CTVG
CONVENIENCE TECHNOLOGY
VISION GROUP

Generative AI and Retailing: REAL RESULTS AND REAL CHALLENGES

INCLUDES POS UPDATE

GUEST SPEAKER
Greg Buzek
President, IHL Group

VISION REPORT
JANUARY 2024

CTVG
MEMBERS
2024

FACILITATOR
Ed Collupy
Collupy System Solutions LLC

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

Convenience Technology 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 **CTVG Vision Report** is comprised of three parts:

CTVG Views provides a summary of the conversation with additional resources for extra context, including the "CTVG Lightning Round Update" with fresh insights on previous meeting discussions and "Valuable Resources" for more in-depth education.

In the Room With CTVG provides you with the meeting transcript, tagged for easy reference, so that you can be "in the room" with us, rather than only having access to selected quotes and paraphrasing.

Greg Buzek's full **presentation** "Retail Radical AI Transformation" is included and linked throughout the transcript for easy navigation.

We highly recommend that you read all three components.

The main topics in this CTVG Vision Report:

AI is all about the data

How retailers are currently using AI

What's next for AI in convenience retail?

Lightning round review of POS in convenience retail discussion

CTVG
CONVENIENCE TECHNOLOGY
VISION GROUP

CTVG thanks our
Ally Supporters

For retailers looking to connect with their consumers in an always-on world, Rovertown's app platform provides the flexibility needed to deliver personalized, meaningful experiences. Unlike our competitors, Rovertown integrates with any technology vendor and goes the extra step to ensure our clients' success through best-in-class implementation and support.

Rovertown was originally founded in 2009 with the goal of helping cost-conscious college students across the United States to access the best discounts for local food and services. By eliminating the need to swipe an ID for discounts, the experience was brought to students' mobile devices in real-time with custom, localized deals.

Rovertown's business has since grown and evolved, but the humble beginnings taught the team the power of personalized experiences delivered through high-quality, branded apps. The Rovertown app platform now powers the mobile experiences of many leading regional convenience retailers.

CONTACT:
Jeffry Harrison
Co-Founder & President
jeffry@rovertown.com
rovertown.com

W. Capra is a global professional services company focused on helping retailers and solution providers enable secure commerce everywhere. Leveraging our breadth of industry expertise and innovative thought leadership, we help our clients elevate the consumer experience, optimize operations, minimize risk and drive profitability. Our team of experts supports some of the world's most well-known consumer brands with their business and technology initiatives across the full project cycle, through strategy, technology, operations, and transformation services. No matter the size of the endeavor, our goal is to drive positive change and progress for our clients by providing unbiased, actionable insights and the hands-on experience required for execution.

W. Capra's original and largest service vertical is the convenience and energy retailing industry. We have successfully led and continue to lead a range of U.S. and international projects for c-store operators, fuel distributors, and fuel brands of all sizes.

W. Capra has held or currently holds board or steering committee positions, working committee leads, or general industry participation in industry leading organizations such as NACS, Conexxus, National Petroleum Energy Association (NPECA), the Transportation Energy Institute, and the Merchant Advisory Group (MAG).

CONTACT:
Patrick Raycroft
Partner
ptraycroft@wcapra.com
wcapra.com

Impact 21 is a consulting firm that enables specialty retail, convenience, and energy clients to deliver seamless customer experiences. Our team of thought leaders and industry experts empower organizations to drive results through the alignment of people, systems, processes, and data.

With a focus on customer-first business transformation, we help clients create competitive differentiation through technologies that optimize the customer experience across all channels. Impact 21's solution-neutral approach ensures that our assessments and recommendations are of the highest integrity. Our unique combination of strategic vision, financial acumen and operational expertise sets us apart.

Founded by former energy and retail executives, we've walked in your shoes, served in your roles, and bring people to the table that have a shared passion for this business. Our team serves on boards and committees for organizations throughout our industries including NACS, Conexxus, and Transportation Energy Institute. Our expertise and thought leadership are often sought out by industry leading media and event organizations including EmsembleIQ, NACS, and Winsight.

Clients rely on Impact 21's distinct blend of industry and functional expertise and best-in-class project management and analytics solutions to not only define their path forward but to support implementation and sustainability.

CONTACT:

Scott Burchfield
Chief Operating Officer
sburchfield@impact21.com
impact21.com

CTVG thanks our **Ally Supporters**

ThinkSys offers a comprehensive range of IT services designed to meet your unique needs. Whether you need top-notch software development, robust cloud solutions, or expert infrastructure migration, we have the expertise and experience to deliver exceptional results. Our team works closely with you to understand your specific requirements and provide tailored solutions that propel your business forward.

Founded in 2012, this award-winning company is fully CMMI Level-3 and ISO 27001 certified for advanced organizational systems and processes. ThinkSys is known for deep expertise in its Quality Assurance Maturity Model and DevSecOps, offering unique development and technology management services such as CloudForestX and FractionalQA℠.

CONTACT:

Nick Franco
SVP Sales and Customer Success
franco.nick@thinksys.com
thinksys.com

CTVG VIEWS

A CONVENIENCE TECHNOLOGY VISION GROUP DISCUSSION

This meeting of the Convenience Technology Vision Group (CTVG) focused on the application of artificial intelligence (AI) in retailing with presenter Greg Buzek, founder and president of IHL Group, sharing how AI is being applied for growth and profitability. Following Greg's presentation, CTVG members had the opportunity to share their perceptions, concerns and questions. Several members are already using some form of generative AI.

CONVENIENCE TECHNOLOGY VISION GROUP

Retail Radical AI Transformation

Retail leaders are using data, systems and automation in innovative ways to evolve and strengthen their business strategies. They are also exploring flexible, cost-effective solutions that can be swiftly implemented to unlock additional technical capabilities.

Facilitated by **Ed Collupy,** the Dec 6, 2023 CTVG meeting explored the rapidly evolving retail landscape. Collupy emphasized the increasing presence of AI in the convenience industry, citing a prevailing sentiment that companies not adopting AI will risk becoming obsolete.

Other AI Vision Group Reports

CLVG AI PREDICTIVE FUEL AND DYNAMIC IN-STORE PRICING: Optimizing Data and Human Input discusses the potential to use AI to price fuel and other products.
Download the full report here.

CLVG AI: Dawning of a New Era in Retail Analytics focuses on understanding the full potential of generative AI.
Download the full report here.

CTVG Views | In The Room with CTVG | Retail Radical AI Transformation

DEFINING TERMS

Artificial Intelligence (AI)

A computer performs tasks that are usually associated with human intellectual processes, including reasoning.

Machine Learning (ML)

A subset of artificial intelligence that allows machines to learn and improve on their own. ML uses neural networks and deep learning to analyze substantial amounts of data without being explicitly programmed.

Generative AI (GenAI)

A type of artificial intelligence that can create new content. It learns patterns from training data and then generates new outputs with the same statistical properties.

Artificial General Intelligence (AGI)

A hypothetical form of artificial intelligence that allows machines to learn, think, and perform tasks like humans.

A thought leader in retail AI technology, Buzek was invited to present to the group a comprehensive overview of the transformative power of AI and its potential to drive growth, increase efficiency, and reshape the industry.

Buzek's presentation "Retail Radical AI Transformation" thoroughly examined the specific areas where AI is making a notable impact in retail, including personalized customer experiences, inventory visibility, and corporate back-office functions. Buzek's data on retail technology priorities encompassed retailers' investments in personalization, CRM process upgrades, and store associate empowerment. Additionally, Buzek emphasized the competitive advantages of having clean data that can unleash the transformative power of generative AI. He also shared insights into the varying stages of AI adoption, distinguishing between traditional AI and machine learning, generative AI, and the elusive artificial general intelligence.

Buzek's expertise and the findings from IHL's research, backed by data and real-world examples, offered valuable insights into the challenges and opportunities that retailers face in integrating AI into their operations. He urged members to not only embrace, but also understand and leverage, these technologies for sustainable growth and innovation.

It's all About the Data

There are vast potential benefits, and related challenges, to integrating AI into operations. As Buzek mentioned in his presentation, uploading clean data is vital. Vision Group Network Co-Founder, **Roy Strasburger**, asked if "the biggest obstacle for most retailers will be in trying to clean up their data to make it AI friendly or Generative AI friendly?" **Robert Hampton**, vice president of technology services and innovation for Jackson's Food Stores, had a similar question about where to start.

Buzek provided a strategic approach, suggesting a Venn Diagram-like synergy between the cleanest data and the most significant business benefit. While acknowledging the uniqueness of this intersection for each company, he revealed that AI-led retail pricing was surprisingly problematic, contrasting with the success seen with AI-based order management.

> “It’s not going to be in that sizzle or customer facing stuff that I would focus my efforts. I would do it on all the plumbing, all that offensive line work, so to speak, the blocking and tackling stuff that’s behind the scenes, that’s where the biggest benefits are, and you have the greatest opportunity for growing.
>
> ***Greg Buzek**, Founder and President, IHL Group*

Buzek also noted that initiating AI without clean data can lead to substantial problems. The key would be to identify someone within the organization who is versed in AI’s complex architecture and, while managing the competing demands from various departments, is responsible for ensuring clean data.

The transformative potential of AI in streamlining internal processes rather than customer-facing applications, focusing on leveraging AI for training and knowledge management, particularly in onboarding and employee retention processes was also discussed. One recommendation is to create a system where new hires could access “how-to” documents through an AI-powered assistant, a move that seemed like a low-risk, high-reward initiative.

Who is Doing What?

Vision Group Network Co-Founder **Myra Kressner** referenced a range of AI opportunities identified by the Convenience Leaders Vision Group (CLVG), one of VGN’s other forums, and she asked CTVG members what opportunities they were seeing. Participants revealed a spectrum of AI adoption within the industry, from companies still exploring possibilities to those already implementing AI-driven solutions for enhanced customer experiences and operational efficiency.

For example, Hampton spoke about Jacksons Food Stores’ application of AI in fuel pricing, computer vision for inventory monitoring, and audio AI for analyzing voice transcripts. **Mike Templeton**, Casey’s director of digital experience, shared that they took a cautious approach, early in the process by crafting policies that emphasized the need for written exceptions and approval from senior leadership and the cybersecurity team before AI implementation.

Haffner’s/Energy North Chief Technology Officer **Steve Evans** expressed a level of skepticism based on past disappointments with AI promises. He highlighted the ongoing reliance on machine learning for pattern recognition and the anticipated integration of the next generation of machine learning into different solutions. Rance Wells, Toot’n Totum’s vice president of IT, commented that they’re evaluating prospects and learning how to make their data actionable.

ThinkSys SVP Sales and Customer Success **Nick Franco** said one of the more frequent requests he gets from retail clients is to “leverage a ChatGPT-type AI bot and using their private APIs, train on their proprietary data.” **Jeffry Harrison**, co-founder and president of Rovertown, voiced that he’s seeing AI used most frequently by marketers and category managers to streamline messaging and customer communications.

Buzek encouraged larger organizations to explore AI within their existing business applications, while suggesting that smaller companies look toward ERP (Enterprise Resource Planning) providers and third-party solutions for AI integration. CTVG members generally agreed that AI adoption would likely be achieved mostly through pre-packaged solutions provided by ERP and solution partners.

What’s Next for AI?

Deciding how to embrace AI technologies is complicated by the unique challenges faced by the convenience industry, including restrictions from fuel brands and dominant back-office system providers. Addressing Impact 21 Chief Operating Officer **Scott Burchfield’s** question about the convenience industry catching up with other channels in AI adoption, Buzek advised studying solutions from similar industries, and he highlighted the fast food sector’s successful pivot to drive thru and app-based services as sources of inspiration.

Patrick Raycroft, partner at W Capra, shifted the conversation toward AI governance frameworks. Buzek acknowledged that the retail sector is still trying to understand the AI landscape with little focus on how generative AI tools will evolve. He suggested that governance is crucial when using generative AI for marketing purposes, which poses ethical questions about the boundaries of customization. Both offered cautionary tales of things going wrong when not allowing human oversight of the process, with examples such as fuel pricing verging on price gauging in emergency situations or over-ordering or under-ordering items such as toilet paper at the beginning of the pandemic.

Buzek recommends starting with the practical application of generative AI tools like ChatGPT.

> “[AI] is definitely a new tool in our toolkit that we’re using for all kinds of stuff around the organization. But as far as taking our data and making it actionable, we’re still looking to figure out how we’re going to do that.
>
> ***Rance Wells***, *Vice President of IT, Toot’n Totum*

Retailers can introduce specific steps, such as giving the AI a defined personality, providing detailed context, and specifying the desired answer format. There are other daily use AI opportunities from drafting reports to generating brainstorming ideas. **Janeth Falcon**, vice president of IT for Circle K North America, pointed to determining and prioritizing use cases as ways to start getting involved.

Buzek further emphasized the benefits of generative AI in automating repetitive tasks, specifically addressing issues with disparate point-of-sale data across systems.

Final Reflections

With a focus on leveraging data and automation, Buzek and CTVG members addressed the industry-wide shift toward AI adoption, emphasizing the potentially transformative impact on growth and efficiency.

The challenges and benefits of AI adoption include the crucial need for clean data and calls for collaboration between retailers and their learning from successful strategies. Because of the advancing role of AI in shaping the future of retail, it is critical that businesses understand, embrace, and strategically leverage this technology for their sustained innovation and growth.

Sample AI tools

Greg Buzek shared several links for his favorite AI tools during the meeting with the group:

- ***TextBlaze***
- ***HarpaAI***
- ***Guidde***
- ***MyMind*** (paid)
- ***HeyGen*** (paid)

Here is a ***full list of additional tools and links*** to some suggested helpful videos.

Review

LIGHTNING ROUND

CTVG's September 2023 meeting resulted in a robust discussion on the challenges and limitations of point-of-sale (POS) systems in the convenience channel. This conversation led to a special Breakout Session in October which brought POS solution providers and CTVG members into the same "room" to talk these issues through, providing real insights into the challenges and needs of the industry.

During a fast-paced lightning round in the Dec 6th meeting, CTVG members reflected on any changes in their perspectives or discussions with internal partners since the Breakout Session. The significance of supplier partnerships, evolving tech solutions, potential decoupling through payment services, APIs, and the crucial role of food service in the industry were top of mind.

Several retailers are already exploring the next stage of POS development. **Mike Templeton** conveyed that Casey's is on a journey where the evolution of point-of-sale solutions will be an ongoing focus. **Donnie Rhoads**, The Convenience Group's director of business development and **Jason Collins**, Englefield Oil's director of IT, both emphasized the importance of forward-thinking planning to push vendors and fuel brands into the future of point-of-sale systems.

Some retailers are maintaining a status quo approach. **Steve Evans** emphasized the necessity of staying the course amid ongoing innovation and experimentation so that they are ready to embrace new technologies that have a proven track record in the market. **Janeth Falcon** discussed a dual approach - addressing the need to stabilize operational technologies and complete compliance projects while exploring what a modernized retail technology stack should look like.

Some retailers are placing the onus on providers to move the needle. **Rance Wells** discussed the challenges in holding solution providers accountable for promised changes, pointing out that the optimal time to push suppliers for innovation is when current hardware reaches the end of its life cycle and new hardware is introduced. Robinson Oil President **Erin Graziosi** expressed a desire for solutions that actually deliver on supplier's promises and integrate seamlessly with existing systems.

Ally Supporter members **Patrick Raycroft** and **Jeffry Harrison** shared positive outlooks about the future of POS development, but voiced caution about the investments required from both retailers and suppliers to push the envelope and emphasized the need for aligned investment cycles between the two parties and questioned who will bear the financial burden. Ally Supporters **Nick Franco** and **Scott Burchfield** expressed their commitment to understanding and addressing the need for a strategic approach to optimize existing solutions.

Collectively, CTVG members concurred on the industry's need for change, ongoing experimentation, and called again for tangible actions and investments to drive innovation in POS solutions.

Download the full reports:

IN FOCUS: A CTVG Conversation with POS Solution Providers

CTVG TO THE POINT: The Evolving State of POS in Convenience Retail

NOTABLE AND QUOTABLE

"Then, there's this elusive artificial general intelligence: generative AI returns answers like a human, but, artificial general intelligence actually thinks like a human. In some cases, there's another level that thinks it is human - that is potentially possible as well. That's what scares everybody. ***Greg Buzek,*** *Founder and President of IHL Group*

"We believe there are tremendous advantages for small retailers to take advantage of AI. Unfortunately, the ones that don't take advantage of AI are going to be left behind. It's our belief that this is the largest transformation that we've seen since the barcode and certainly since the supercenter. When Walmart in 1990 had four supercenters, and then they had two thousand by the end of the decade, over two million small retailers disappeared. We believe that same thing is in play right now when it comes to AI. Really, if you're a smaller retailer, it really behooves you that you've got to spend the time and get a partner that can help you get in line with the AI in those things right there. There are real opportunities here. There are going to be a lot of people that don't take advantage of that and those are going to be the ones that are in trouble. ***Greg Buzek,*** *Founder and President of IHL Group*

"We're never going to build our own natural language module and do that sort of stuff. It's going to come packaged in my ERP (Enterprise Resource Planning) system...where I've got pieces or sections of my business data that are clean, because I've got four ERP systems and six POS systems. I'm never going to spin all that stuff together. And because of our industry, it'll probably never change. So there's always going to be that headwind. ***Steve Evans,*** *Chief Technology Officer, Haffner's/Energy North*

"Companies that don't use AI will soon be obsolete. ***Ed Collupy,*** *CTVG Advisor and Facilitator*

"I think you're under caution to us about the CEO who sees it and say, 'It's a great idea, let's go run with it.' But if you go and run with it with the basis of our data as it sits today in a lot of organizations, it'll have detrimental effects within the industry. ***Janeth Falcon,*** *Vice President North America IT, Circle K*

"I think this entire industry is very early in this process. For a company like ours with 120 stores, an IT staff of five, it's not something we've thought about, hasn't been on the radar. We would probably, generally in our environment, look at the ERP providers, all the third parties that we're leaning on, to use that with their systems and bring it to us. And that would be our first jump into AI. ***Jason Collins,*** *Director of IT, Englefield Oil*

"And I think you've already cautioned us about the CEO who sees AI and says, "It's a great idea, let's go run with it." But if you go and run with it with the basis of our data as it sits today in a lot of organizations, it'll have detrimental effects within the industry. ***Scott Burchfield,*** *Chief Operating Officer, Impact 21*

VALUABLE RESOURCES

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

Ed Collupy, Facilitator

I was scratching my head again after hearing our speaker, Greg Buzek, mention that AI pricing systems had the least successful implementations in retail. To gain more perspective I listened to **Deborah Weinswig's** podcast ***Cracking the Code of Retail Pricing with AI and Deep Learning.*** Her guest, Alex Galkin, founder and CEO at Competera, commented that it is deep learning/machine learning with advanced algorithms and a bundle of different ones, that need to be the foundation of pricing and other merchandising systems. He further comments that innovation with pricing optimization systems is limited by procurement processes and people. At the end of the podcast, you will learn that Alex's company is worth following, having been awarded by a fuel company as their innovator of the year.

