ability to change prices that rapidly at our fuel sites yet, let alone the c-store. But what we have done, and we are actually in the process now of testing, **we've got one store up that has fully electronic price signs and we're working on getting that model to work. And yes, they're not cheap, they're expensive and they still are problematic in getting the correct pricing to the correct item.** But I think where we have tried to use AI, and I'm not going to say that we are particularly successful at it yet, is we've been trying to use some of this technology to help us figure out areas of concern or figure out problems that we may be having.

So we take POS data in and we are analyzing that POS data to find trends or patterns or issues that we could potentially go and take action on before waiting until a month or two months or three months to see that there's a potential problem. For example, if we notice that coffee sales have changed or hey, there's an issue with the car wash at a location where transaction counts all of a sudden dropped and it's not weather related, what could be the potential

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problems that we're having? But there's still a human that sees this information and determines is it valid? Like, "Oh, there is a reason why it's down or oh wait, there might be a problem that we need to go fix." And so it's not at a point where there's no human. There is still somebody in the middle that's actually touching these things and taking the information and then taking an action on it. It hasn't gotten to the point where we've said, "Oh, we don't need a human here to do this." Not even close to any of that at this point.

Myra Kressner:

Thanks Varish. Natalie.

Natalie Morhous:

Okay, I will chime in. I will admit I am struggling to wrap my head around this a little bit and I suppose I'll chime in with a question in particular that I've been trying to understand. Most of us don't have the talent to build these AI machines in-house. So we would be reaching out to a third party to acquire or use a resource for this pricing model that you're describing. And the part that I'm struggling to understand is: without something proprietary that distinguishes you in-house, I don't understand how we don't as a marketplace all just end up right in the same place. And then if you're ultimately all ending up in the same place, where is your competitive advantage and why is it worth the investment in AI in the first place? I can't figure that out in my mind.

Myra Kressner:

I think that's a good question. Frodi.

Frodi Hammer:

It is. Yes. I hope I have a good answer for it.

Natalie Morhous:

And I'm just trying to understand it in my head.

Myra Kressner:

I think that's a very reasonable question that you're asking.

Frodi Hammer:

Natalie, you ruined our entire business model. **No, at the end of the day, what we're trying to do is understand the customers. So better understanding of the customer should lead to being capable of, in this case, doing a better price for them.** But also helping you and achieving what you want to do from a strategic perspective. That being the volume budget or the margin budget. So if you understand the customers better, yes, then you should be able to give them a better service or in this case a better price. Now, if everyone starts to have...

Natalie Morhous:

The part that I need help with is that in our industry, the competitors that you're looking at when you're pricing at an individual store are so close by. I have over 200 stores in Florida, but stores two miles apart might have different fuel prices, just because they serve different traffic patterns and different customers and because we view them as having a different

Customer Behavior

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competitive set. And so if you're looking at that competitive set and it's all so close to you, how could my customers be so different than the competitor who would also be using your system?

Frodi Hammer:

The model will be trained from your customers. So the customers choosing to fuel at your place, they're also the ones that are training the model at the end of the day because it's their data that is being trained on. Now I'm explicitly talking about how my model works. So whenever they choose to fuel there, they're actually leaving a little trace, the transactions essentially, that defines that they choose to fuel there. That is then what the model is trained on. Obviously, it's also trained on the competitors around you.

The ones just one, two miles away from you, but also different radius around you because there is always an impact. The competitors next to you, they are maybe reacting to someone five miles away from you who are reacting to someone two miles away from them who are... Suddenly, you're far away. So figuring out that pattern in the market, as well, comes into play when we do our pricing. But at the end of the day, the thing that I like from our perspective, if a few customers choose not to fuel at you anymore, well then, the model will learn that as well and then something is wrong. Then you will not be serving your purpose from that perspective.

Myra Kressner:

So Joe, did you want to participate in this question loop and answer?

Joe Sheetz:

Yeah, my point was going to be sometimes we think of competitor as the name on the building and we forget about location. And you could have two stores across the street from the same competitor in two different towns and at one of them you need to be equal to or the lowest price to make it work. In another one you could be 3 cents higher and it wouldn't make a damn difference. Because of the location of where you are, you're the right-hand turn, you're the newest building, whatever. And I think that'll always be the challenge for our industry because we have generations of people that have run this, that always think the lowest price wins, without thinking about all the other stuff that goes into it. And that's just my opinion.

Frodi Hammer:

It's a bit like the qualitative data I talked about. You have all the things that you get from the sensors in a structure, same structured way, and then all the other things that you can't really collect. And that comes into play as well somehow and you need to be able to model it, at least.

Myra Kressner:

Scott.

Scott Hartman:

Yeah, I'd just like to chime in terms of that time horizon again, **I think for our industry we may be looking at it in probably the wrong angle.** I think currently AI or what's closer to a well-designed intelligent software is out there in our phones and our cars today. So **I think the near term AI we should all be aware of is the customer asking the device to find them fuel, asking them where's the nearest place with beer or placing a mobile order for food, talking to it, it's listening, it's placing the order, it's sending it to a place.**

I think that's the near-term place where AI is going to impact our industry much more than where we've been looking at it from the other of how do we get customers based upon how I'm pricing and using all that when the customer is, in many cases, defining what they want and when they want it already into their devices. So **I just think that's the nearer term one we should probably be thinking about as much or more because they're doing it all the time. Anybody's driving down the road, you look at your GPS, it's telling you where the gas stations are, it'll tell you what the pricing is, it tells you a lot of stuff.** It's helping people make their decisions. So I'm not sure how much they're making the decision any more versus how much the devices are going to be making it for them. Is that fair?

Myra Kressner:

Yeah. So Mark, Donna, did you want to swing back in to close the loop on this or not, Donna, you're good?

Mark Samuels:

No, I actually love hearing all the different perspectives and think they're all really great questions. And I guess, Natalie had a question she couldn't get her head wrapped around. For me, it's putting trust in a system that you don't know what the inputs or outputs really are[because] it's proprietary. And just being able to trust it and know that it's going to work in the right ways. I mean, there's just so many different things that I have questions about that like Frodi says is the best approach.

Myra Kressner:

Yes. Well, we've got just about two minutes and Eva, Roy and I thank you Frodi for your presentation, your thoughtful insights and answers and all of our members for participating in your thoughtful questions and answers. Roy, do you want to just give us some closing comments?

Roy Strasburger:

Sure. Thank you very much, everybody, for joining us. It's been almost a year since we started this group and we really do appreciate everybody's participation. I do want to give a shout-out to Natalie and congratulate her and the RaceTrac team on being Retail Leader of the Year (CSP Award) at the NACS Show, also to our other member, Kevin Smartt. He and TXB were named Chain of the Year for Convenience Store Decisions. Great accolades for that. I also want to thank those in the VGN ecosystem who attended our NACS Fiesta, which unfortunately was at the same time as the NACS Past Chairman

and NACS Board of Directors dinner, which conflicted most of the people in this particular group. But we had a really nice turnout from the CTVG members, from our Vision Group members and from the media who came. We had over 60, 65 people join us that evening.

Eva Strasbuger:

Barbara was there

Roy Strasburger:

And Barbara Stoyko from Shell came out and joined us. So we do appreciate that. It was a great pleasure to see everyone at the NACS Show. And what was really rewarding to myself and to Eva, because she was with me, was that we had several retailers come up to us to tell us that they had been reading the Vision Reports and that the reports were really informative and helpful for them to keep up with what was going on in the industry. And we appreciate all of you giving us your time to help with the mission of trying to help the industry as a whole.