Eva Strasburger, Vision Group Network Founder

Greg Buzek makes the point that companies that embrace Generative AI can gain a competitive edge while those who hesitate risk falling behind. This is partly because Gen AI is revolutionizing consumer marketing by enabling hyper-personalization at scale. Marketers can offer the right products to the right people at the right time through personalized marketing campaigns with less time and effort than previously required for content creation and targeting. They can also use Gen AI to analyze text, images, and video data for innovation opportunities. Learn how Gen AI can boost consumer marketing in this McKinsey & Company article ***How Generative AI Can Boost Consumer Marketing***.

Myra Kressner, Vision Group Network Founder

Data security, policies and governance have been flagged at every Vision Group Network AI discussion as essential and critical priorities (TVG; CLVG and CTVG). I encourage everyone to access **National Retail Federation's Principles for the Use of Artificial Intelligence in the Retail Sector** report. It was developed through **NRF's Center for Digital Risk & Innovation**. The principles encourage appropriate and effective governance of AI, promote consumer trust, and facilitate ongoing innovation and beneficial use of AI technologies.

Roy Strasburger, Vision Group Network Founder

Using AI effectively is dependent on having good data for it to process. Greg Buzek mentioned several times that the biggest challenge for most companies will be "cleaning" their data so that it can be used. Having to clean data is an intriguing but rather amorphous idea. This article ***How to Make Britain's Health Service AI-Ready*** from *The Economist* does a good job of describing the obstacles that Britain's National Health Service, one of the most robust collections of medical data on the planet, faces in making its information accessible to AI.

CTVG
CONVENIENCE TECHNOLOGY
VISION GROUP

MEMBERS

Scott Burchfield
Chief Operating Officer, Impact 21

Jason Collins
Director of IT, Englefield Oil Company

Ed Collupy
CTVG Advisor/Facilitator and Principal, Collupy System Solutions LLC

Steve Evans
Chief Technology Officer, Haffner's/ Energy North Group

Janeth Falcon
Vice President North America IT, Circle K

Nick Franco
Senior Vice President Sales and Customer Success, ThinkSYS

Erin Graziosi
President, Robinson Oil

Robert Hampton
VP Technology Services and Innovation, Jacksons Food Stores

Jeffry Harrison
Co-Founder & President, Rovertown

Raymond Huff
President, HJB Convenience Corp

Myra Kressner*
President, Kressner Strategy Group

Steve Morris
Owner/President, Retail Management Inc

Nick Peters
Vice President, IT, Campbell Oil Company

Skip Potter
Director of Information Technology, R.L. Vallee, Inc.

Patrick Raycroft
Partner, W. Capra Consulting

Donnie Rhoads
Director of Business Development, The Convenience Group, LLC

Scott Smith
Senior Director of IT, Parker's

Eva Strasburger*
President, StrasGlobal and CEO, Compliance Safe

Roy Strasburger*
CEO, StrasGlobal and President, Compliance Safe

Cheryl Szczesniak
Executive Vice President of Human Resources, The Spinx Company

Mike Templeton
Director of Digital Experience, Casey's

Rance Wells
Vice President of IT, Toot'n Totum

**Founding Member*

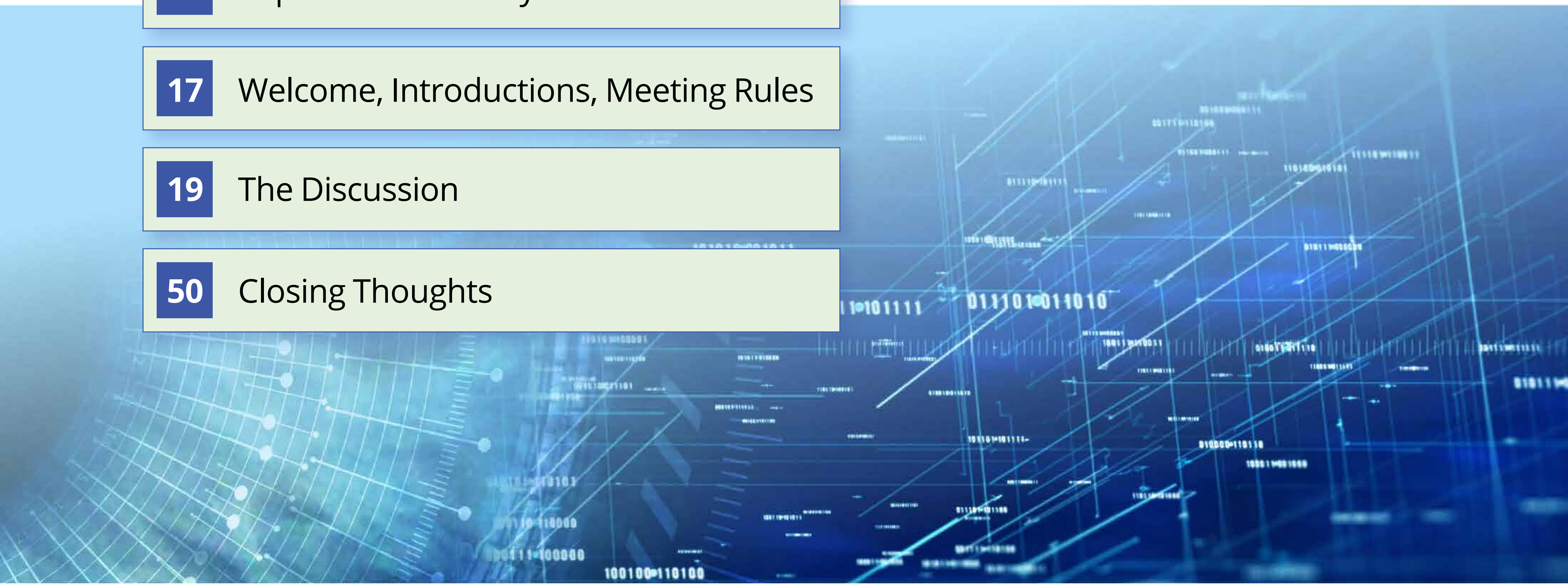
IN THE ROOM WITH CTVG:

Generative AI and Retailing: Real Results and Real Challenges

Convenience Technology Vision Group (CTVG) invites you to join us **In The Room** to experience our meeting on December 6, 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.

CONVENIENCE TECHNOLOGY VISION GROUP

Agenda



Topic Reference Key

CTVG'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.

- Foodservice
- Fuels
  - Fuel Pricing
- Leadership
  - Strategy
  - ROI
- Marketing
  - Personalized Marketing
  - Marketing
  - Data
  - Customer Experience
  - Merchandising
  - Pricing
- Operations
  - Inventory Management
- Technology
  - AI
  - Legacy Technology
  - Computer Vision
  - POS Solutions
  - Payment Systems
  - Audio AI
  - Technology
  - Vendor Support
- Workforce

CONVENIENCE TECHNOLOGY
VISION GROUP

Welcome, Introductions, Meeting Rules

Ed Collupy

Good afternoon everybody and I know for some it might be good morning as well. Ed Collupy here, and welcome to our fourth quarterly Convenience Technology Vision Group meeting of the year – that number doesn't include the special breakout session we had just a few weeks back with the POS solution providers.

We believe we've put together a topic and a speaker for today's meeting which should help us wrap up 2023 and really look forward to 2024. And as always, this afternoon, we'll provide each of you with the time and opportunity to share your insights.

This screenshot [antitrust statement is shown on the screen] reminds all of us of the antitrust statement and publication acknowledgement that every one of us as members has signed, and our guest as well. We are recording this discussion, and here are just a few reminders. Please use your camera. We understand some of you won't be using them – thank you for letting us know that. And keep it on as much as possible. And please keep your audio on mute unless you are speaking so we are not disturbed by activity around you. Also, to ensure there's 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 what you have said is off the record.

As we've said, as people have joined, it's a busy time of the year and some of our members send along their regrets about having to miss today's discussion.

Before I introduce today's guest, Myra, will you take a moment to recognize CTVG's contribution to global events that are now taking place here in the U.S.?

Myra Kressner

Sure, thanks. I'll start, and then Roy will also cover this as well. But yes, the Vision Group Network and our CTVG members have been getting a lot of recognition in the industry in the U.S., as well as globally. We've been asked to share our insights at a number of industry events, particularly some global events that have had their inaugural U.S. programs recently.

I had the real pleasure of hosting a panel with Robert Hampton and Nick Peters at the ReFuel Forum just a few weeks ago which was very well-received. There were folks from just about every continent there as well as the U.S. Our panel spoke about a number of the issues that our CTVG members have discussed. Robert, do you want to take a moment and give us your perspective?

Robert Hampton Sure. Thank you, Myra. I got a number of comments and a lot of great feedback after the session when you moderated Nick and me in an open discussion. And yes, it was people from, like as you said, all continents. So it was a great first international conference for ReFuel's first time in the U.S. I thought it went extremely well.

Myra Kressner Yes. Well, thanks. And Roy, Eva and I had the pleasure of being in San Diego. Roy, why don't you talk about that a bit.

Roy Strasburger I will. Thank you everyone. Around the 1st of November I had the opportunity to present two panels at the EV World Congress USA, which was also, I believe, their first U.S. based event as well. They're based out of the U.K. Donnie Rhoads shared the stage with me and didn't upstage me too much. It was nice to get together. Donnie, do you want to make a couple of comments about the Congress and what you thought about it?

Donnie Rhoads Yes, it was great. Thanks, Roy. I thought for being the first one it went great, and there was certainly a diverse group of stakeholders there, which was valuable for us not only to attend and learn from municipalities and utilities, but to present our perspective as retailers. So I think it was valuable for everybody.

Roy Strasburger As Donnie said, there was a very wide-ranging group of people involved. They were talking about EVs, including electric boats and electric airplanes - the whole gamut, as well as energy supply companies and grid providers. It was very good. Donnie, thank you for participating. I think we had a really good reception and some great feedback from it.

Myra Kressner And I'll just say that we've also been reported on globally, including in various finance and business media. Just recently, we had reports in Yahoo Finance and MarketWatch talking about what the Vision Group Network is doing and the success of our mission. So we are really, really pleased and very grateful to you all for helping us accomplish our mission, and it is being noticed around the world. I'll turn it back over to Ed.

Ed Collupy Thanks Myra and Roy. I'd like to introduce now our guest for today's discussion. He's a longtime business friend of mine, Greg Buzek. He's the founder and president of IHL Group. I first met Greg during an NRF (National Retail Federation) meeting where our mutual interest in retail store systems turned into another common interest, helping those in need. I'll tell you more about that later on.

Greg's company, IHL, tracks who uses what technologies in retail, and then advises retailers and technology companies on their next moves. They are viewed throughout the vast retail industry as content experts in market sizing and analysis of technologies of all types across the retail platform. Greg has a rich, retail-focused resume as noted by RIS (Retail Info Systems) News' twenty-five most influential people in retail, and also by the National Retail Federation as one of the people shaping retail's future, which we'll get to today. He has a master's degree in business administration from The Ohio State University, and many years of experience in retail business planning, product development and consulting with Fortune 500 companies such as Sensormatic and NCR. So welcome, Greg.

Greg Buzek

And it's great to be with you all. Thanks for having me.

Ed Collupy

Super. So as a reminder to our members as we get underway, please use the raise hand icon as often as possible for conversation flow unless members are clearly in a back-and-forth discussion. And if you need to leave the meeting for any reason, you can either write a short note in the chat or just leave and return when you're able to.

The Discussion

Ed Collupy

I'm going to get started with some thoughts. Since our breakout session on point-of-sale back in October and the publication of the "In Focus: A CTVG Conversation with POS Solution Providers Vision Report," I've had several retailers, solution providers and consultants comment on the great discussion and insights each of you shared with the industry. So thanks for that.

Foodservice

And since that meeting, I've been in numerous other discussions about the value of supplier partnerships, evolving tech solutions, including the possibility of decoupling through payment services APIs (Application Programming Interface), and the **importance of food service to the industry as reported recently in a study that said, "Most consumers are extremely satisfied with c-store food, but how do we keep that going?"** And those three topics were among the five themes that came through in our discussion with the POS solution providers.

So I'm really wondering what discussions you have had since our meeting with the POS solution providers? Are you thinking about POS differently, or had any discussions with internal business partners, or the suppliers on what's next for you and your companies? I want to just do a quick lightning round like we've done at our other meetings, for each of you to share for a minute any thoughts or new learnings you took away from the meeting? Anybody want to go first? Or if not, I'll go around the room in a random order so everyone has a chance to share.

Scott Burchfield

I'll go if you don't mind. Mine will be the shortest answer because I wasn't on that call. But I have gone back and read through the Report and I know Chuck [Young] filled in and spoke for me, and spoke to our perception in industry, and that clients are all, as we've heard in this group, really trying to understand the POS issues a little more. We're at the precipice, I think, of some change - **that people are really looking to strategize, and find a new solution and/or a way to optimize the solutions that they have already in place.** What's the bridge, or how to do it? So that's my short version because I wasn't there, but I read some really good dialogue and I wish I had been on that call with the different providers.

Strategy

Ed Collupy Well thanks Scott. And Chuck filled in quite well for you, but we did miss you. Let's just go around the room. Mike, any thoughts since the meeting?

Mike Templeton Yes, happy to jump in. I would say from our side, I really appreciated the dialogue. I'd say Casey's is on the journey that we've all been talking about. We were supportive, it was great to hear how those suppliers were thinking about what this transition is going to look like, what the next evolution of point-of-sale is going to be. And certainly, as we were just in front of the investor community back in July, **we're on the early part of a three-year strategy plan where I imagine that evolving what point-of-sale means inside of our stores will be a key focus.** If not completing it all, certainly setting the foundation for what the future will begin to look like. So, it continues to be a hot topic inside our building.

Strategy

Ed Collupy Very good. Steve Evans.

Steve Evans I think our thoughts are similar to a lot of other people's. We all need a change, and we're trying to figure out what that change looks like. **And for right now for us at Hafner's, it's probably a little bit of stay the course.** Because there's so much innovation and experimentation that's going to happen over the next couple of years. I think our strategy is to prepare for what's going to happen, but be a little non-committal. Continue the experimentation. There's too many paths at this point to really settle and say this is the way.

Ed Collupy Interesting.

Steve Evans A lot of experimentation for us still.

Ed Collupy Great. Donnie?

Strategy

Donnie Rhoads Yes, I wouldn't say my perspective on anything in the industry has changed dynamically since our last discussion. That's part of the reality though, of the state of tech infrastructure progress in our industry. **I think we should all be trying to move a little faster forward together. I agree with Steve. We're staying the course, we're working closely with our POS partners.** And especially when it comes to foodservice, we're trying to up our game on cleaning up integrations and the customer experience. But we're looking forward to what 2024 has in store, and hopefully more fruitful conversations like we've been having with the focus group.

Ed Collupy Very good. Robert?

Robert Hampton I thought it was a great conversation. It was great to see how open the point-of-sale providers were. I had a conversation with one of the point-of-sale providers who elected not to be on the call, and I would say that their perception of how the meeting was going to take place was completely different than how the meeting actually took place. I've had conversations with folks ancillary to the point-of-sale industry reaching out to me, having seen the report and commenting about it. So I think the impact is fairly wide, which is great. Which is I think what we wanted. And I think it's a catalyst for change. Yes, it's moving. I think we all would say it's moving too slowly, but I think we're getting there. At least this is a good first step.

Ed Collupy Very good. Nick, I know you weren't in the meeting. I don't know whether AJ [Jain] shared any thoughts with you.

Nick Franco He did share with me his notes. His takeaway as a supplier, but more of an in-the-middle supplier helping do integrations between the point-of-sale providers and retail, is really just trying to get our arms around how we can best help. How do we help facilitate the change that's happening in the industry? One of the reasons I'm here is just to listen, and understand where can a company like us help facilitate that change?

Ed Collupy Very good. Jason, how about you?

Jason Collins We haven't really had any conversations. **But our take here is that we're going to continue pushing our vendors and the brands on moving this forward and be forward-thinking when it comes to the point-of-sales, and what they look like one year, three year or five years from now. Just really pushing them going forward.**

Strategy

Ed Collupy Very good. Patrick?

Patrick Raycroft Yes, I have a positive and a word of caution takeaway. I thought more about the meeting and had some conversations with folks after that meeting. **The positive is both the POS suppliers and the retailers here all had very similar messages about desires and where we wanted to go, et cetera.** It wasn't a stark contrast from where the POS solution providers want to go. **They understand they need to decouple, modernize their platforms, make them more modular - all of those things. The things we've collectively been talking about as a group.**

Strategy

But the word of caution, or the thing that I took away is that all that's going to take investment. I think the key to this entire equation and the progress we made is that it's **going to be timed investment by both retailers and suppliers at nearly the same time.** That's what we were hearing on both sides, is that they'll invest as there's willingness to take on those solutions and take on those products that they're building.

And at the same time, the retailer community, rightfully so, is sitting there saying, "We need to see those products developed and ready for prime time." So to me, that seems to be an open question. Just how do we line up? I don't know if we can. **How does the industry line up those investment cycles** so that the product vendors continue to innovate at the pace we need them to and, at the same time, retailers get the solutions that they need?

Jeffry Harrison Can I just jump on that one?

Ed Collupy Yes, go right ahead, Jeffry.

ROI

Jeffry Harrison I just want to echo what Patrick said, because Patrick and I are in lockstep on this. **And I think it does take real investment and who's going to pay for that? Is it the retailers? Because usually, the retailers have to bear that burden. And that's something that concerns me, and we just have to be aware of it. These people don't want to lose their profit margins.** And if they're going to invest, to make the product better and make resources more available, that's going to cost money.

My point is: talk is cheap. And maybe I'm cynical but I want to see action. **I want to see action from these point-of-sale companies, I want to see them step up.** Next year's going to be a big year. I think it's going to be a telling point of who's going to step up. Is it PDI with their new solution, or one of the existing big three? What's going to happen? So I'm excited to see.

Ed Collupy Very good, thanks. Rance?

Rance Wells Yes. How are we going to hold these folks accountable to the change that they are looking into? **We have oil brands in the way of our innovation as well as the others do.** But I really enjoyed that call. I was glad to see so many folks on there that I've worked with through the years who have been promising lots of things.

Legacy Technology

To piggyback on what Patrick said. One of the points-of-sale vendors I use has released a new piece of hardware. That piece of hardware, they're going to ride that thing until it dies. When this next piece of hardware goes into life, that's when you really have the most potential for change with these guys.

POS Solutions

I know PIN pads are going, the PIN pads we use are going to be end-of-life. So we're having to buy new PIN pads, and usually that life cycle's three to four years. **Three to four years from now, I hope we're looking at solutions from these providers that do the things that we want. But right now, as Steve said, we're going to stay the course with what we got until the oil brands can pivot and give us something else we want, or the manufacturers of the hardware and the software come up with something more innovative.**

Ed Collupy Very good. Erin and Janeth, we missed you at our last meeting. I don't know whether you had a chance to take a look at the report from our last meeting, if you had any thoughts, Erin?

Erin Graziosi No, I hadn't had a chance to look at it. So I was bummed I missed that meeting, because I think it's a poignant topic these days. **I just feel like we're constantly over-promised and under-delivered, so it would certainly be nice to actually get something that works as we're told it's supposed to and integrates better with systems we already have.**

Vendor Support

Ed Collupy Yes, I think to the discussion this afternoon, **if you do go back and read it, you'll find that some of the solution providers try to address some of those concerns that you raised.** Janeth, any thoughts?

Janeth Falcon I'm sorry I missed the meeting as well. I've started to read through it but haven't completed it. But I would say we have a dual course. We still have a lot to do to stabilize operations. We have compliance projects. We'll continue on that track, as well as we're in discovery and experimentation for what a modernized retail system technology stack would look like. So we're doing both in parallel. Hopefully, our business partners will bring some of the solutions to market faster so we can see, and realize, that second track a lot faster than we anticipate. So more to come, I guess next year we'll see more.

Ed Collupy Excellent.

And thanks to all, this is certainly a topic that will continue to be top of mind for the industry as time progresses, and there's a lot of commonality in your views since the meeting. So with that, let's look ahead and what else is in front of us. With 2024 approaching, the crystal balls and the prognosticators among us are sharing their thoughts on what the future holds for retailers and retail systems.

Strategy

There's continued focus in the outlooks to put data, systems and automation to use in ways to evolve and strengthen employee and customer experiences as part of delivering on business-driven strategies. Many in the

AI

retail space are also looking at solutions and ecosystems that are more flexible, less costly, and can be easily and quickly implemented and supported in order to unleash additional digital capabilities.

The future also holds room for more growth in retail media networks and computer vision. The research firm Forrester comments that "In 2024, retail will be challenged by a number of factors ranging from store theft to culture wars." And then they add, **"retailers must grapple with which technology investments to prioritize from AI to keeping the lights on type items."**

One of the folks that I follow on social media is Deborah Weinswig, who I met actually through Greg Buzek. **Deborah and her team at Coresight Research believe "developers are unveiling innovative, generative AI-powered applications, and that the integration of generative AI with machine learning holds the promise of empowering retailers and enterprises to uncover trends and opportunities within their data through interactive, human-like conversations, eliminating the need for static dashboards."** Which is a topic that's come up here at past CTVG meetings.

My own thinking has evolved since our first CTVG meeting back in March, where you may recall I talked about AI, or artificial intelligence, as a buzz. And I was wondering if it could drive the industry forward, since I admitted I was scratching my head because I don't believe that intelligence is artificial. But today, having read, and listened and learned over the last nine months, I believe a headline in a promotional email I received the other day – which was probably ChatGPT generated – is true. It said this: **"Companies that don't use AI will soon be obsolete."**

Technology solution providers are all saying they either have had AI for a number of years or are bringing it to reality in their latest releases. These solutions run the gamut, from consumer behavior to operational excellence and loss prevention, to other areas such as collaboration tools, infrastructure and analytics.

And I was reminded by a convenience CIO just last week that, in fact, retail has seen AI in a number of retail systems for a number of years. It was just presented with a different name, or a different named feature or tool. It's also like companies that now use AI in their name or key branding messages. Even though AI is but a small part of the solution, they are moving in that direction as they don't want themselves or their clients left behind.

So what I've learned is that AI is here. It's growing and evolving, and we all need to take time to understand it for many reasons. Be it to drive business innovation, for ethical and social reasons, or for the security related and data privacy concerns it raises.

Foodservice

I mentioned earlier the continued importance of foodservice to the c-store retail energy industry, so it's worth looking at an adjacent competitor, McDonald's, who a few years ago, developed and tested automated order-taking technology at the drive-thrus. It's a topic that largely went quiet at McDonald's. But recent conversations uncovered a renewed focus on that technology, with a 400 to 500 unit pilot in two markets happening in the near future. And this is according to a recent QSR Magazine article. Yes, AI is causing me at least to continue to scratch my head, but now it's all about how the power of this technology will change the industry.

So, once again, I'd love for us to hear now from Greg Buzek, and learn more about his outlook and views on AI, which I'm sure is going to include some insights from IHL's just released report, the retail AI Readiness or AIR Profiles. We'll let Greg move through his presentation, and then take time with him for discussions of your thoughts, and questions and answers once he wraps up. So Greg, take it away.

Greg Buzek Sure. You guys able to see this okay?

Ed Collupy There it is. Thank you, Greg.

Greg Buzek All right, fantastic. It's great to be with you. This is my contact information [shown on screen]. There's going to be a lot of data and I know you're going to get the slides, but if you have any questions, feel free to reach out. I'm happy to discuss any of this stuff. I'm taking a presentation that I normally do in 45 minutes and crunching it into 20, so I'm sure I'm going to rush through the slides.

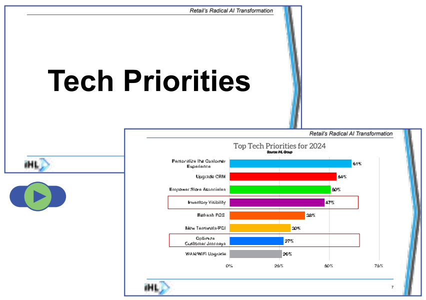
Data

I always like to start out by giving a reference set of where we've been, and what we've got going on. Because when the U.S. government gave out the funds that it gave out, we literally added all of the entire retail economy of India for a year. An annual retail economy we added as growth in 2021 in the U.S. market. **Over $800 billion got added to the market.** And in 2022, we added the U.K. So we entered 2023 with some really rough comparisons.

And the reality of it is, we have been adding Home Depot annual revenues every month, on average, that's the run rate from where we were in 2019. We've slowed a little bit. Home Depot is a little over $175, $180 billion annually. We've slowed a little bit on what that growth is more recently. But literally, **for about 14 to 15 months, we were adding this massive $175 billion each month to the economy.** This creates a real struggle, and no segment has seen more disruption than yours, ups and downs.

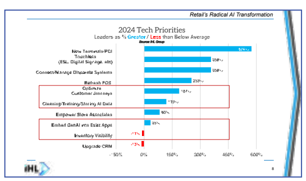
Strategy

Customer Experience



Inventory Management

Payment Systems



The government data is now saying we're up 3% for the year. That's not adjusted for inflation, and honestly, we believe it's about three months old. I don't have time to go into all the details, but the data the government is giving out has been incorrect for about nine months, in our opinion. There's a new survey and, unfortunately, I don't know if it has c-stores included, that NRF and CNBC are now releasing which has their own retail data that is far more accurate. They don't necessarily cover c-stores in their figures, but it'll be more real time than what we're getting from the government.

When we add inflation to it... 1.2% for the year through October. That just gives us a level set of what's going on economically.

Now, let's move to the tech priorities. What are retailers investing in? This is data we have not released yet. This is a study we do every year with RIS News. It generally comes out in January. We'll release our version of this in the next week, but it just gives you an idea of what everybody is prioritizing right now.

Personalizing the customer experience, upgrading the CRM process, empowering store associates, all of those have been high priorities for quite a number of years. They haven't changed much in our survey of what people want to do.

What has encroached in the recent years is inventory visibility, making sure we know where our inventory is when we can get our hands on it. Then, optimizing the customer journeys. **The typical retailer loses between five and 15 points of gross margin compared to an in-store walk-in sale when they have to do buy online pickup in store.** If they're not charging a fee for that service, they're actually losing margin compared to a customer that walks in the store because of the increased cost of labor and other things there. A grocery store that doesn't charge for that pickup fee is losing as much as 15% if they have not optimized that journey. **Less than 47% of retailers have optimized their buy online and pickup in store data today, but everybody follows the leader.**

So, what are the leaders doing differently right now? **By far, the biggest thing that the leaders are doing is they're getting ahead of this PCI (Payment Card Industry) curve and getting their new terminals.** By far the number one thing, they don't want to get stuck in the queue of being the ones that are waiting for the PCI auditors to be available to come do their system. Then, you've got touchless systems moving to digital signage, electronic shelf labels, anything that reduces labor costs and the availability of labor.

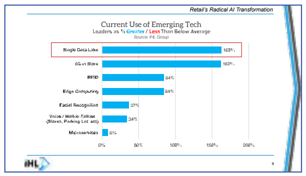
Merchandising

AI

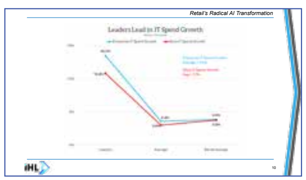
Data

Electronic shelf labels, in particular, is a technology that is 25 years old but is now seen as an overnight success. The leaders have been deploying it at a rate over 350%. It was as high as 800% last year in our survey, higher than the below average retailers in their sector.

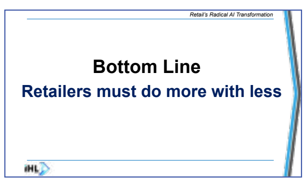
But I wanted to highlight the things that are here in the box and it's the rise of the things related to AI that we're starting to see. We're seeing the leaders rapidly move into AI, and you'll notice that inventory visibility and CRM (Customer Relationship Management) are negative here. The reason for that is because they've already done them. They're past that and they've already moved forward to some of these new things. **Now, when it comes to this emerging technology, the big area is getting their data in order.**



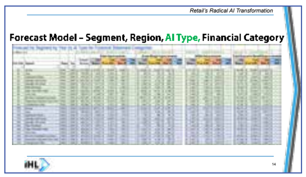
When ChatGPT came out and people discovered ChatGPT, we really had a Gutenberg (printing press inventor) moment. **Everything else, traditional AI and machine learning, trial and error, you have to have a lot of data. It's got to be tagged, it has to be accurate, it has to be trained, and it's trial and error to get to the results that you want to get to.** The ChatGPT moment though was the first time everybody just went, "Oh my goodness." It was literally light bulbs went on, and at that moment I pivoted our entire company, which has been mostly around point-of-sale for years and years and years with my background, we tracked what was going on in point-of-sale technology. We still do that, but I knew the future was moving more towards AI. I dug in as much as possible into this technology to understand what's real and then what's not. **I'm going to share that data here, but by far the number one thing is the single data lake, getting technology into the single data lake that the leaders are focusing on.**



Now, this next chart is my Usain Bolt (Olympic runner) chart and that is the fact that the leaders are expanding their growth rate. I should define what a leader is. A leader is a retailer whose sales grew 10% or more in 2023. That run rate up to this point is 10% revenue growth or higher. Average is zero to 10%, and then below average is even or negative. You can see a massive difference in the growth rate of their IT spend. Almost a four to one margin for things in terms of IT spend.



When I say Usain Bolt, if we were racing, he's not only ahead on the first step, but every other step he's getting farther and farther ahead. The danger when it comes to AI is you can get behind if you're not playing the game. **Bottom line, retailers have to do more with less.** We added India as well as the U.K. retail economy, that extra Home Depot annual revenues, and we did it with 3 million fewer people working in retail, so how do you go from there? How do you grow from there going forward?



And the only way you can do that is through AI. We've been through this view of things for the last several years. We had to get systems integrated for unified commerce, and then it was about getting better tools for the associate. Then, we had the inventory issues that people were working on already when we had the pandemic that really exacerbated that situation. The AI and machine learning stuff was well in place. Walmart had already hired and had been hiring for the last three years more data scientists than Google and had been looking at AI solutions. You heard about it mostly in the warehousing, in what was going on there, but it's much, much more than that - as we're going to go through. We're now seeing the generative AI kicking in.

Then, there's this elusive artificial general intelligence: generative AI returns answers like a human, but, artificial general intelligence actually thinks like a human. In some cases, there's another level that thinks it is human - that is potentially possible as well. That's what scares everybody. I spent four months just digging into AI and tried to wrap my hands around how much can this really impact our industry? The approach we took with the lack of an overall view of use cases is we literally went down an income statement.

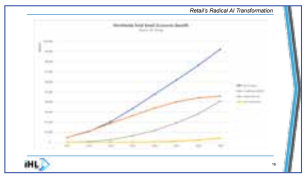
We took those three categories of AI and we went down an income statement and said, "Okay, what are the impacts potentially on sales worldwide?" We looked at these 11 segments. We looked at every region of the world, looked at retail revenue and then went into sales. We went into the gross margin improvements and then we went and looked at the SG&A (Selling, General and Administrative Expenses) improvement potential, and we looked at that from what makes each one of these things work well. At the top level, as I mentioned, AI machine learning is something that you have to train. You have to have accurate data, clean data that is tagged as to what it is.

Data

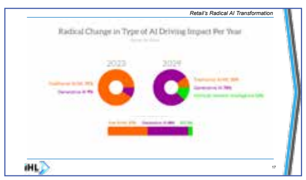
This is sales data, this is my point-of-sale data, this is my data in terms of what I pay at wholesale, this is what I pay McLane, whatever. Those things have to be tagged as to what they are. **That data has to be clean coming from the various systems and you have to have a lot of it to get it trained correctly.** Then, it's trial and error. The generative AI generates new content based on existing content. Then, the artificial general intelligence just figures it out along the way. It's the way it can work. Where the real power in retail is, quite honestly, is not the latter, the artificial general intelligence, at least through the end of the decade.

The real power is when you put the generative intelligence on top of the clean, accurate data that is yours. When you do that, the results can be astounding. This is in May, so it's totally changed. This is native now in Copilot for 365, but I was able to get a business plan with ChatGPT for a SaaS based pricing tool. I went through and gave it a paragraph of the four Ps of my pricing, my distribution, my competitors, all that fun stuff in there, my platforms. I put it in a paragraph and I got a business plan in five minutes in PowerPoint with graphics and everything else. That's now native in Copilot 365 as a generative AI tool.

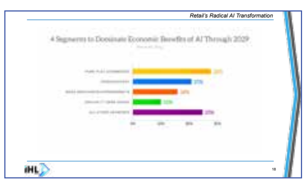
I've got a list of tools, if you guys want to send me a note, I'm happy to share those with you that are the tools that I find most useful [list is shared in this Vision Report]. But when we put this all together, we came up with a total of $9.2 trillion. Now, I'm going to let that soak in for a second. It's a massive number. It's almost not believable. We've got a retail economy that's running at about $5.5 trillion overall in the U.S. The U.S. is about 35% of the world economy. $9.2 trillion is a massive amount. What I'm here to tell you is that this is our top-down view. When we started building it from the bottom up, we think the potential could actually be higher. I'll explain why when we go into it.



Our view is that most of the value is going to be coming from the traditional AI and ML (Machine Learning) until later in the decade. The generative AI, once it gets put on top of that clean data, is going to be a massive improvement. I need to give you this metaphor because this will put it in the picture. There are some retailers like Amazon, Walmart, Target – if we use the metaphor of getting across New York City to get to LaGuardia Airport, those retailers have done the hard work. They've cleaned their data, they've done all this stuff, they're through the tunnel and they're right about to get to that toll booth to get on the highway to get to LaGuardia Airport.