So thank you very much for everybody's time. This Vision Report should be out within the next few weeks. And before we started recording this, Eva had asked whether anybody had any suggestions for future topics. This particular get together was inspired by Kevin Smartt asking us to talk about predictive fuel pricing. But does anybody else have something that they would like for us to be looking at? Any suggestions? And if you have them now, that's great. If not, you can send them to us. But we want to bring in expertise, such as Frodi, to talk about topics and then have a discussion. If you have any ideas, let us know. And Myra, it's over to you.

Myra Kressner:

Yeah, so thanks Roy. So just any closing comments or thoughts or questions from our members or Frodi on the call? Nope, we're good. Thank you everyone.

Roy Strasburger:

Thank you, everybody.

Unleashing the Winning Formula

Navigate today's
volatile markets
by making your
data actionable!

Frodi Hammer
Founder & CEO
A2i Systems

October 26, 2023



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PRICECAST FUEL



Get ready for the next generation of fuel retailing with the world's first AI-driven retail fuel pricing, management and optimisation solution.

2007
founded

+14.000
stores

EU+NA
markets

OPIS
A DOW JONES COMPANY



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“... today’s volatile markets...”



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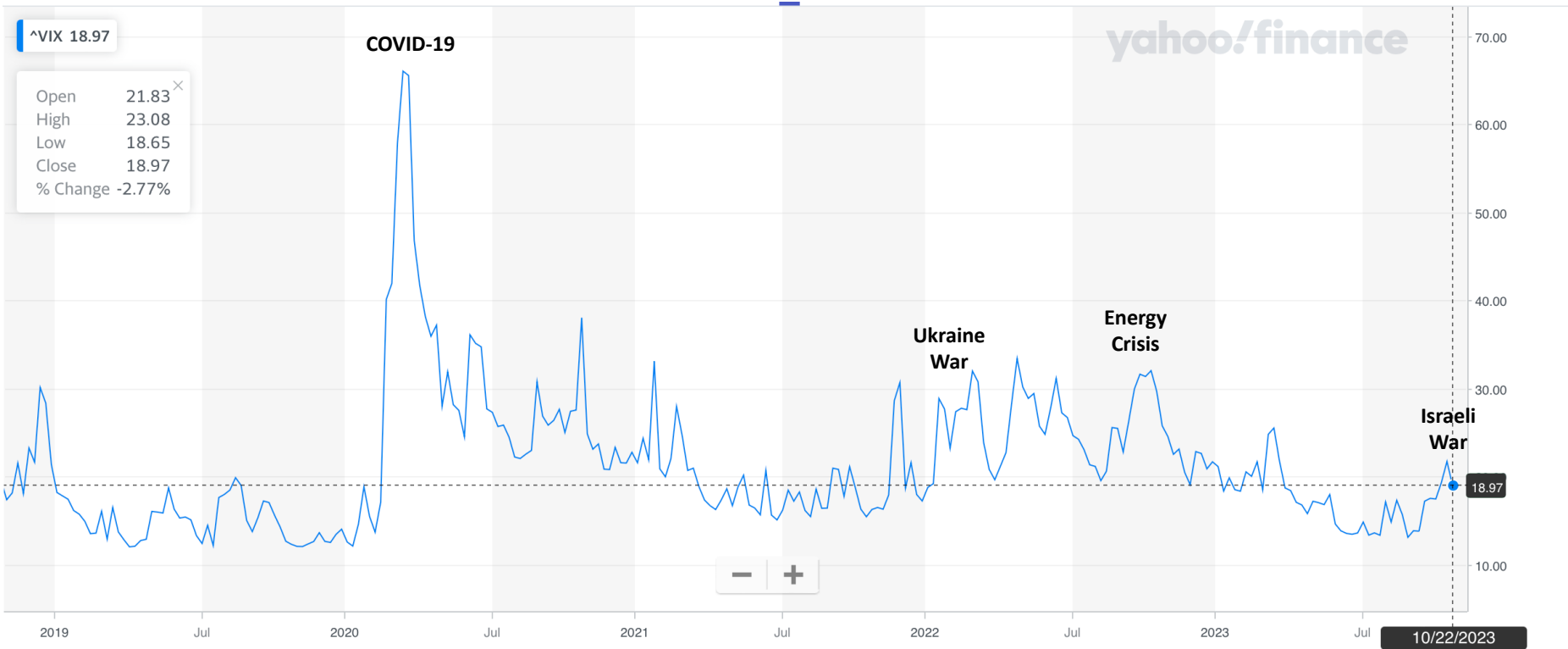
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Volatility Index

Yahoo!finance | October 2023



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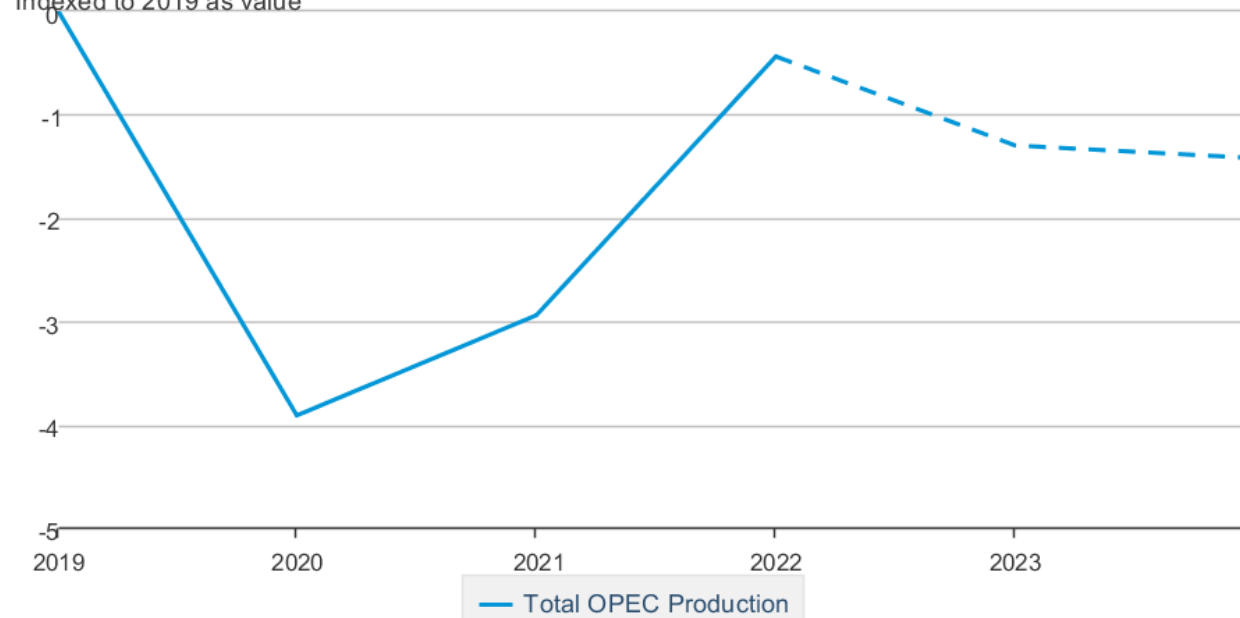


Oil demand

Source: U.S. Energy Information Administration | October 2023

Total OPEC Production

million barrels per day
Indexed to 2019 as value



Data source: U.S. Energy Information Administration



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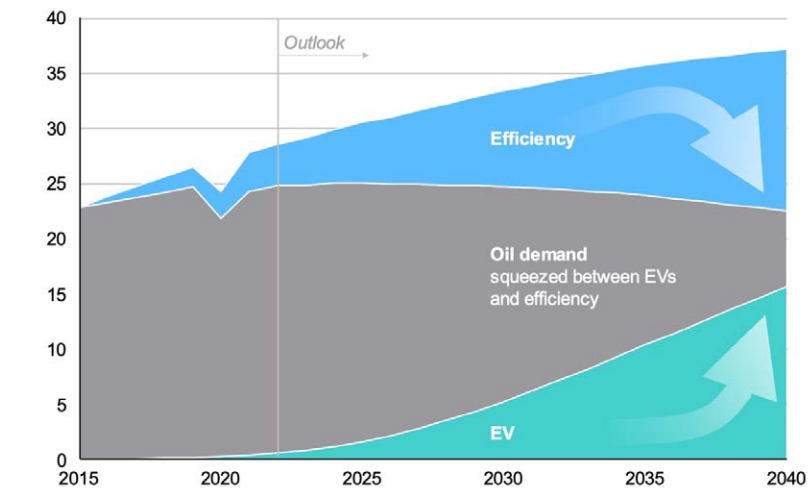
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EV adoption by 2030

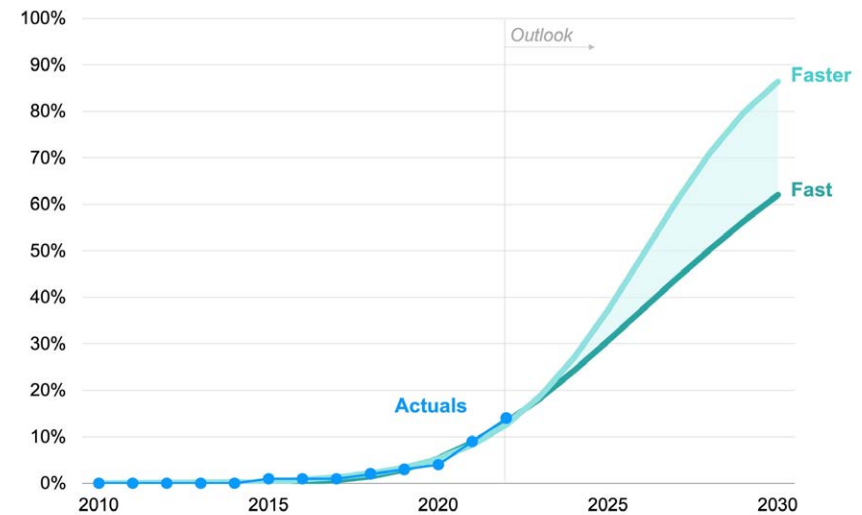
RMI (Bezos Earth Fund) | September 2023 | X-Change: Cars – The end of the ICE age

Figure 16: Oil demand for cars, efficiency and EV (mbpd)



Source: BNEF, RMI assuming fast change

Electric vehicles' share of global car sales



Source: IEA (past), RMI forecasts



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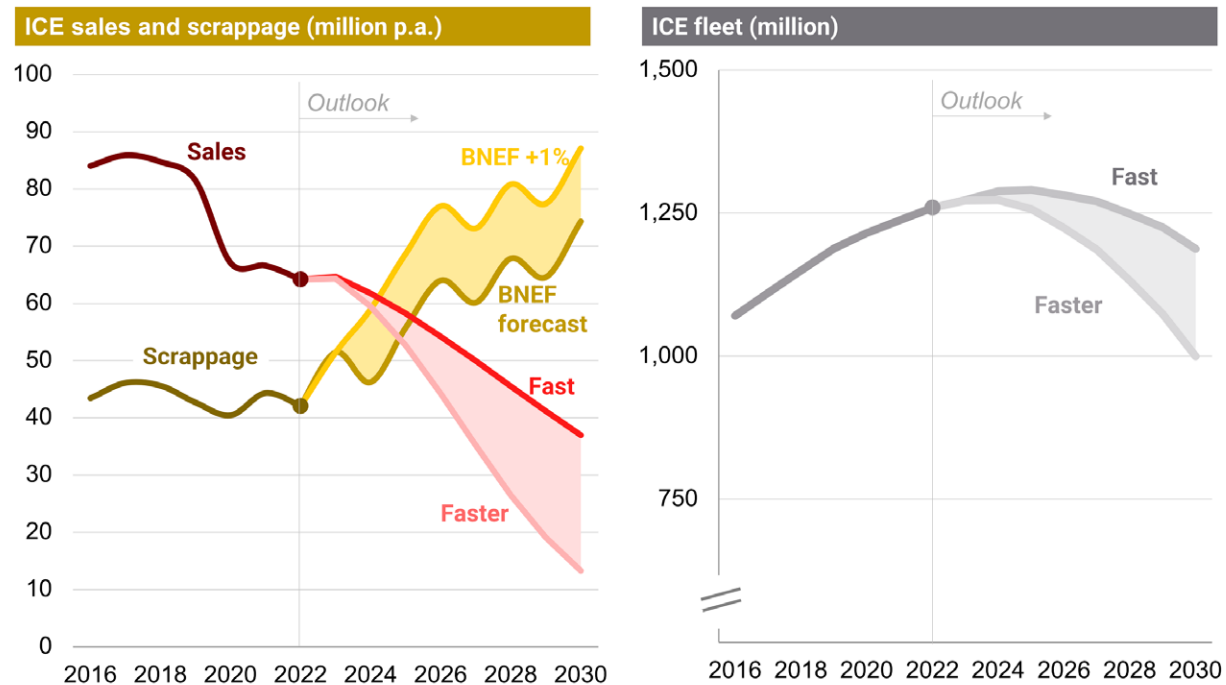
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EV adoption by 2030

RMI (Bezos Earth Fund) | September 2023 | X-Change: Cars – The end of the ICE age

Figure 15: Sales and scrappage of ICE and total ICE fleet



Source: Historical data BNEF, RMI forecasts. BNEF +1% assumes that an extra 1% of the global fleet is retired



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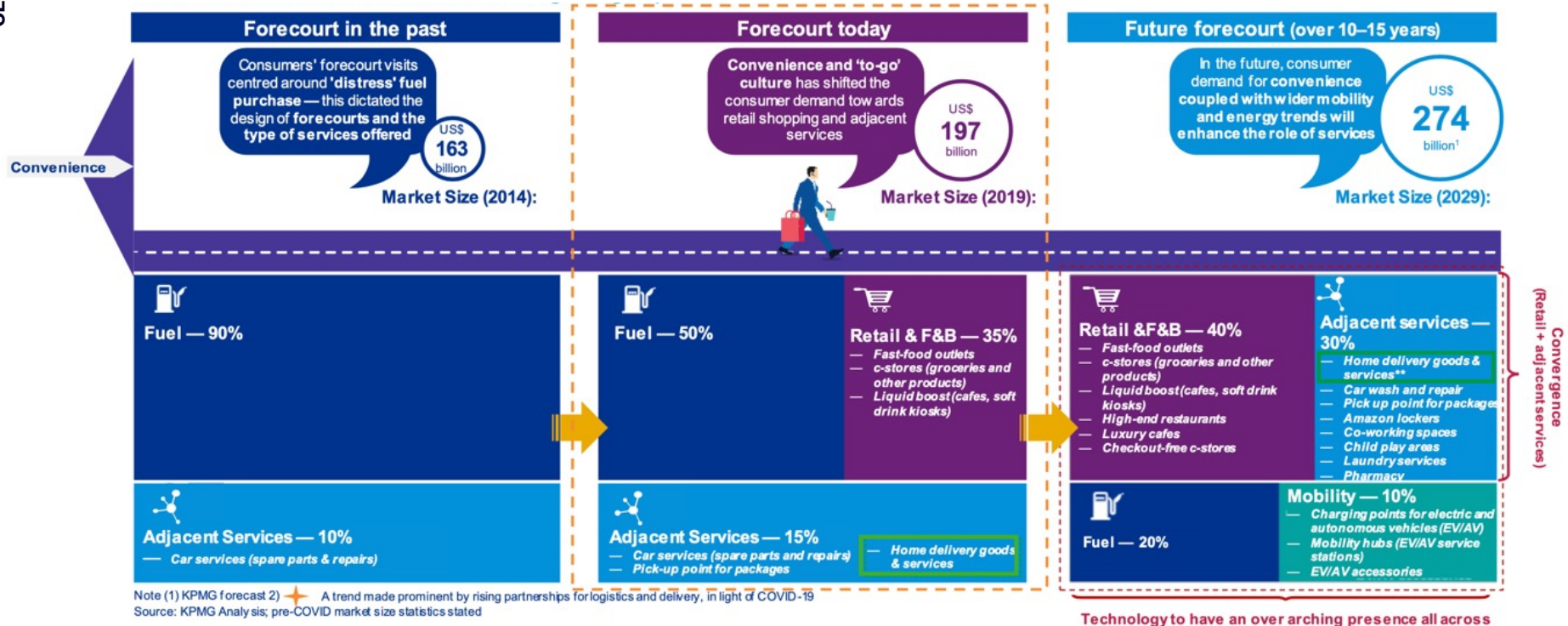
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Evolution of forecourts