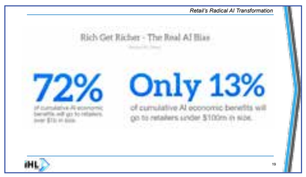


The vast majority of retailers are stuck on 42nd Street between 8th and 9th Avenue in bumper-to-bumper traffic. Their data's messed up. They don't have clean data. They're still trying to figure it out. The question is, how much farther are those guys that have done that hard work going to be ahead of those that are still stuck in the middle of the city when the goal is to get to LaGuardia. That's the reference and the metaphor that I've used for this. The real benefits are in traditional AI and ML when it comes to the business side. **Things are backloaded for the generative AI. It's going to probably end up 50-50 by the end of the decade, but right now, it's heavily traditional AI and ML in terms of benefits.**



Now, in terms of retail segments that are going to see the biggest benefits, it really comes down to the segments that have the cleanest systems, that have the cleanest customer data, and don't have a variety of different channels that are involved. One of the challenges with c-stores is you've got a mixture of suppliers, mixture of point-of-sale. There's a lot of mergers and acquisitions. All of that stuff adds dirt, so to speak, to the data and the availability of the data. So we believe pure play e-commerce, the Amazons of the world, Etsy, those kinds of guys are in the best position to take advantage of things because they don't have stores.

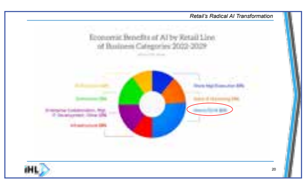
Most of their stuff is online. You're able to track a lot more detail about the customer online, and because of that, you're not getting into a high level of theft and other things that muck up the systems when it comes to traditional stores' environment. The next is grocery, and you see grocery mass merchants and hypermarkets here. That's because primarily it is a UPC driven segment, not like apparel where you've got to add color and size into the mix as well. There's also just the sheer size of these companies as well. That's how we looked at it when we were going through the data.



The next piece of it, we believe, is that although this is a technology that can level the playing field for everybody, there are incredible advantages to being large. Because the primary benefits come from that traditional AI and machine learning, free cashflow and the availability of that free cashflow. If you look at those NVIDIA chips today, they're $40,000 or more just for the chip. That's if you can get a hold of those chips or you can afford to do that. Because of that cost, it's a massive cost to really truly take advantage fully of AI. But you can't get away from scale. Walmart being $650 billion in size, if they're able to get a 1% improvement on something, it takes a whole lot of really small mom and pop companies to make up that same amount of benefit. It's getting one large aircraft carrier to turn, or a million smaller boats to turn at the same time, if you wanted to use the metaphor.

Strategy

We believe there are tremendous advantages for small retailers to take advantage of AI. Unfortunately, the ones that don't take advantage of AI are going to be left behind. It's our belief that this is the largest transformation that we've seen since the barcode and certainly since the supercenter. When Walmart in 1990 had four supercenters, and then they had 2000 by the end of the decade, over 2 million small retailers disappeared. We believe that same thing is in play right now when it comes to AI. Really, **if you're a smaller retailer, it really behooves you that you've got to spend the time and get a partner that can help you get in line with the AI in those things right there.** There are real opportunities here. There are going to be a lot of people that don't take advantage of that and those are going to be the ones that are in trouble.



In terms of line of business, the way we looked at this, once again, by not having all the use cases, we went through and we said what line of business areas will see the biggest impact and the biggest benefit? We believe it's the distribution channel that's going to see the biggest impact. Although, there's benefits in every one of these areas, the merchandising and supply chain management, there's so much inefficiency in distribution that AI can help take and improve on. As we

walk down the income statement, we talked about sales.

Our approach was if you have radical personalization, what is the value of one to two more additional sales per year per customer? Ed's a big New England Patriot fan, right?

Ed Collupy

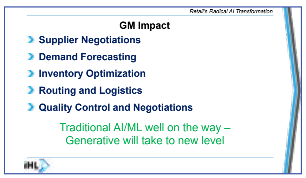
Traditionally, yes.

Personalized Marketing

Greg Buzek

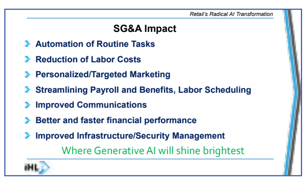
Having a rough year. I'm an Ohio State fan. **The ad for the same items for Ed is going to be marketed completely different to him than it's going to be to me. That's all going to be generated by AI.** The colors might fit, the interest might fit, the car in the driveway might be the car that we drive. At the end of the day, the value is based on, "Hey, I can see myself buying that product." **What's the value to a retailer of one to two more additional sales per year? We did that. We went through that because we do this inventory distortion thing. We have to track what's the average size of transaction, what's the value, how many items per transaction? We went through and we did that. It's a massive number if you're able to leverage AI to do that.** That's how we went about looking at that. Over half the benefits we believe are increased sales because now you're at the top line of the income statement.

ROI



The next biggest area would be the gross margin improvements. Here, we've got some examples that I'll share later here, but negotiations, demand forecasting, inventory optimization, routing and logistics. Over 50% of all trucks on the road are 25% or less full. They're not full, they're not optimized. We're spending tons on fuel, lots of inefficiency in bogging up traffic as a result of that.

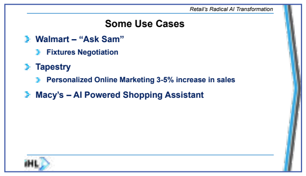
This is where your traditional AI and machine learning is well on the way, but generative will take it to a new level by helping you better plan the routes, better plan the things, do better negotiations for products, and do better quality control as a result.



Then, generative AI, where it's really going to shine is in the knowledge worker side of things, the automation of routine tasks. CarMax took literally something that was a person year in terms of getting through all their systems what these cars are, and getting everything labeled properly for all these cars that come in – they reduced it to a month. They reduced it by literally 11 times the amount of time it took to do that.

Workforce

In New Mexico, when a new baby was born, they literally took a time period that took a month for them down to 10 minutes, for the child to be in all the different systems that they had to be registered in when a child was born and registered there. The personalized targeted marketing, we've talked about the payroll benefits, improved communication, the improved



infrastructure and security management are huge areas for generative AI.

Let's talk about some examples here. Two examples in particular. Walmart has initiated "Ask Sam" on their handhelds. 500,000 users around the world through their handheld can ask in their native language how to do something.

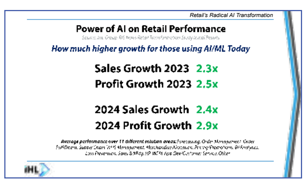
How do I change the printer paper? How do I get more paper for the barcode printers? Where is such and such item in the store now because we moved our stuff around? This has resulted in massive improvement in just the ability to do things. Our local Walmart now, most of the people working in there don't speak English. They're not very much help to you when you walk in there, but they can find things by asking Sam. It's pretty crazy to watch.

ROI

The other one that is specific to generative AI is that they saved 3% in negotiations on store fixtures by using generative AI on their side, negotiating with a human being on the other side. What was fascinating from that is that they saw that the human beings rated the negotiation as higher. It was more fair, and they loved the fact that the AI was always looking for a solution, didn't get mad at what they pushed back on, didn't have a kid that had a bad day, didn't sleep wrong. It worked out really well.

Tapestry has seen between 3% to 5% increase in their online sales by using personalized marketing with AI. There's a good story out on RIS News on that. Similarly, Macy's has an AI powered shopping assistant that they're using now. These are just some examples. There are lots of examples how AI and generative AI is being used.

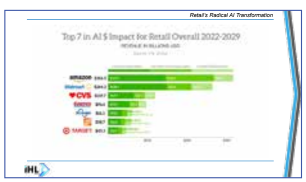
We actually looked at the financial performance of those people that were using AI today in 11 categories of solutions across all segments – so this is across all segments in our recent research. You'll notice there's a lot of supply chain aspects, but it does go into BI/Analytics, loss prevention, sales and marketing, workforce management, and those things.



What we saw consistently across all of those is that sales growth for those that are using AI and machine learning today is 2.3 times that of those who are not. What that means is if you had 5% sales growth, those that were using AI across those solutions were seeing 11.5 sales growth. For profit growth, if you had 5% profit growth, it meant that the people using AI were seeing 12.5% profit growth. Their expectations for 2024 are even greater particularly when it comes to profit growth, where it's nearly three times the profit growth for those that are using AI.

So, it really is a force multiplier and it is truly a separator of folks when it's done correctly. What's ironic about that is one of the biggest areas that people start with AI and try to get it is in pricing. That's probably the lowest

Data



ROI

return of all of these solutions. The highest is order management and forecasting. Those are the two highest rated items where AI is being used and the financials are coming to pass there.

My warning to everybody, that we stole from Rece Davis (sports television journalist) for football, is “dumb loses more than smart wins” when it comes to AI. **You can’t use AI on bad data.** If you do that, you try to do an end around on bad data, you’re just going to create a worse forecast for things there.

We next took our data and we took our review to start ranking retailers based on their AI readiness.

As Ed mentioned, our core business is keeping track of who uses what technology. We have a database called Sophia, which is an aggregation of public data. We also have some NDA (Non-disclosure Agreement: confidential) data that we have on the backend that we’re able to put into these rankings. We created a nine-point algorithm that looked at things like data maturity, analytics maturity, how aligned are they in the industry, how aligned are they with key vendors that are doing great AI work? We put that together as well as free cash flow and just scale – because once again, you can’t get away from scale.

We put together the rankings on a zero to a hundred scale.

Now, we did every segment, and this is where I apologize for being in front of you guys, we did every retail category except convenience and gas, because we could not get accurate financial data of what was retail versus upstream-downstream when it came to the main fuel players. We left that out for these initial rankings. What came out of that is Amazon. Amazon has the lead over Walmart mainly because they own the infrastructure as well, and they have the benefit of owning that infrastructure and the tools and things that are put in place there. But you’ll notice there’s a pretty massive difference from one to seven there in terms of overall readiness for things.

But we then took this and looked at, okay, let’s build from the bottom up. Let’s take that forecast and that impact from the bottom up, and what is the potential impact if they maximized their benefits from AI and didn’t use it to reduce prices, so to speak? **Our estimates came out that Amazon could see $316 billion of increased opportunity in terms of increased sales, better gross margins, and lower operational costs from AI through 2022 to 2029. And Walmart $264 billion of improvement over that time period.** Now, when we talked about that 9.2 trillion, we thought, “Oh, that’s a huge number, we could not possibly get to that.”

The scary part about this is when we went from the bottoms up, we literally were looking at Walmart’s gross margins and we could only take them to fit into the 9.2. We could only take Walmart's gross margins and move them from 24.2% to 25.6%. I firmly believe that they're going to see margin improvement that's considerably better than that. So, that's why we believe the 9.2 might be low in terms of what we're doing. Underneath that, we released what we call our AIR Profiles.

Just last week we made these public and this is an AI readiness index that looks at the individual retailer. We give them an overall score, we rank them of the total retailers that we monitored where they fit and then where are they in their particularly sector and show where that impact is for SG&A sales, as well as gross margins per sector here and how that growth went through.

Then, we looked at those line of business categories where those benefits potentially could come from for them, and then the individual solution areas that would drive that benefit over time. Once again, because of the lack of the total use cases, we wanted to have a situation where we had some buckets to put things in. So this is driving the benefits that we're seeing, and these are the solutions that we see driving the most benefits in these categories for Macy's. Now, if you were paying attention to the charts, Macy's was at $7.5 billion worth of benefit, compared to Walmart at $ 264 billion. [Same actions by Macy's but Walmart had a larger dollar benefit because it is a larger company.]

Massive scale differences that you just can't get away [from], better prepared, better readiness, but scale. That's how we put together this forecast and did things there.

Once again, this is my contact information. I've got tons of tools that if you're interested in I'm happy to share with you. That's it for now. If you've got questions, I'm happy to take any questions.

Ed Collupy

Thank you so much, Greg. A lot to think about, a lot of facts and figures, and clearly a message of time to get ready if we're not getting ready. Thank you for all those insights. I really appreciate it. I would imagine that our team, our members have questions, maybe even some challenges to things that Greg presented or some insights. Who'd like to get us started? Go ahead, Roy.

Data

Roy Strasburger

Greg, thank you very much for all that information. **The thing that kept coming back to me was that it's all about the data. You're talking about cleaning it up and having it usable to take advantage of the power of AI.** What's the biggest obstacle for most retailers in trying to clean up their data to make it AI friendly or generative AI friendly?

Greg Buzek It's the cleanliness of the data more than anything else. **The tagging is easy, but if the data's bad to begin with, that's the biggest issue.** They have a variety of point-of-sale systems. I heard you guys talking about the struggle with that. Are you getting consistent data from your different point-of-sale systems? Is it accurate? Are the systems up? Loss prevention for instance: are you getting accurate inventory counts? If you're using direct store delivery, are your shelf planning compliance systems really matching up to what you've got? Those sorts of things are the challenges when it comes to the clean data piece of it. The tagging – you have to have somebody, you have to have the manpower to be able to do that. We're actually working with a sort of pseudo-nonprofit group that does that in Malawi.

They'll actually tag the data and clean the data for AI purposes, and it's actually providing jobs in a community that has no job opportunities there. And it's really fascinating, it's called TideRise.io, and it's people from the retail industry that went to an orphanage and said, you can teach a man to fish, but what if there's no pond? And so, they wanted to create a pond and they said, "You know what? This AI thing, what if we created a data center because our costs are much lower than, say, India would be to do that and we can do a better job." And so, they took their lead sales guy and they put him in charge of this nonprofit for profit type of enterprise to do that.

Roy Strasburger Well, thank you.

Ed Collupy Go ahead, Myra.

Myra Kressner No, Robert, you go ahead and then I'll go after you.

Robert Hampton Greg, thank you. This was really fascinating. As you've worked with other companies in their readiness, are there some things you could share with the group? Like, here's the top three or four things that we constantly see when we're trying to get a company ready to do make this transformation. Obviously, you talked about the clean data, that's probably the biggest one. But what other ancillary things that go along with that once you get the clean data, what are the other things that you have to do to get ready?

Greg Buzek Yes, I think because there's a couple things happening, dynamics that we see. One is the CEO finds out about it and they have a conversation and he says, "hey, we got to do that." That causes a problem with everything. The second thing is where is our data? Do we have a single version of the truth? Is that clean data? And do we take an approach of a data warehouse or a data lake? Are we going to take an approach where we're doing a Snowflake type of situation where I don't have to necessarily have a single data repository, but I have to have all the links associated with pulling that data in real time through microservices to do that.

Strategy

It's having somebody that understands that data architecture and then holding off the different competing departments that say, "Oh, I need this. I want this," and being able to say, "You know what? I don't have the cleanest data here. This is going to be a mistake if we start here." Our false situation is going to be really high and we're going to have a lot of problems in that area. When we get asked, where do you start? The first thing I say, it's two pieces that you've got to synergize with the Venn diagram (also called a set or logic diagram that shows the logical relation between sets). **So, where you start, so to speak, is where the crossover is as to where you have the cleanest data and where you have the biggest business benefit opportunity. And where that crosses over, that's where you start.**

Pricing

That's going to be different for each company. **Most people start in pricing, and that's why I thought that was so surprising when our data came back and shared that pricing was by far the worst ROI situation. The only place where profit was negative for those that were using AI was in pricing, the profit growth was negative.** Now, that could be a sample issue. I haven't looked deep enough into that right there, but when it came to order management where the profit growth was 200 times or it was like 270% the profit growth for those that were using AI in order management.

But in pricing, it was a negative 45% in our data. So people think, "Oh, we're going to change our pricing. We're going to go to optimize pricing for our customers," and all that sort of stuff. That is so complex because every customer is different, whereas you've got a lot of low hanging fruit in just your supply chain stuff where you've got a lot more control over the data and how you behave there to do that. So, those are the ways that I think there are real hidden things. And there's a lot of consumer angst and distrust of customer service systems and everything else.

Strategy

Workforce

But where the real big bang is happening, and if you're not doing this, you can do this right now, is getting to these systems where you can load your documents on how-to documents for everything and create your own Ask Sam. With the turnover rates that you guys experience that's a no-brainer.

That would be the first place where I did things: everything that a new hire needs to know how to do on a system where they can just ask that site. And for the smaller companies, it's replicating that knowledge of what you're doing. And what's fascinating from a content creator standpoint for me is I can take my existing content and research up there and I can have it generate new content for me based on that, and even cross-reference things to create new content as well. **So, it's going to be not in that sizzle or customer facing stuff that I would focus my efforts. I would do it on all the plumbing, all that offensive line work, so to speak, the blocking and tackling stuff that's behind the scenes, that's where the biggest benefits are, and you have the greatest opportunity for growing.**

Robert Hampton Great. Thank you.

Ed Collupy Myra, did you want to go?

Myra Kressner Yes, I was going to ask if any of our retail members wanted to share where they are with AI now. Greg said the key now is overlaying GenAI over machine learning, right? So, I was going to ask if any of our members wanted to talk about where they are with that process. We talked about AI at our Convenience Leaders meeting a few weeks ago, about the definition of some of the terms and how much of this they are using today. Some people are saying that they're using the term AI in place of machine learning. So, do any of the members here want to talk about how you are currently using AI?

Ed Collupy Anyone want to take Myra's offer up at the moment?

Fuel Pricing

Robert Hampton I'm happy to chime in a little bit. **We're doing some of this, I guess I don't know if you'd call it AI or ML, but leveraging fuel pricing.** So, we've got fuel pricing coming in from competitors and looking at parameters and the system suggests fuel pricing based on a number of parameters. So, that's one thing we're looking at.

Computer Vision

Audio AI

Of course, we've been heavily looking into computer vision as well for a number of things. One example is food products, having it watch the hot case and things like that and send in alerts when the hot case is empty or roller grill or something like that. **And then of course the audio AI and that's really starting to blow up.** There's a lot of things you can do with that just from the transcripts from the voice to text, and then you can glean a lot of things from that specifically around certain keywords and things. So, those are three places where we're looking and exploring potential uses there.