KPMG | May 2020 | Fuel Forecourt Retail Market



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“Hey, it’s
crazy out
there!”

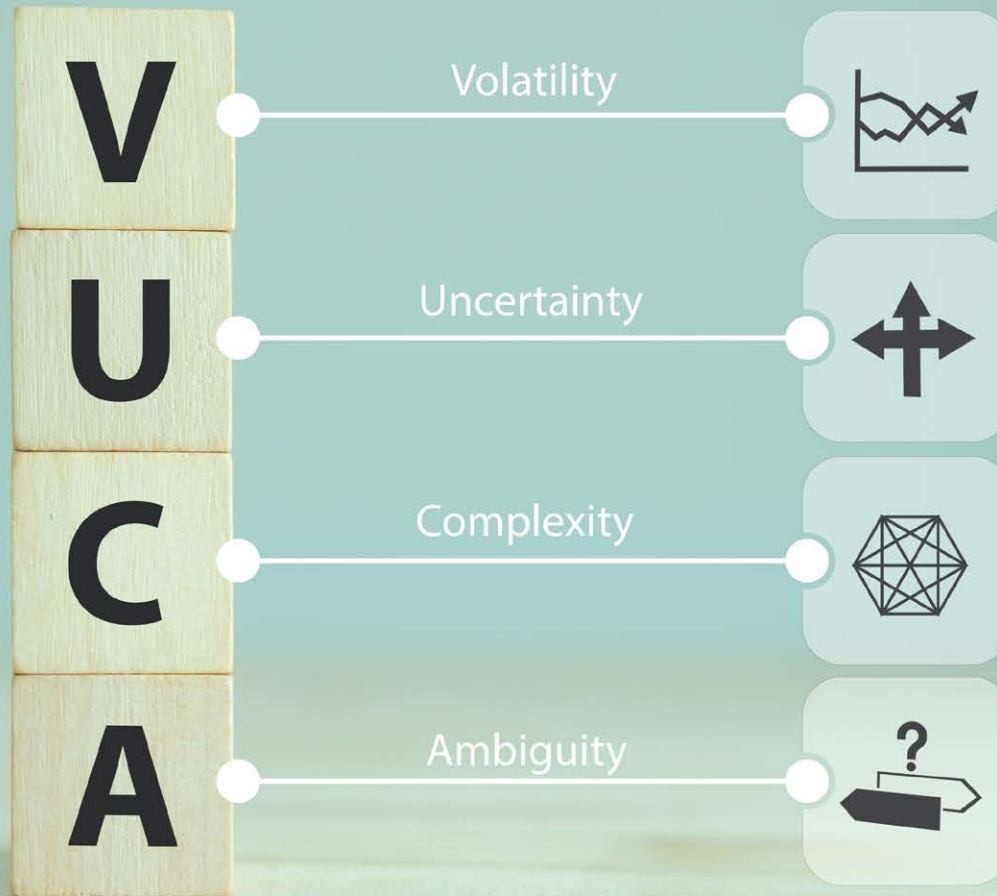


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#You_Cannot_Change_A_VUCA_World

V

Volatility

FAST, UNPREDICTABLE CHANGES WITHOUT CLEAR PATTERNS OR TRENDS

C

Complexity

MULTIPLE, COMPLEX, INTERTWINED TECHNOLOGICAL, SOCIETAL, GEO-POLITICAL AND ECOLOGICAL EVOLUTIONS

U

Uncertainty

FREQUENT DISRUPTIVE CHANGES WHERE THE PAST IS NOT A VERY GOOD PREDICTOR OF THE FUTURE

A

Ambiguity

LITTLE CLARITY ON WHAT IS REAL OR TRUE AND DIFFICULT TO PREDICT THE IMPACT OF ACTION OR INITIATIVES

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So... What is the Winning Formula?



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“Nobody can predict the unpredictable”

#Traditional_Models_Don't_Scale



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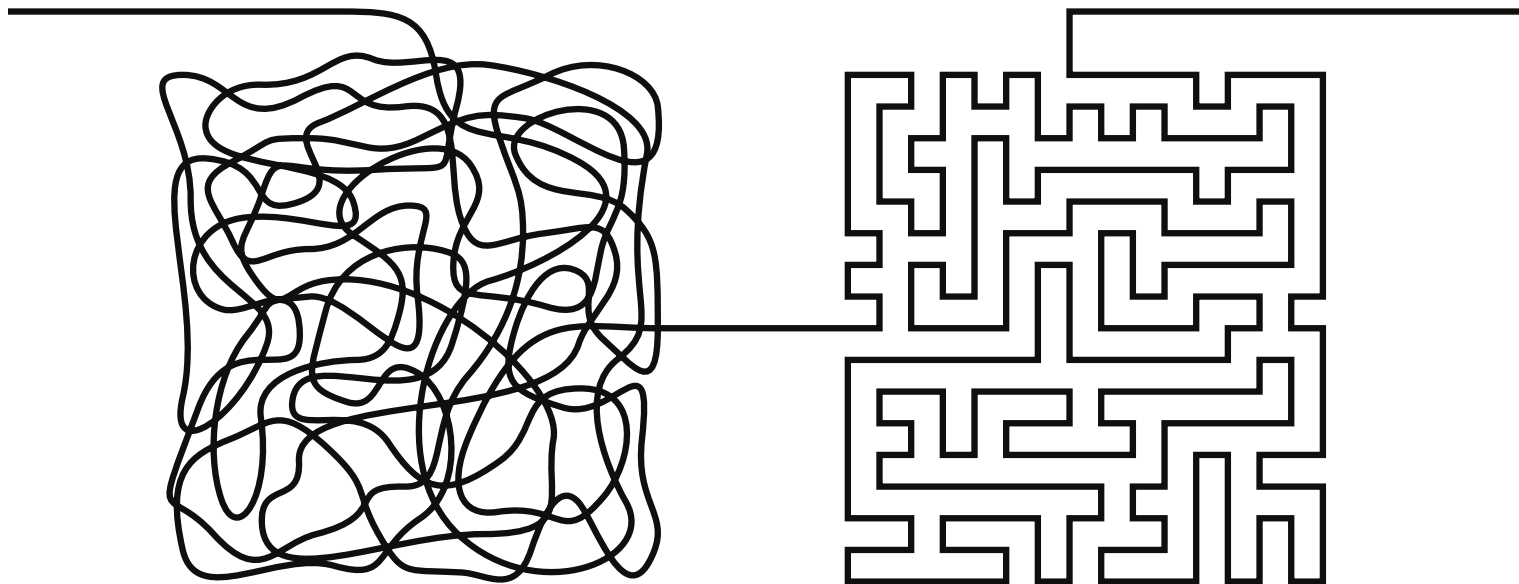
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Make your data actionable

#Cheatsheet

BIG DATA → AI → ACTIONABLE



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... making your data actionable!



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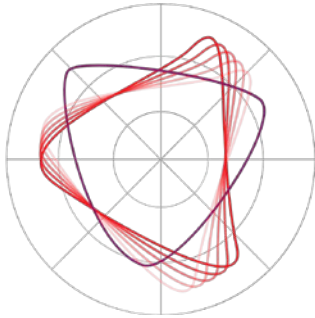
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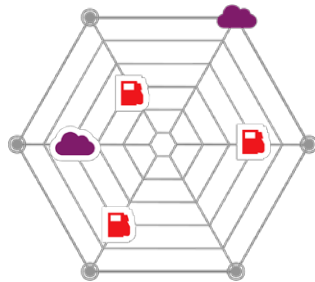


6 steps of an AI algorithm for predictive fuel pricing



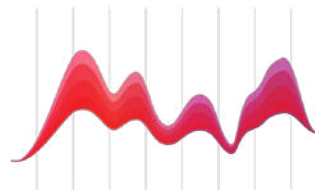
Step 1

Historical transactions are needed to teach the AI about customer behaviour. Ideally last year's and this year's data.



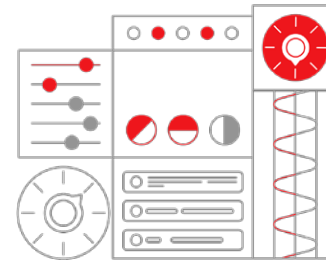
Step 2

Integrate live transaction data from Point of Sales systems or central cloud data collectors.



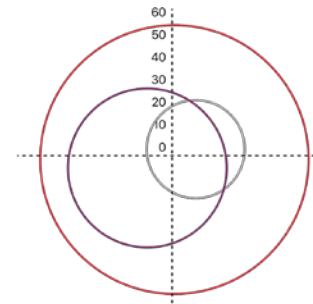
Step 3

AI studies and learns customer buying behaviors and predicts demand.



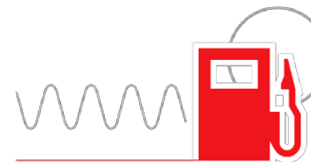
Step 4

Pricing managers set strategies against current KPIs for each station and product, such as volume and margin. Cost prices are also read.



Step 5

AI determines the right price and time for each location and product, and automatically adjusting throughout the day.



Step 6

All transactions are constantly delivered into the AI in order to secure continuous learning and predictions.



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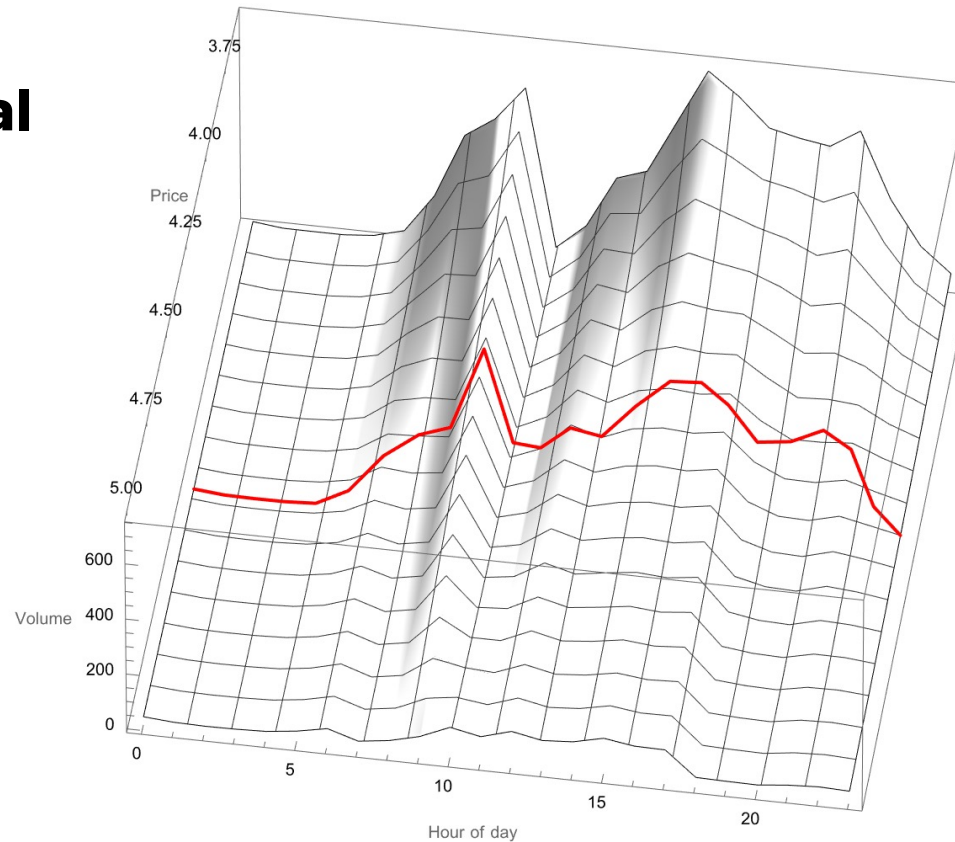
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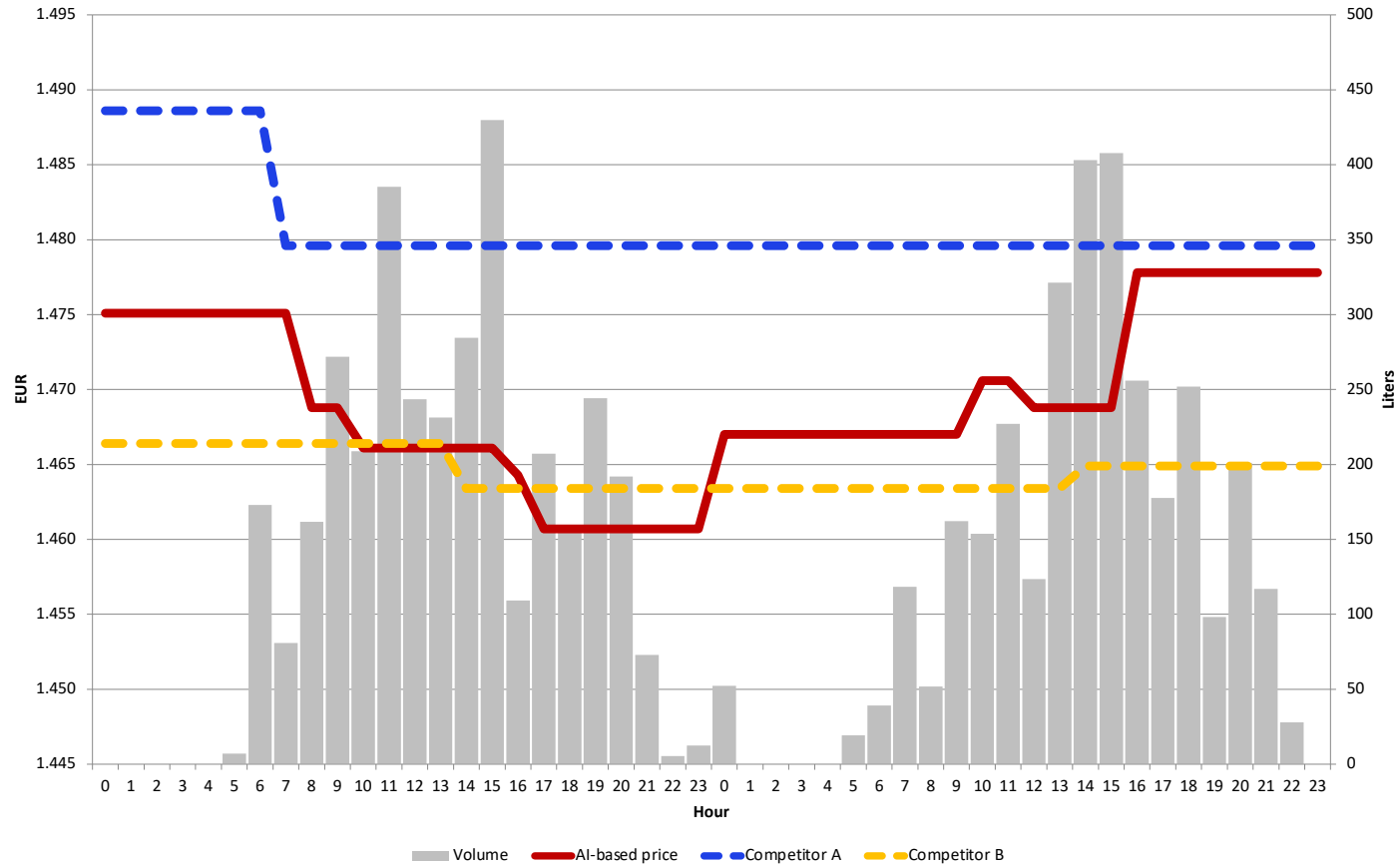
Automatically calculate the optimal price based on customer-centricity