Ed Collupy And Greg, I remember from a webinar that you and a solution provider put on that he made the comment, I believe, that **computer vision, to Robert's point, can augment and get you to cleaner data actually seeing it and using real life images.**

Greg Buzek Right. It depends on how good the quality of the computer vision is and what you're using it for. Are you using it for finding situations regarding loss prevention, for instance, where you're trying to make decisions based on people? Or are you

Inventory Management

using it just to track what's happening on the shelves and whether the shelves are stocked or not stocked? Walmart used to have the Bossa Nova Robot go up and down the aisles and it had to process everything because it was video based, and Walmart threw them out because they were too cost prohibitive. **What they replaced them with up in Canada is a system from Focal Systems that is basically a cheap camera that sits every eight feet on the shelf and takes one image an hour and sends that image up. So, the entire store bandwidth used is the same as a Ring camera.**

They upload that into the cloud and they match that up with the volume information and it says, "You're going to be out of this product by one o'clock today on your shelf. You're out already on this other item." And they're able to send alerts so they can replenish the shelves. So, part of it is where the data processing is done. Are you using edge computing (distributed computing framework that brings enterprise applications closer to data sources such as IoT devices or local edge servers that are typically located within the retail location) for that? Are you pushing it up into the cloud? Those are all architecture decisions that have to be made. But the way computer vision is used is completely different for the same function. As a result of that change there are major differences in terms of bandwidth and everything else. Now, if I were to broaden out that piece of data there and looked at the winners and what their biggest problems are today, it's bandwidth. It's getting enough bandwidth into the stores to do the data processing that they need to do there.

So, that's the thing with computer vision. If you use it for people stuff, I'm a 55-year-old female according to computer vision at the NRF Show. It's still got a way to go, although the facial recognition stuff being led by China is pretty incredible. **Where computer vision really shines though, is in managing boxes and doing things with inventory management.** Now, there was a company Scandit at NRF that had a scan engine that just went in your phone. You'd put in the item you wanted and all you had to do was hold your camera up and it would point out exactly on the shelf where that item was in the boxes. Now, I went to Home Depot and the guy spent 15 minutes trying to look up at the boxes on the top shelves to see where the inventory was for me, and I finally just left. So that would be of tremendous value. It's just something that's added to any application and boom, it's that box right there that has the item in it. And so, that's where I think it's really of value.

Ed Collupy Go ahead, Scott Burchfield,

Scott Burchfield I wanted to echo that all the information you provided, Greg, was really extremely insightful and kudos. I don't know how many breaths you actually took through that speeded up version of your presentation, but good kudos. I wanted to go back to one of your slides where you showed the evolution of everything and your first line was **unified commerce**

and where AI had engaged and made significant strides in this process earlier than I think the convenience industry has tackled that.

I think that's a bigger struggle in the convenience industry, and we are behind the eight-ball, and I think COVID really drove the need to add all of these complexities for curbside, et cetera, into an industry that wasn't that service oriented. And we're starting to play catch up, or we're starting to see companies that are trying to play catch up. And I guess my question to you is how do you see when that was an early elevation and it's been several years of advancement in the other channels that we've not seen in this channel, how do you see this channel leapfrogging and trying to overcome a lot of those hurdles, that the other channels already felt, learned and moved on?

Strategy

Greg Buzek

Yes, **you have to take advantage of those solutions that cross those industries. One of the big challenges is that your channel's not all that different from drug store and what drug store has experienced.** There's now a fresh component to it, they've got the restricted component to it. There are multiple different supply chains that are involved with it. So, I would look at those kinds of environments. I'd look at a drug store and look at how they're doing things, a Walgreens, Target, what systems are they using there? You also have to look at a solution that goes beyond. So, you need a food solution for your prepared stuff, but you also need a UPC solution. You don't really have a lot of SKU colors or anything like that. You're going to have some stuff, but that's a minor part of your offerings there in most cases.

So, we ran into this similar issue with AMC Theaters years ago. We were doing a POS system and the vision was to have you come out like at Disney - where you come out of the movie and you walk right through the gift store to buy merchandise. And they ended up going with Fujitsu because they said it's easier for Fujitsu to add a ticketing module than it is for them, for the guys that do ticketing, to add a color skew type of inventory module. **So, they were going that route for that solution. So, I would look at somebody like your Salesforce type of company, your Oracle or NetSuite, because they have done all this integration stuff already. It's in the platform and it's moving some of your platforms to that kind of solution where the unified commerce stuff is baked in.** They're already five generations in, and it's just a matter of moving your systems to that.

Scott Burchfield

And the challenge and complexities that this industry has, you may have heard part of that in the POS conversation, is where the industry is kind of handcuffed by what the fuel brands have approved. And then from a back-office systems, we've got a provider that owns 70%, 80% of market share but really hasn't advanced in this area.

Strategy

Foodservice

Greg Buzek

Correct. So, it's not unlike, though, what fast food has had to deal with. **So, I would look at the fast-food industry and say, how did they pivot for what's happening?** They still haven't gone back to in-store dining in a lot of cases with fast food because the drive-thru took off and they went to the app-based delivery, and now everything is going down the app side. I mean, McDonald's announced they want to open up almost 9,000 new stores by 2027 driven by the use of AI in using the apps. Chick-fil-A is a whole different story because it's owner operated and there's homogeneity on the technology side, but there's one in Orlando that hasn't opened up their restaurant yet. They went to four drive-thrus as a result of that. So, I think you can learn from the other segments.

One of the best presentations I ever heard was actually somebody from Hess presenting to retailers and saying, "This is what you guys can learn from us, learn from the oil side because you guys do everything by yourselves, so to speak, and we have to cooperate on a lot of different things." I would look at drug stores in particular, and I would look at fast food guys, what are they using for those pipes? How are they doing that buy online pickup in store type of stuff? How are they working with the Instacarts and those guys, the Uber Eats and all those systems? How do they manage that? I think the biggest challenge of what you're facing is, like you said, that control from the franchisor, so to speak to the franchisees of the solutions, is that the solution providers are de-emphasizing the POS stuff, the Toshiba's of the world – which used to be IBM RSS, that was a player – NCR that was a player.

They're more concerned with the payments and the software side than they are the hardware side. And then you certainly have Verifone and the pump manufacturers as well - their solutions that haven't advanced - and that's a real challenge. I think it's the thing that's driving the fuel brands buying more of the retail operations again, is getting to that consumer and the consumer data because they're not getting a clean, accurate view of the data. So, they're not getting the benefit of AI through you guys as a partner. And I think that's going to be the thing that drives them to make the innovation for this sort of thing. But it's a tough one. I don't know the answer to it.

Ed Collupy

Greg, we have a question from one of our members that's listening in. Patrick Raycroft's question is: in your research, **are the companies that you analyze also investing in defining AI governance frameworks to oversee or provide guide rails to implementations of AI?** And if so, do you have any best practices that you're aware of?

AI

Greg Buzek

I don't. **I think everybody is scrambling to understand where they are in terms of data clarity and where they are in terms of doing things. The guardrails really apply when you start talking about the generative stuff. And very little, retail-wise, has been done with the generative stuff so far.** They're looking at it, but COVID, just the yo-yo that we've been on with COVID, has got everybody frazzled and they don't know where the market is going. They're getting one thing from Washington, they're getting data, hey, all is well. It's like Kevin Bacon, "All is well, all is well" from Animal House and everybody else is sitting there going, no, this is a disaster right now. Everybody I talked to is struggling and can't pay their bills. And that disconnect has created this jadedness that nobody knows exactly which way to go. And because of the fact that they've been doing the traditional AI and focused on there, that has been driving things and there hasn't been a lot of governance in that area because it's their internal data.

Who are we going to hurt? We're going to hurt ourselves for that. **Where the governance stuff starts to come in is how do we use the generative AI tools for the marketing side?** Where do we cross the line ethically in how we promote things and how we customize things? I can share a video of me speaking Italian. Okay, I don't speak Italian, but in two minutes I can be speaking Chinese through HeyGen (AI video generator). In fact, just threw in the chat area – here's the list. You can see the list of the tools and my favorites. It's in the chat if you're interested, but I don't want to take us on a tangent.

Ed Collupy

Patrick's follow-up question Greg, and he uses an example of his question, is around **risks of not building in framework upfront as you implement it.** And his example would be allowing AI to price fuel without proper checks and then this resulting in price gouging during a natural disaster.

Greg Buzek

Yes, I mean that would be fair. I mean, you've got to have a human involved on those kinds of things. But at the same time, humans created issues with regards to computer-aided ordering that said, "You need to order 50 times the amount of toilet paper than you normally order," and the human being came in and said, "No, that can't be right" at the early stages of COVID. And it absolutely was correct and they missed the opportunity as a result, but AI had recognized the trends and it predicted that.

So, those computer-aided ordering systems like RELEX and Upshop, those things are seeing tremendous advantages right now, particularly with forcing the direct store delivery guys to match compliance. **But in terms of getting back to the governance side, I think you need to put stoplights, so to speak, when you have those kind of runs where there's a human being that has to look at it and say, "Oh wow, okay, yes or no? Green light or not?"** And you just put those kinds of stoplights in there for that sort of thing. But I don't hear a lot of talk about it in retail. I hear a lot of it from a government standpoint for things.

Ed Collupy	And thanks for putting the tools that you are tracking and using and experimenting with yourself and from your team there at IHL into the chat. We'll make sure the rest of the members get that as well.
Greg Buzek	No worries.
	I wanted to go back to the HeyGen tool. [Greg shows a video of him speaking in a foreign language.] That's not me – that's the HeyGen tool. That was the Spanish version of stuff.
Ed Collupy	Which goes right to Patrick's question about governance, I guess, right?
Greg Buzek	Right. So, my question is, where does that stop in terms of an ethical standpoint? I have given permission for that. I've had to record permission that I would like to use that. I would just like them to change the language for that. Is that unethical? I'm just trying to reach a new market and do that. Where does that cross over? And those are some fun things. Now, if I was trying to mislead people and saying, hey, hire me for Spanish language stuff or whatever, that crosses the line. But if I'm just trying to communicate to somebody in their language, it's the same as holding up your phone and saying in Spanish "¿Dónde está el baño?" type of thing, where's the bathroom. And can they answer back?
Ed Collupy	Go ahead Roy.
Roy Strasburger	Greg, we've talked a lot about generative AI. **Where do I get generative AI? I mean, actually, where is the software? How does one get access to it?** Only through a third party? If you're talking about the bigger companies – I know Walmart's developing their own. But what if you're looking for something to use for your business and your data on a smaller scale, because I'm assuming the tool list that you put out is more along the line of personal helper type tools.
Greg Buzek	No, i**t's all over. But you can scale that sort of stuff. And most of your larger vendors have created their own AI platform – certainly Microsoft with Copilot 365.** I wish I could use it. It's literally a game changer. But you have to buy 300 licenses minimum before you can use it. And you've got to commit to basically a hundred thousand dollars in cost before you're allowed to use it right now, where it literally takes your data to do things.
	I will tell you, **Roy, if you use ChatGPT or anything, there's just three steps that you need to take.** Number one, you give it a personality, and my favorite is Perplexity AI right now – perplexity.ai. It's a free tool that you can use.
	You give it a personality, tell it who it is – act as an expert product manager, act as an expert in this field, okay? Then you tell it exactly what you want, give it as much context as you can, and then you tell it exactly how you

AI

Technology

Strategy

want the answers formatted or whatever, and you'll be astounded at the answers. I've used it for everything from Bible study to writing reports. My latest report that I've done, the first draft was done in AI. I just went section by section. I added in my outline. I added our data for this, and I said, "Write this first draft, write 500 words on this topic using this data," and boom, it's done.

And so my first draft is done and then I just customize it and update it and give it more color. Those kinds of tools, like I said, just dramatically improve the speed at which you're able to do things. And that's where that generative stuff is, that SG&A type of thing, that's really, really good.

Marketing

But brainstorming sessions, with things like names... "Hey, here's the text, here's the report. Give me 10 different titles that you could make from this thing." And boom, there it is. And you usually cut and paste, "Oh, I like the first half of this one and the second half of this one," and boom, it's done. You'd spend an hour in a room arguing over this guy's idea versus this guy's idea type thing. That all goes away because all of a sudden you're like, **"Whoa, these are really good. These are really good options." But you got to give it that context, you eliminate all those hallucinations if you give it the narrow area and say, "You are an expert product marketer, you are in the fuel industry,"** boom. That's your reference.

Myra Kressner So I'll go back to again to the other folks that are on the call and say, who's doing this?

I know Robert, you volunteered before something, but some of the things that Greg is talking about? Steve?

Data

Strategy

Steve Evans So I'll stumble through an answer. I think in the halls of Haffner's, I've had lots of conversations about AI and not just marketing, but vendors marketing AI to us. And there's just the string of disappointment that comes with it. I think when we think about the order ahead, and, "Here's my inventory, what should I order?" I mean, we've been using that for years and I've always kind of thought it is machine learning. **Right now maybe it's kind of being rebranded as AI, but it's pattern recognition and spitting out what the next pattern is. And I see us continuing to bake in machine learning, or this next generation of it into different solutions. We're never going to build our own natural language module and do that sort of stuff. It's going to come packaged in my ERP (Enterprise Resource Planning) system, it's going to come packaged in like Copilot and stuff like that, where I've got pieces or sections of my business data that are clean, because I've got four ERP systems and six POS systems. I'm never going to spin all that stuff together.** And because of our industry, it'll probably never change. So there's always going to be that headwind.

So I see us taking things like fuel pricing, logistics where we've traditionally done some kind of machine learning and then looking to our vendors, our solution partners to take advantage of probably what they're doing for other industries and really riding those coattails, in pockets. That's the only way I see it going forward.

Greg Buzek Yeah, I think you're absolutely right. There's some generative stuff that you can do, but it's an individual worker-based type of thing. But you're absolutely right. It's going to be those platforms that you use that are taking advantage of it already.

Ed Collupy I also wonder, Greg, if really for the retail members, to one of Greg's points was around the biggest returns are going to come in the merchandise supply chain area, and for many of the folks in our membership, we're using third parties to help us with distribution. So I'm wondering if the McLanes of the world have done anything along this line to help retail members with that, or are saying, "We're going to use AI and therefore reduce transportation costs." I don't know whether anyone has seen that kind of collaboration or willingness to do it. Janeth, or Jason, Rance, anything that you're seeing from your wholesalers on that front?

Janeth Falcon Not that I'm aware of, no.

Jason Collins Nothing that I'm aware of

Ed Collupy Interesting.

Data

Greg Buzek So I wanted to jump in real quick, if you don't mind with Steve, **one thing that generative AI could help you guys with is, if you are repetitively having to do the same thing to your point-of-sale data from one system to get it to look like the other system, that's where generative AI can save you a ton of time. I do that all the time with data that I have that's got to be cleaned and got to be separated.** If you put the right query in it does a really terrific job. And then once you've got it set up that way, you can just set up Zapier (allows users to integrate the web applications they use and automate workflows), or some other tool, that automatically does that and cleans that data for you. And obviously, it's going to be some trial and error getting it set up the first time to make sure it's accurate and clean coming through there. But that's an area where you can really see that automation kick in and those tools really help.

Strategy

Nick Franco **To Greg's point earlier, probably one of the most common AI projects that we get asked about as a dev shop is to take a ChatGPT type AI bot and using their private APIs, train on their proprietary data, like you mentioned with entering operating procedure.** So that's really, I'd say, a good chunk of the requests around that. So that is a quick win for retailers, I think.

Greg Buzek Yes, so if you guys watch the videos on the first page of that link that I sent you, there's a PDF in there. If you watch the videos on there, I apologize, you're going to lose sleep because your mind's going to blow in terms of all the things that can be done, but you'll have a lot of ideas, and particularly that's where the real value is, is that API on your core data.

Ed Collupy Rance, I recall that in our first meeting, you had an AI generated backdrop for the meeting and talked a little bit about how you guys are thinking about AI. Has anything evolved on that front?

Strategy

Rance Wells I mean, kind of what Steve said, everything, every rock we're turning over is just not what they're promising. Greg was saying that now we're .AI, "Oh, we've been doing this the last six years. We're great at what we do. We've been working on this forever." **And we're definitely looking, looking into a data lake. We're looking to get the foundational steps in place to start taking advantage of this, but we really haven't moved on this a lot.** It is definitely a new tool in our toolkit that we're using for all kinds of stuff around the organization. **But as far as taking our data and making it actionable, we're still looking to figure out how we're going to do that.**

Scott Burchfield I was just going to say that I think that kind of goes back to part of what you said, Greg, it's kind of that foundation, the data, and back to my comment of where we are as an industry, we're further behind most of the other channels in cleaning up our data and having the clean pipes, as you said. And again, I just think it's one of the additional hurdles of us trying to keep up with the other channel, or play catch up with the other channels that have less of that complexity than petroleum convenience has.

Legacy Technology

And I think, in our prior conversations with POS, we've talked about how do we help challenge the fuel providers on approving new POS, and things like that. I think the comment that you made about having them understand that the lack of ability to take advantage of this new technology may help us press them to open up how they're managing and controlling and putting their thumb on the POS capabilities.

Greg Buzek Right. **Who can you incentivize that can get the win within the fuel side of things to where it's their idea to do that? Is there a way for you guys to enable them to do this because they get the political win, or the company gets the data win or whatever that might be to do that?** That would be a great way to push it for things like that. Just because it's a good idea is not good enough, type of thing. Somebody's got to be the hero.

Scott Burchfield And I think you've already cautioned us about the CEO who sees AI and says, "It's a great idea, let's go run with it." But if you go and run with it with the basis of our data as it sits today in a lot of organizations, it'll have detrimental effects within the industry.

Ed Collupy And for Janeth and Mike, I am just thinking about the size of your organizations. Have the generative AI and the ChatGPTs gone rogue at all? Or back to Patrick's question about the risks around and controls that you might have to build in. Have you guys encountered that or thought of that at this point?