Based on the local supply-and-demand predictions of the AI model update with the latest data, an optimal price is calculated to achieve the given objectives in a reasonable manner under the given constraints, allowing the AI strategy to automatically set the price at any time considering the customers expected price sensitivity.

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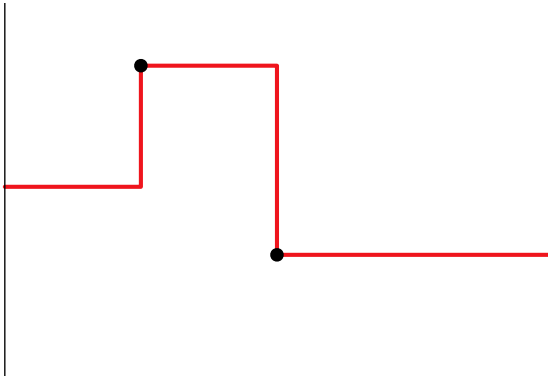
Example of predictive AI pricing



+4 CpG
Equal Market Share

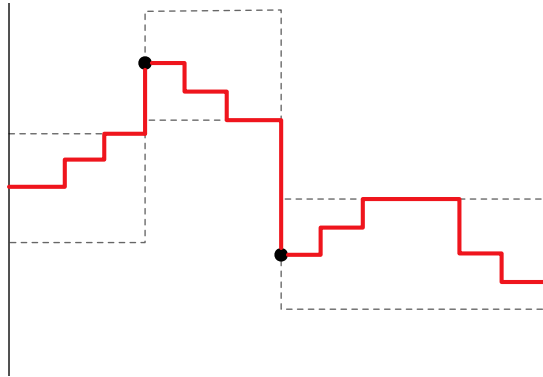
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The Journey Towards AI Pricing



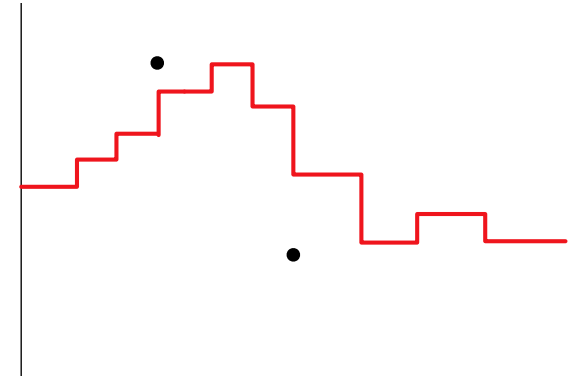
Rule-Based Pricing

Calculates your fuel price by means of a number of fixed rules, campaigns, manual pricing, limits and approvals. Used as an entry strategy to mitigate customers.



Restricted-AI Pricing

Instructs PriceCast Fuel to make an hourly calculation of the optimal price within the preset bandwidths. Within these bandwidths, the optimal price is calculated and changed up to 24 times per day.



Advanced-AI Pricing

With no bandwidth, PriceCast Fuel finds the absolute optimal price. If an adjustment is needed, you can easily adjust the system to shift its focus from volume to margin and vice versa.

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Case Study (Austria, 2014)

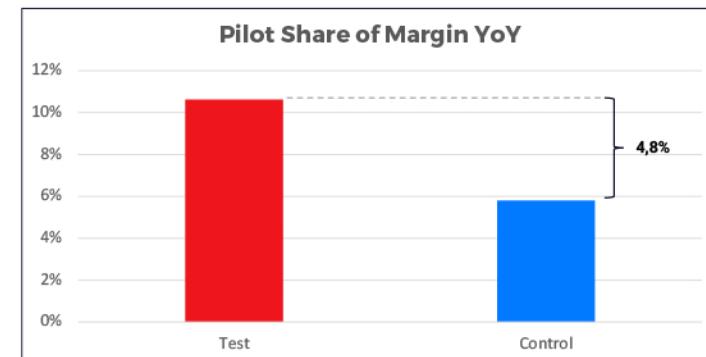
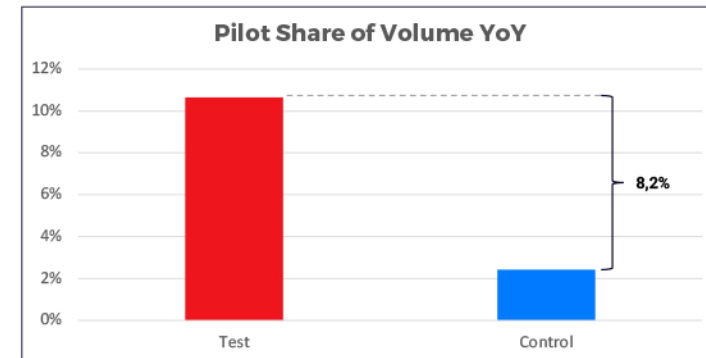
A new pricing system should (**imperative**):

- **be autonomous and do fully automated pricing**
- find the optimal daily price adjustment per product and station
- not make strategies obvious to customers and competitors
- **not provoke a price war**
- help improve the Gross Margin
- **help improve Market Share (Volume)**
- **come with efficient support**
- run rock solid, without interruptions
- come with a clearly defined Service Level Agreement (SLA)
- have a high level of security by means of User Roles

Objectives:

- Increase Market Share by 4% volume
- Increase Gross Margin by 5%
- If an increase in Market Share and Gross Margin is not possible at the same time, then increase in Market Share is more desired, as long as Gross Margin is maintained.

Pilot ran for 14 weeks for 20 sites (in an A/B testing setup)



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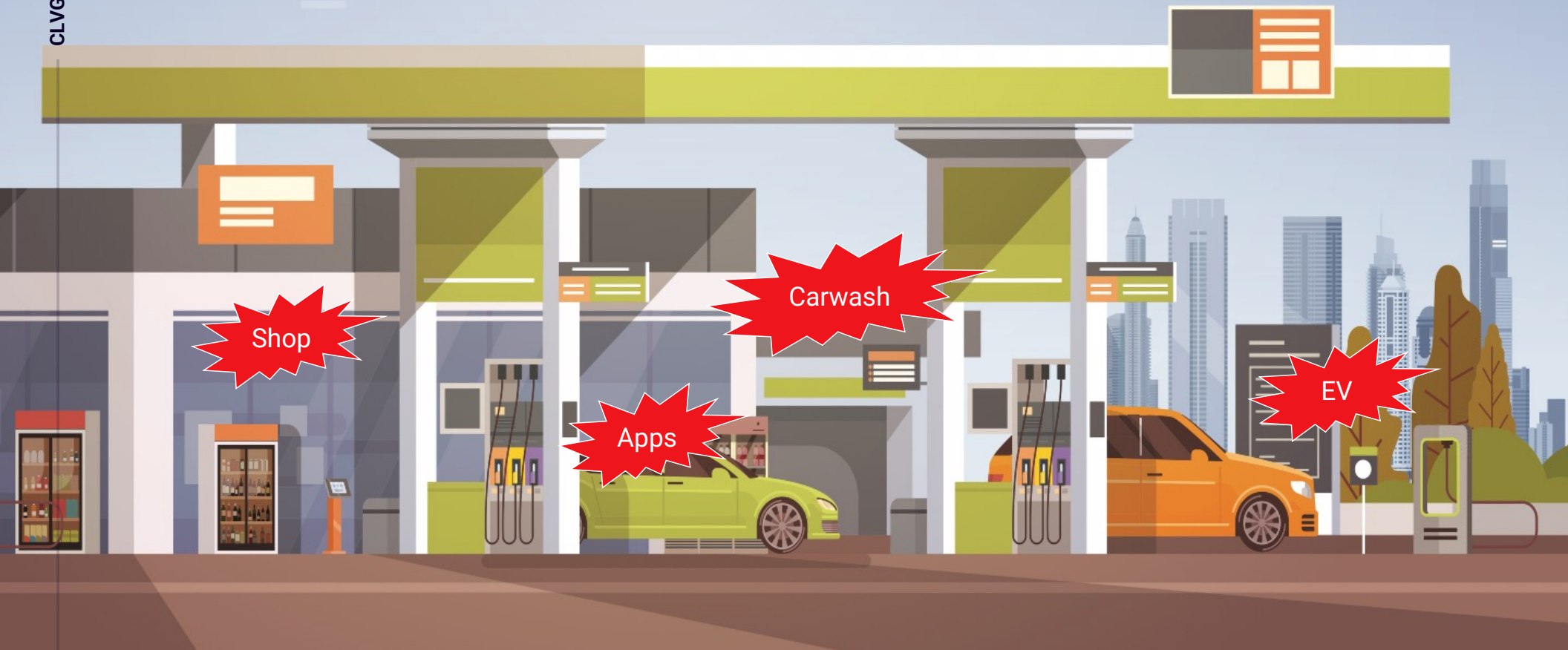
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Beyond Fuels

#what_is_the_intention_of_your_customer



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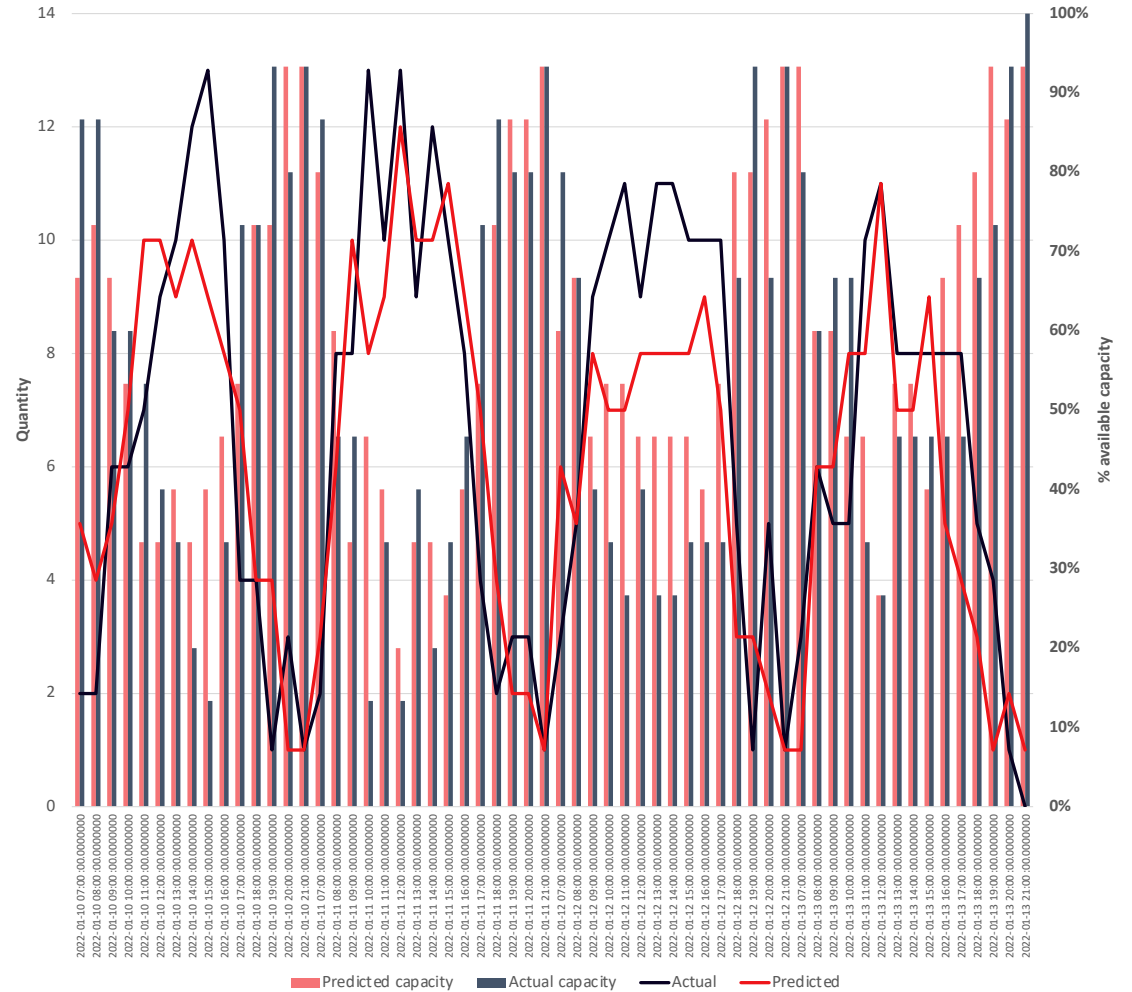
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CLVG October 26th

Carwash Forecasting & Pricing



Carwashes: Actual vs. Predicted (quantity and % available capacity)