Strategy

Janeth Falcon So for us, we're early in the journey, right? **So we're starting with putting together some policies around the usage of ChatGPT, especially in the corporate environment, what's allowed, what's not allowed. And then we're looking to see what use cases we want to prioritize to start getting involved in the GenAI space.** So we're still early days, I would say.

Greg Buzek Janeth, are you guys using Microsoft Copilot? Do you guys have access to it? The 365?

Janeth Falcon Not yet. Actually, I had a meeting with Microsoft today where they talked about Copilot, the Copilot for Power BI (visually immersive, interactive desktop application).

So yes, we're not using it yet, but yes.

Ed Collupy And Mike, the creativity within your own group, and marketing and in digital, what are you seeing?

Strategy

Mike Templeton Yes, so Casey's has a policy. The policy is we don't use it unless there's a written exception by SLT (Senior Leadership Team) and the Cyber Security Team. I think a lot of that is just trying to be mindful of all the possibilities, whether it's sensitive business information, etc. **So I'm sure there are teams internally that are taking a look at it and trying to understand it, but from my point of view, it still seems very consumer-centric.** Not that there aren't potential business applications, but just at the scale that we're talking about and the size of the organization, and if something were to go wrong, or go awry, the repercussions of that are even larger at such a grand scale. **So I'm really interested to start to see some of the core applications bringing it into what they offer – companies like Adobe, etc. And I think Microsoft will be a big one to watch as well.** But because of the power that's here, I think enterprises are going to have a lot of questions before they start to turn people loose.

Greg Buzek **One thing that could be a quick win for you to kind of bridge that gap is leveraging some of the new AI capabilities within your business applications, your Office applications that are there.** They've added a ton to Excel and Word already and being up to speed on what those new functionalities are. You can do a lot of that just within your app, within your company, without going out to the third parties.

Mike Templeton And even just basic things like the improvements that they've added to Teams, maybe those aren't all in this particular classification, but simple things like transcription, and attribution to who's speaking, etc. Those things have created a lot of efficiency opportunities. So I think we're only at the beginning of this, for sure.

Ed Collupy Jason, I'm wondering what your reaction was to Greg's comments about scale, and the larger companies having an advantage, which I think smaller companies in this industry often feel. But just wondering on this note, if you have a thought on how you might attack that or think about it differently?

Jason Collins I think this entire industry is very early in this process. For a company like ours with 120 stores, an IT staff of five, it's not something we've thought about, hasn't been on the radar. **We would probably, generally in our environment, look at the ERP providers, all the third parties that we're leaning on, to use that with their systems and bring it to us. And that would be our first jump into AI. And we're using a little bit of it with more machine learning.** We've been doing machine learning forever. It's the next step of that. So you can talk about the Amazons and the Walmarts, they have staffs of hundreds that are probably doing this internally and it's just a whole different animal.

Strategy

Ed Collupy Jeffry, I'm wondering how as a solution provider that really is focused on consumer experience and the consumer-centric side of the business, how you are thinking about AI?

Jeffry Harrison We think about this every day, obviously, being a mobile app provider and working with all of our retailers. The thing that we realize is that a lot of our retailers, as we know all of you guys in the room wear a lot of hats. C-store and retailers are notorious for basically just making their team sometimes take on more than expected. **And what we're finding is AI is an opportunity to really leverage things instead of trying to handwrite radio ads, and this, and that, and local charity announcements and so forth. The AI tools that are available, we all know like ChatGPT and so forth, are taking that time and burden off the category managers, and the marketing managers of these 40, 50, 60, 100 store retailers.** And that's really creating a lot more efficiency. So what we've been doing is leaning into that.

Strategy

But in addition, **the AI that really excites me are the graphic tools.** So I don't know if anyone's following Frank Beard (Head of Marketing, Rovertown), who posted something on LinkedIn, kind of like the trend that's going on with Twitter, "Hey, give me 10 likes and I'm going to make ChatGPT make this convenience store more profitable," right? And if you look at his post, he got hundreds of comments and you could see rocket ships flying in the sky and stuff like that. It was just really cool to see how everything was going to evolve.

And the point is, I think using AI for graphics is going to be key, because a lot of the retailers are more focused on how to make their stores run efficiently and they're not very good at graphically displaying a lot of content. So being on a mobile app side and representing the convenience stores as digital stores, what we've done is we've really tried to encourage them, and ourselves as well, to use tools to make their app more visually appealing, more user-friendly, a greater user experience. So we've been really using the design side of the AI technology.

Ed Collupy

Very good. Thank you all. And there's certainly a lot to be thinking about with retail systems, and how AI enters into those retail systems as we move to '24. And Greg, thank you very much. And thanks to all of our CTVG members for all the thoughts and insights you shared with us this afternoon.

I mentioned at the start that I'll come back to how Greg and I first met in person. It was a result of him and others founding an organization called the Retail Orphan Initiative. It's a charitable foundation, and they had invited retailers like me at the time, and retail solution providers to kick off a concept meeting at the National Retail Federation's (NRF) big show. NRF is coming up next month in New York City. And I'll be there, and Greg will be there, and Myra will be there for sure and perhaps some others. Since then, Greg has spent countless hours leading RetailROI, and helping orphaned and vulnerable children around the world. ROI has completed hundreds of projects in over two dozen countries, helping over hundreds of thousands of children with clean water, education, computers, language training and care. And I've been personally fortunate to have seen the fruits of ROI's work in Uganda where clean water wells have been dug thanks to RetailROI and their support and generosity. Greg, why don't you take a moment to tell our members about this year's SuperSaturday event?

Greg Buzek

Thank you guys. So SuperSaturday is an analyst event. We're going to do practical AI. We've got consumer packaged goods, Pepsi, Mars, Wrigley are going to be there talking about practical AI and the future of stores in those discussions. We have Dollar Tree, they're speaking. But we intermix the charity stuff. So it's an analyst day. What makes this so unique is it's a fundraiser, but there is absolutely no financial ask of any individual that comes to it. It's the most unique day that you'll ever experience where everybody actually wants to talk to each other, because by talking to each other we raise the funds to build schools and computer labs. And all of those ERP players that we've talked about, all those back-end system guys are sponsors for this event and their lead salespeople will be there. So you can have these kinds of discussions with them.

The Head of Marketing for Salesforce will be there. We've got the guys from Avanade (IT consulting company), so we've got systems integrators as well that will be there. But it's a great day. We've been able to help 325,000 kids, we think, around the world in 28 countries, building schools, computer labs, famine relief, Ebola relief, you name it as a result of this day. And for retailers, your cost is nothing if you're coming to NRF, just show up on Saturday and enjoy the day. And that's it. We just treat it like ladies night at a bar. You guys are the ladies and all the guys that want to sell to you, they're the sponsors and that's how we build the schools.

Ed Collupy But it'd be great if you register. Greg has put up the slide.

Greg Buzek Yes, and we have Darryl McDaniels from Run-DMC (American hip hop group) is going to be our keynote. The other thing is that you showing up means 250 kids get clean water or life skills or computer education just by you showing up. That's the impact of a single retailer in terms of sponsorship. So it's about $5,000 worth of value in terms of sponsorships for every retailer that shows up. So if you're going to be there, we welcome you to join us and join it.

Ed Collupy And as many of the members here know, I have attended many retail technology events over the years and RetailROI SuperSaturday is still the best retail tech event that I attend each year. So thanks Greg.

In the spirit of looking ahead, I'd like to ask Roy to speak a little bit about our thoughts on inviting the major oil companies to a second breakout session. We talked about that during our POS meeting and perhaps Roy, you've got some thoughts on that?

Closing Thoughts

POS Solutions

Roy Strasburger

Thank you, Ed. And Greg, thanks again for the presentation. It was excellent, thank you. During our POS breakout session, those of us who were on the call recognized the fact that there's multiple players involved in the question of POS and how it all comes together. There are, of course, the retailers, which are us, and there are the solution providers, which are the POS companies. But the other big players that are unique to our channel are the major oil companies. I think everybody still has an **interest in talking to some of the major oil companies about POS, and the technology side of it, for another breakout session.** We are going to try to put one together sometime in 2024, and if anybody has any contacts or ideas as to who we ought to be talking to or what the topic should be in addition to the POS environment, we would appreciate any feedback that you might have for us. I think that might be a very interesting conversation. And based upon the POS breakout, I think people will understand a little bit better about what we're trying to do and the kind of conversation that we're trying to have.

So anyway, I just want to let you know we hadn't forgotten about it and we are trying to get something together in 2024 to make that happen.

Ed Collupy

Thank you very much, Roy. And just a quick go around the room for any burning topics that you'd like to see us cover for our next meeting, which will be in March. You guys have given us some ideas that we're keeping a list to go back to, but is there anything new which you want to focus on for our next meeting? Don't all speak at once. Well, go ahead, Patrick.

Patrick Raycroft

Just one from my side is because there's a lot of conversations that were started at NACS, and it's getting more and more momentum from an industry perspective, is data, and retail media monetization and what it means for c-stores. Obviously, there was Art Sebastian's presentation, and others along with 7-Eleven and RaceTrac, throwing that in the mix.

Ed Collupy

Very good. Thanks Patrick. Anyone else? Well, know that we take what you pass on to us very seriously. We have healthy discussions among Myra, Eva, Roy and me to land on where we're going and who we might invite. But it's all dependent on what you folks want to do and hear about. So we'll look back on the older list, but please, in the next couple of weeks, send me a Christmas present with an email that says, "This is what I'd like to talk about." But with that...

Eva Strasburger And Ed, before you sign off?

Ed Collupy Yes, go right ahead, please.

Eva Strasburger Since this is the last meeting of the year, Myra, Roy, and I just wanted to say a huge thank you to you, Ed, for moderating our four meetings, for all the work you've done doing the research and for being the contact person for our members here. Thank you very much. We also want to thank our Ally Supporters who bring real value to this group as members. And finally, of course, thank you to all of you CTVG members. We've been very impressed by your extraordinary commitment to our mission that "a rising tide lifts all boats," and we're very grateful to you. So thank you from Roy, Myra and me and have a great holiday season.

Ed Collupy Thank you. And likewise, I certainly want to thank all of you for a great first year of engagement with CTVG. Thanks to Eva, and Roy and Myra for guiding this whole concept, and conceiving of the concept and bringing it to life. It's unique and it's been great to be a part of it, but to our members, you really make the difference. So thank you.

Myra Kressner We wouldn't have it without you, our members.

Ed Collupy That's right, Myra. So on behalf of the whole team, we wish all of you, your colleagues and your family a wonderful holiday season. I hope to see some of you at SuperSaturday or NRF. Greg, thank you again for joining us today and providing all that you and the team at IHL have put together. So thank you everybody. Have a great holiday season. Thank you.

Retail Radical AI *Transformation*

Greg Buzek
President – IHL Group
greg@ihlservices.com
@gregbuzek

BACK TO DISCUSSION

2021 & 2022 Sales Growth - A Reference Point

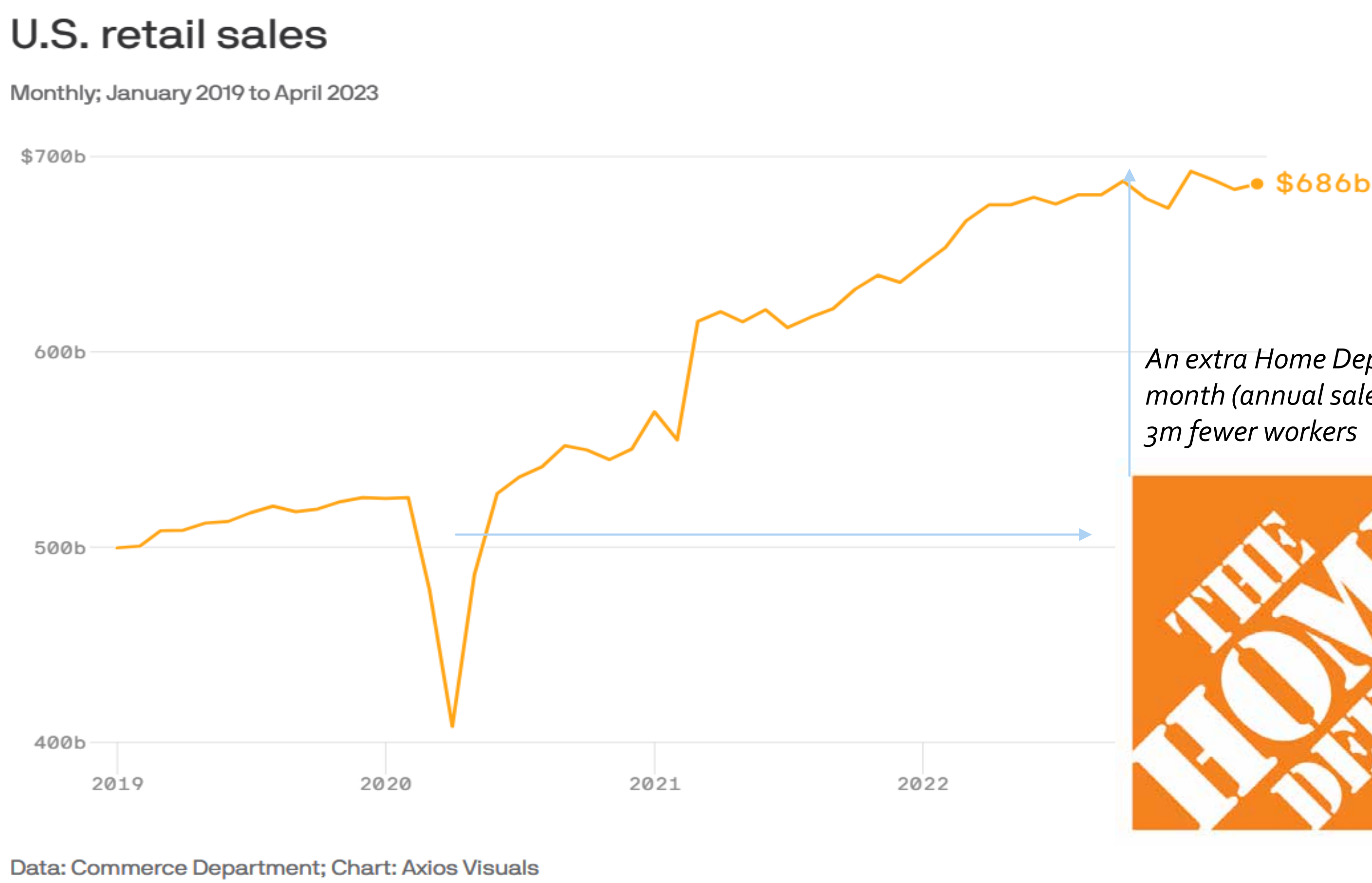
Source: Government Reports, IHL Group

US Retail Sales Growth

Total Retail Sales of India (2021) + UK (2022)