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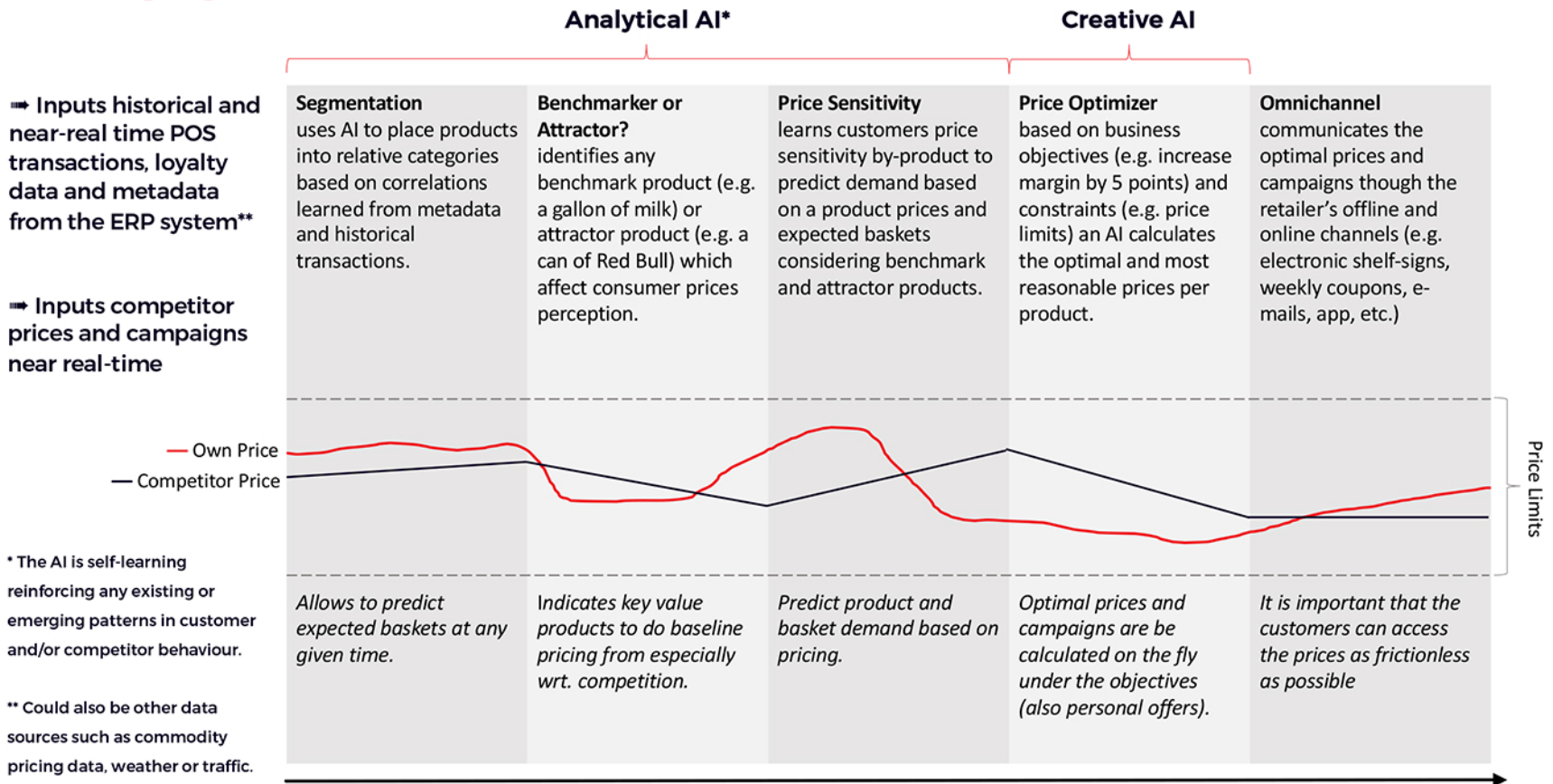
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C-Store Pricing

Leveraging Customer Behavior



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Personal Pricing

True Hyper-Personalization

⇒ Inputs historical and near-real time POS transactions, tokenized payments, loyalty data and metadata from the ERP system**

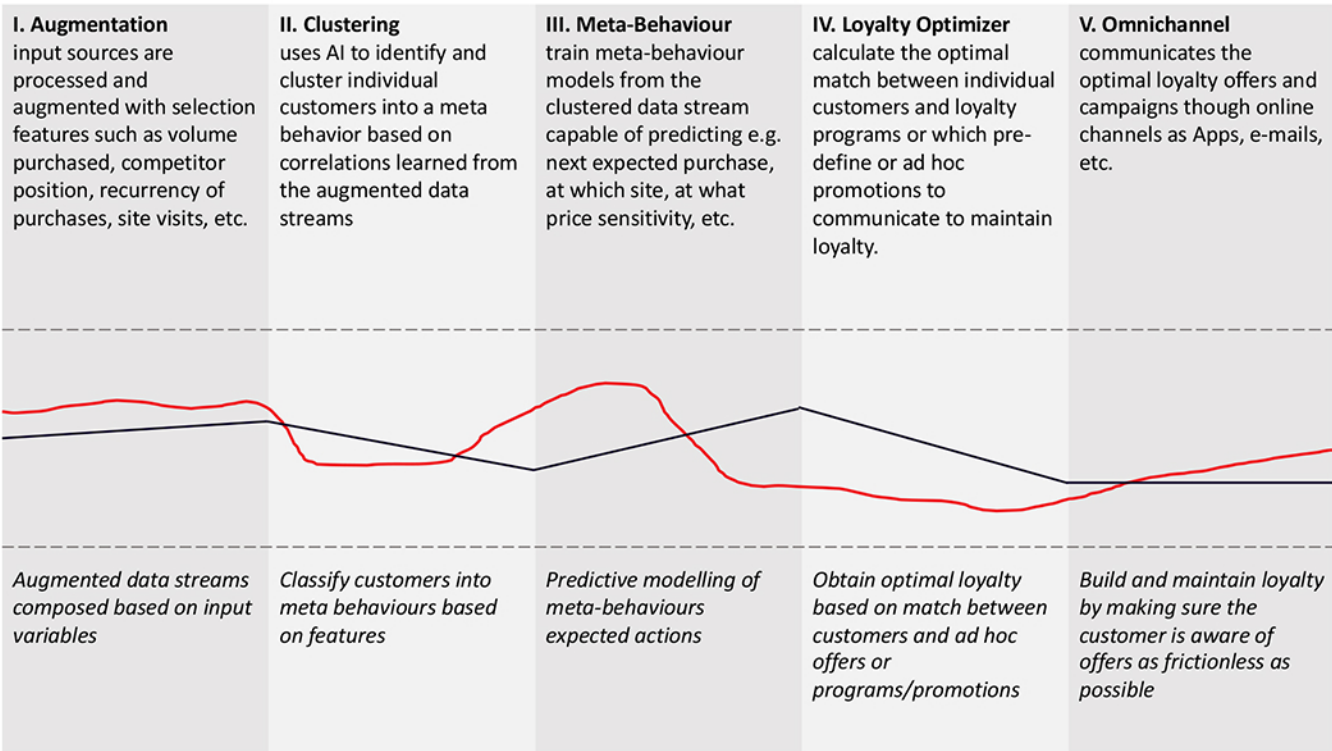
⇒ Inputs competitor prices and campaigns near real-time

* The AI is self-learning reinforcing any existing or emerging patterns in customer and/or competitor behaviour.

** Could also be other data sources such as weather, traffic, etc.

Analytical AI*

Creative AI



Price Limits

Time

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To Stay Open As the New Normal...

Accept volatility is here to stay – in one form or another

You cannot change a VUCA world – face it and adapt

Make you data actionable – the real power of AI

Beyond Fuels – key is understanding customers intention



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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/vision-reports



A part of Vision Group Network

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In Focus: A CTVG Conversation with POS Solution Providers

CTVG Special Edition Vision Report | November 2023

Key topics covered: POS systems challenges and opportunities including decoupling, major oil companies, foodservice, the unique needs of independent operators and general integration challenges



To the point: The Evolving State of POS in Convenience Retail

CTVG Convenience Technology Report | September 2023

Key topics covered: EV Infrastructure and Strategy Updates and POS Systems Challenges and Opportunities.



Unraveling the Road to EV Charging Infrastructure

CTVG Convenience Technology Vision Report | July 2023

Key topics covered: explosive EV growth; the role of utility companies; government funding programs; operators moving forward



AI: Dawning of a New Era in Retail Analytics

CLVG Convenience Retailing Vision Report | June 2023

Key topics covered: 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



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



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

CLVG Convenience Retailing Vision Report | 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



Currents of Change

CLVG Convenience Retailing Vision Report | 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