BACK TO DISCUSSION

Retail's Radical AI Transformation



Oct 19 – $429.0b
Oct 23 – $583.5b

An extra Home Depot a month (annual sales) with 3m fewer workers

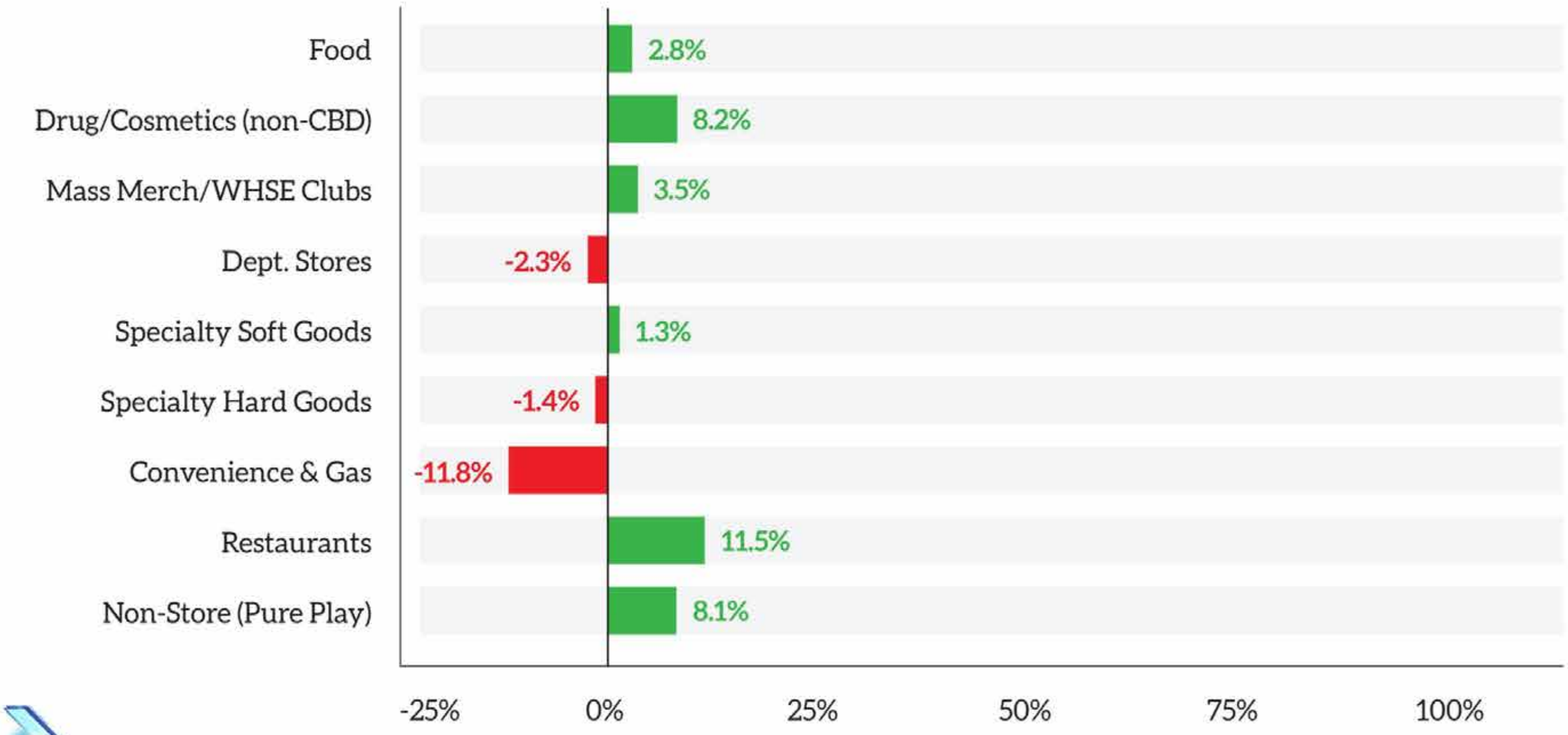
3

BACK TO DISCUSSION

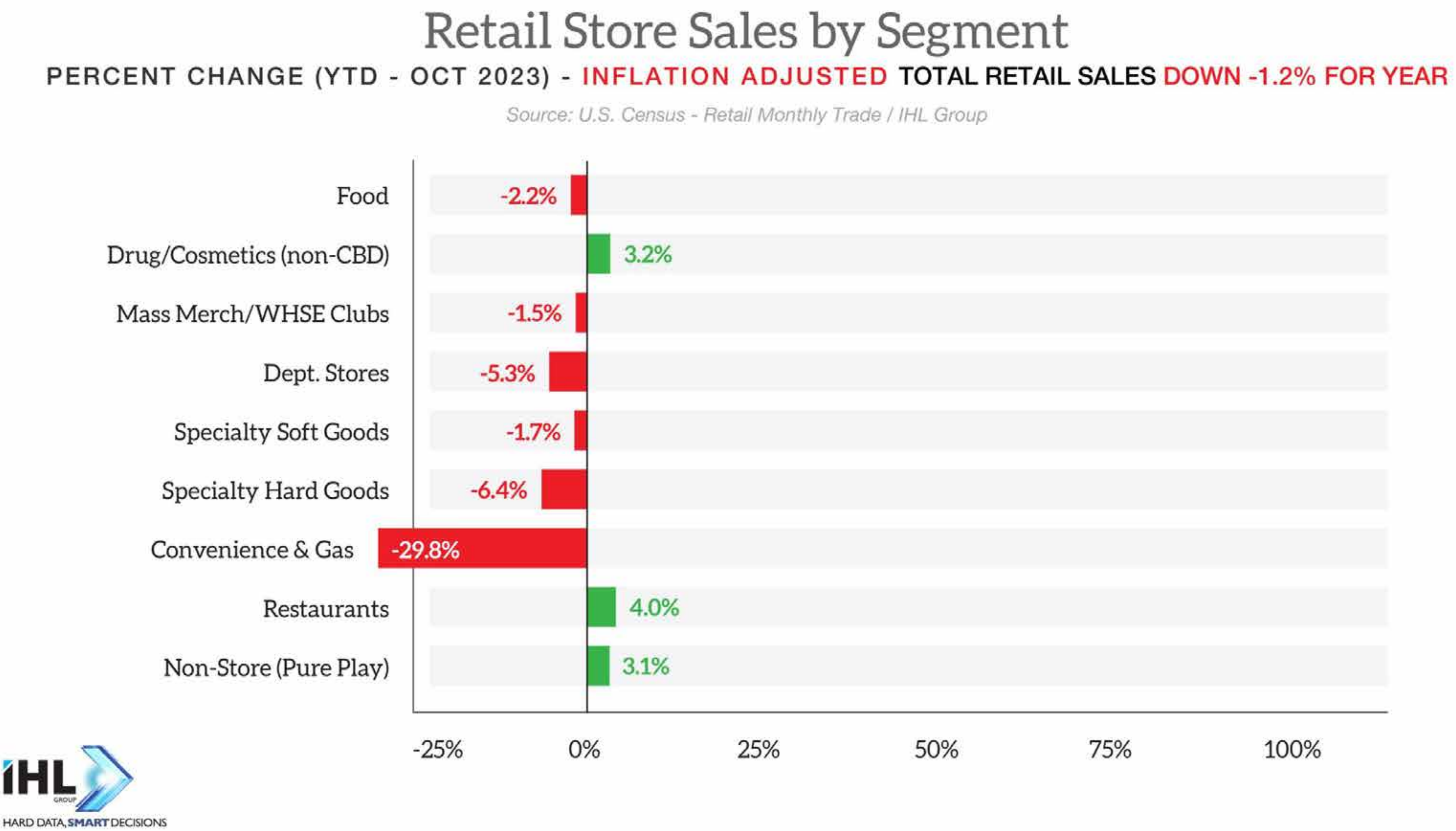
Retail Store Sales by Segment

PERCENT CHANGE (YTD - OCT 2023) - TOTAL RETAIL SALES INCREASED 3.0% FOR YEAR

Source: U.S. Census - Retail Monthly Trade / IHL Group



BACK TO DISCUSSION

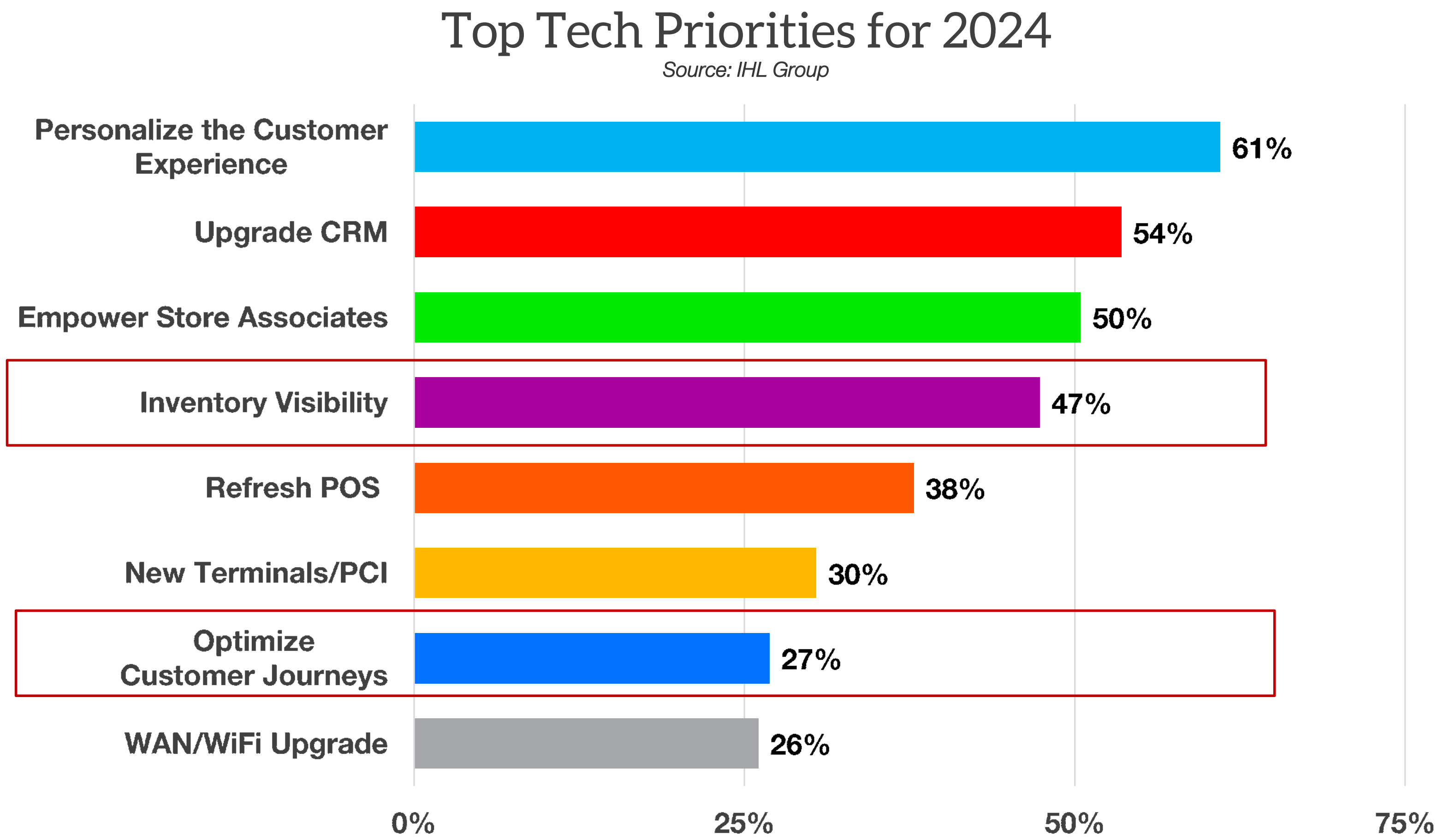


BACK TO DISCUSSION

Tech Priorities

BACK TO DISCUSSION

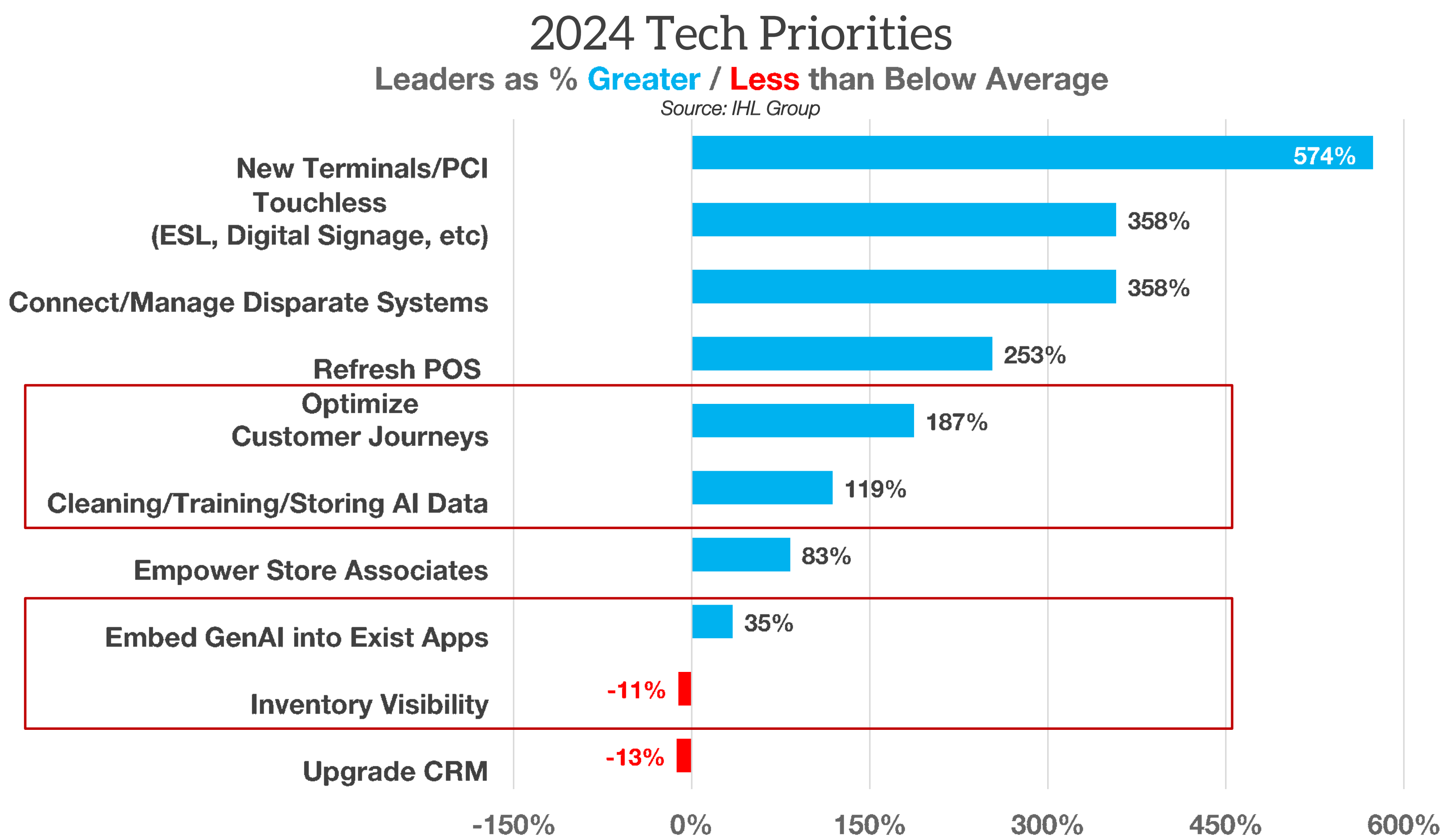
Retail's Radical AI Transformation



7

BACK TO DISCUSSION

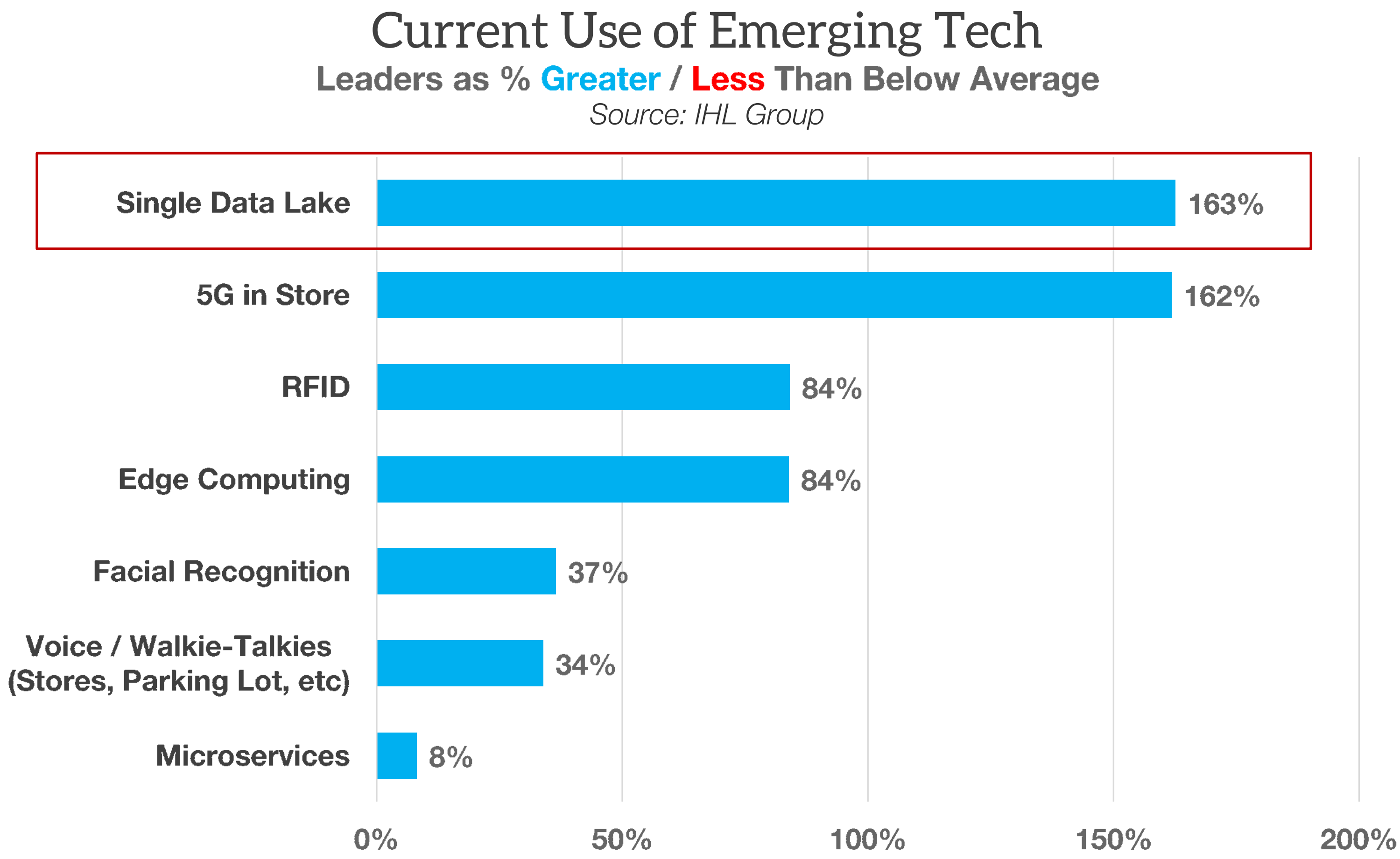
Retail's Radical AI Transformation



8

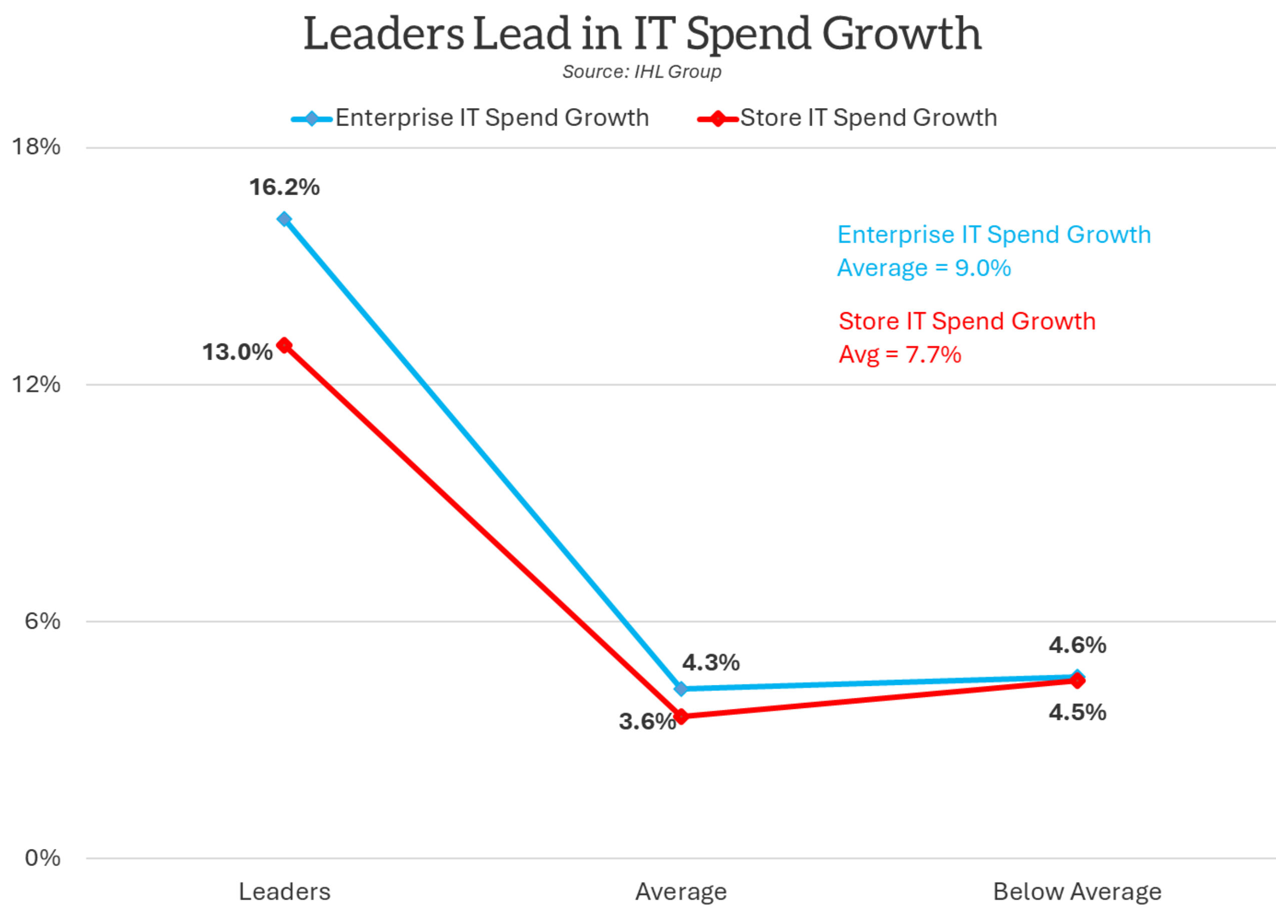
BACK TO DISCUSSION

Retail's Radical AI Transformation



9

BACK TO DISCUSSION



10

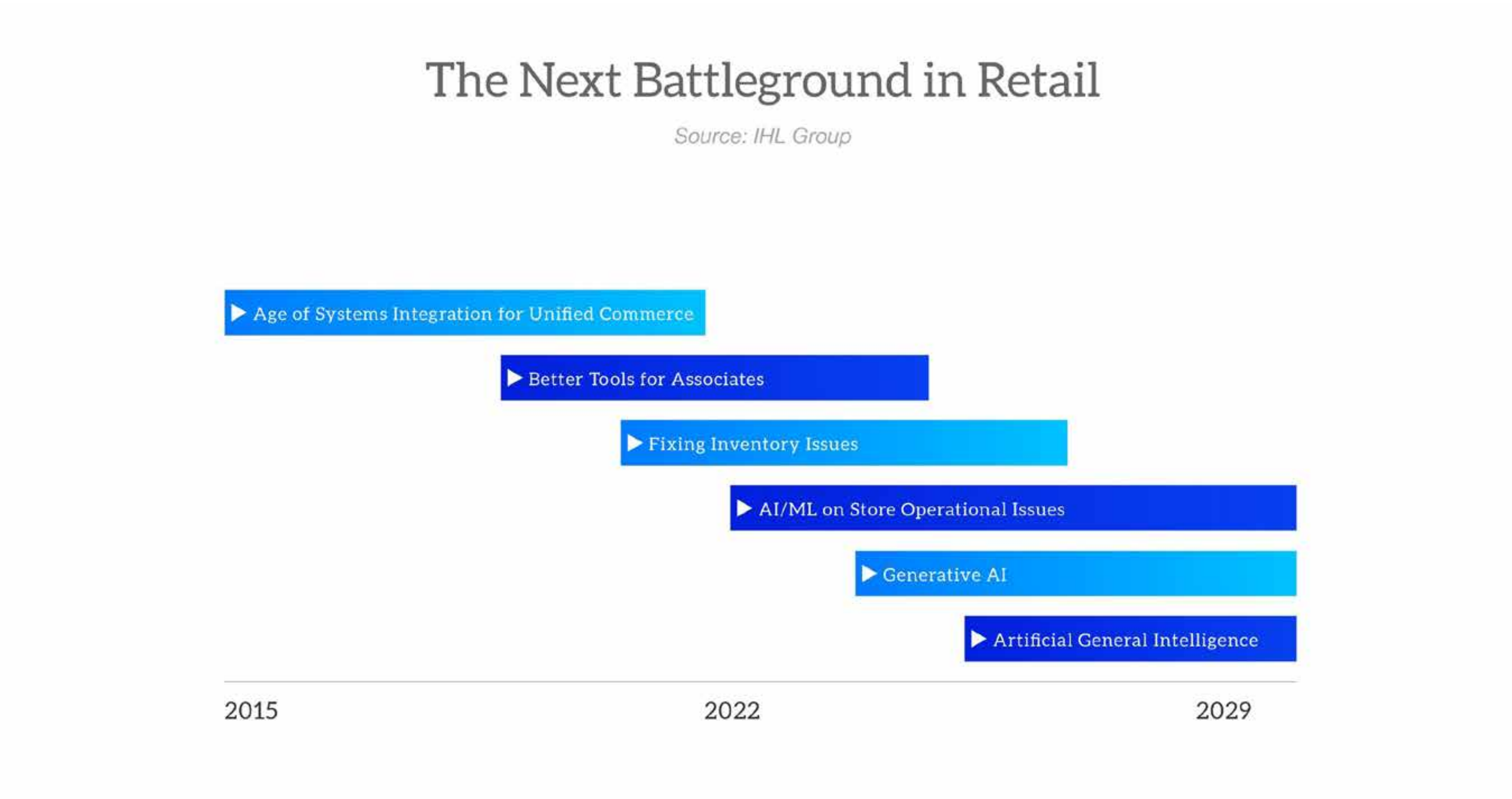
BACK TO DISCUSSION

CTVG Views | In The Room with CTVG | Retail Radical AI Transformation

Bottom Line

Retailers must do more with less

BACK TO DISCUSSION



12

BACK TO DISCUSSION

Retail's Radical AI Transformation

Forecast Model – Segment, Region, AI Type, Financial Category

Forecast by Segment by Year by AI Type for Financial Statement Categories

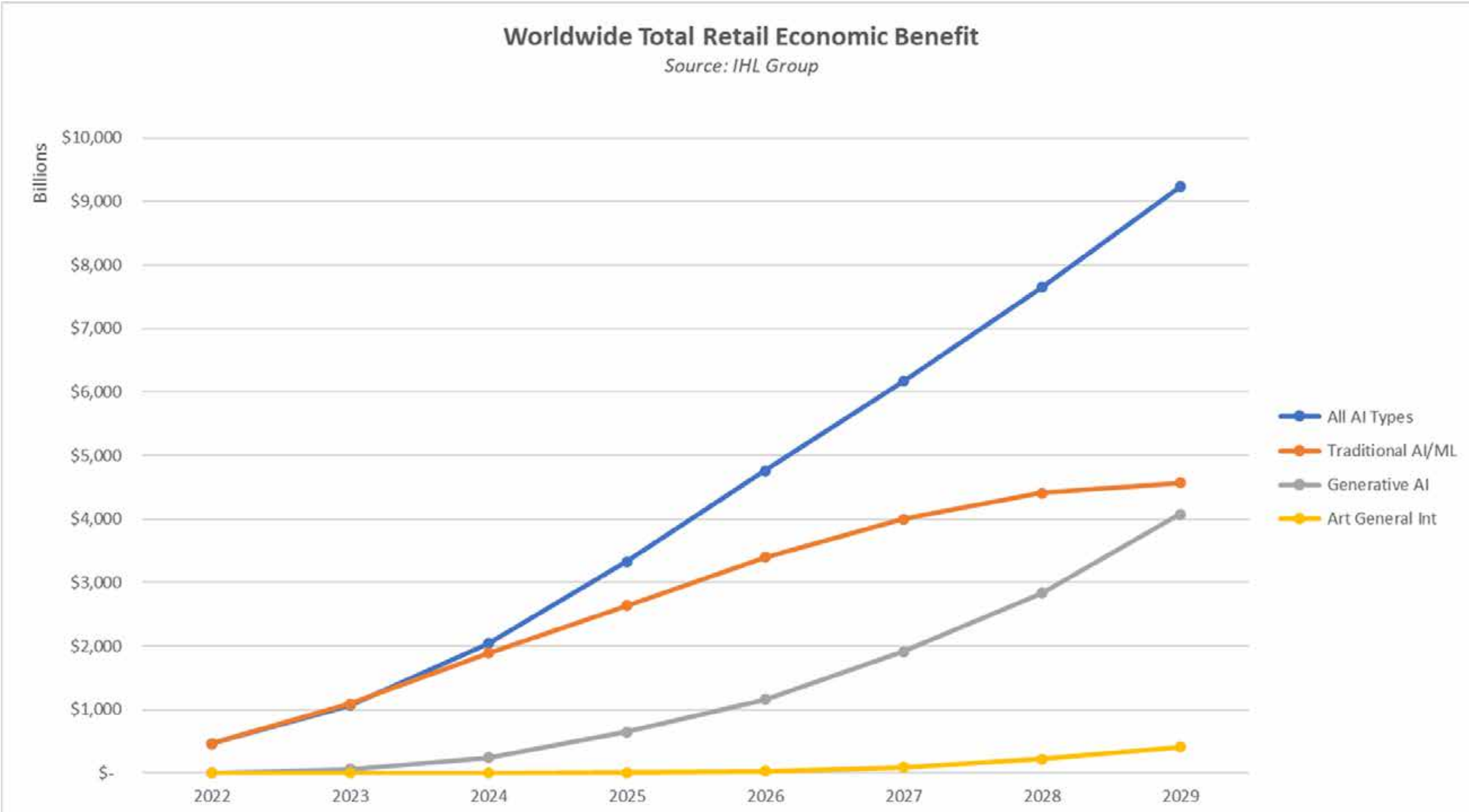
Sort Order	Segment	Region	Year	Forecast Revenue	Sales Improvements				Gross Margin Improvements			
					Total $Improv	Total $Trad AI/ML	Total $Gen AI	Total $AGI	Total $Improv	Total $Trad AI/ML	Total $Gen AI	Total $AGI
in Millions USD				$31,039,918	$483,165	$ 421,306	$ 61,859	$ -	$289,898	$ 255,110	$34,788	$ -
89	Grocery	APAC	2024	$ 2,377,098	$ 57,050	$ 50,204	$ 6,846	$ -	$ 16,640	$ 14,643	$ 1,997	$ -
90	Drug	APAC	2024	$ 109,298	$ 1,639	$ 1,443	$ 197	$ -	$ 383	$ 337	$ 46	$ -
91	Department Stores	APAC	2024	$ 316,042	$ 4,109	$ 3,616	$ 493	$ -	$ 1,106	$ 973	$ 133	$ -
92	Specialty Hard Goods	APAC	2024	$ 1,661,760	$ 13,294	$ 11,699	$ 1,595	$ -	$ 5,816	$ 5,118	$ 698	$ -
93	Specialty Soft Goods	APAC	2024	$ 726,331	$ 5,811	$ 5,113	$ 697	$ -	$ 2,542	$ 2,237	$ 305	$ -
94	Mass Merchants	APAC	2024	$ 576,633	$ 8,649	$ 7,612	$ 1,038	$ -	$ 4,036	$ 3,552	$ 484	$ -
95	Super Stores/WH Clubs	APAC	2024	$ 1,344,262	$ 26,885	$ 23,659	$ 3,226	$ -	$ 18,820	$ 16,561	$ 2,258	$ -
96	Conv./Gas	APAC	2024	$ 293,581	$ 2,349	$ 2,067	$ 282	$ -	$ 2,055	$ 1,808	$ 247	$ -
97	Non-Store Retailers/Ecommerce	APAC	2024	$ 3,267,208	$ 65,344	$ 57,503	$ 7,841	$ -	$ 68,611	$ 60,378	$ 8,233	$ -
98	Restaurants (Bar/Rest./Fast Food)	APAC	2024	$ 996,302	$ 13,948	$ 12,274	$ 1,674	$ -	$ 3,487	$ 3,069	$ 418	$ -
99	Entertainment Other	APAC	2024	$ 423,480	$ 4,235	$ 3,727	$ 508	$ -	$ 4,447	$ 3,913	$ 534	$ -
100	Grocery	EMEA	2024	$ 2,288,290	$ 54,919	$ 48,329	$ 6,590	$ -	$ 19,222	$ 16,915	$ 2,307	$ -
101	Drug	EMEA	2024	$ 390,355	$ 5,855	$ 5,153	$ 703	$ -	$ 2,732	$ 2,405	$ 328	$ -
102	Department Stores	EMEA	2024	$ 111,202	$ 1,446	$ 1,272	$ 173	$ -	$ 778	$ 685	$ 93	$ -
103	Specialty Hard Goods	EMEA	2024	$ 1,490,124	$ 11,921	$ 10,490	$ 1,431	$ -	$ 7,302	$ 6,425	$ 876	$ -
104	Specialty Soft Goods	EMEA	2024	$ 588,221	$ 4,706	$ 4,141	$ 565	$ -	$ 2,059	$ 1,812	$ 247	$ -
105	Mass Merchants	EMEA	2024	$ 110,379	$ 1,656	$ 1,457	$ 199	$ -	$ 773	$ 680	$ 93	$ -
106	Super Stores/WH Clubs	EMEA	2024	$ 460,660	$ 9,213	$ 8,108	$ 1,106	$ -	$ 4,837	$ 4,257	$ 580	$ -
107	Conv./Gas	EMEA	2024	$ 388,292	$ 3,106	$ 2,734	$ 373	$ -	$ 2,718	$ 2,392	$ 326	$ -
108	Non-Store Retailers/Ecommerce	EMEA	2024	$ 617,939	$ 12,359	$ 10,876	$ 1,483	$ -	$ 12,977	$ 11,420	$ 1,557	$ -
109	Restaurants (Bar/Rest./Fast Food)	EMEA	2024	$ 843,761	$ 11,813	$ 10,395	$ 1,418	$ -	$ 5,906	$ 5,198	$ 709	$ -
110	Entertainment Other	EMEA	2024	$ 563,608	$ 5,636	$ 4,960	$ 676	$ -	$ 3,945	$ 3,472	$ 473	$ -

Sort Order	Segment	Region	SG&A Improvements				Total Economic Benefit/Improvements			
			Total $Improv	Total $Trad AI/ML	Total $Gen AI	Total $AGI	Total $Improv	Total $Trad AI/ML	Total $Gen AI	Total $AGI
			$199,334	$ 59,800	$139,534	$ -	$972,397	$ 736,216	$236,181	$ -
89	Grocery	APAC	$ 17,115	$ 5,135	$ 11,981	$ -	$ 90,805	$ 69,982	$ 20,823	$ -
90	Drug	APAC	$ 459	$ 138	$ 321	$ -	$ 2,481	$ 1,917	$ 564	$ -
91	Department Stores	APAC	$ 1,517	$ 455	$ 1,062	$ -	$ 6,732	$ 5,044	$ 1,688	$ -
92	Specialty Hard Goods	APAC	$ 11,965	$ 3,589	$ 8,375	$ -	$ 31,075	$ 20,406	$ 10,669	$ -
93	Specialty Soft Goods	APAC	$ 4,358	$ 1,307	$ 3,051	$ -	$ 12,711	$ 8,658	$ 4,053	$ -
94	Mass Merchants	APAC	$ 3,460	$ 1,038	$ 2,422	$ -	$ 16,146	$ 12,202	$ 3,944	$ -
95	Super Stores/WH Clubs	APAC	$ 8,066	$ 2,420	$ 5,646	$ -	$ 53,770	$ 42,640	$ 11,130	$ -
96	Conv./Gas	APAC	$ 1,409	$ 423	$ 986	$ -	$ 5,813	$ 4,298	$ 1,515	$ -
97	Non-Store Retailers/Ecommerce	APAC	$ 19,603	$ 5,881	$ 13,722	$ -	$153,559	$ 123,762	$ 29,797	$ -
98	Restaurants (Bar/Rest./Fast Food)	APAC	$ 2,989	$ 897	$ 2,092	$ -	$ 20,424	$ 16,240	$ 4,184	$ -
99	Entertainment Other	APAC	$ 1,906	$ 572	$ 1,334	$ -	$ 10,587	$ 8,211	$ 2,376	$ -
100	Grocery	EMEA	$ 16,476	$ 4,943	$ 11,533	$ -	$ 90,616	$ 70,186	$ 20,430	$ -
101	Drug	EMEA	$ 2,342	$ 703	$ 1,639	$ -	$ 10,930	$ 8,260	$ 2,670	$ -
102	Department Stores	EMEA	$ 667	$ 200	$ 467	$ -	$ 2,891	$ 2,157	$ 734	$ -
103	Specialty Hard Goods	EMEA	$ 6,706	$ 2,012	$ 4,694	$ -	$ 25,928	$ 18,928	$ 7,001	$ -
104	Specialty Soft Goods	EMEA	$ 2,647	$ 794	$ 1,853	$ -	$ 9,412	$ 6,747	$ 2,665	$ -
105	Mass Merchants	EMEA	$ 1,192	$ 358	$ 834	$ -	$ 3,620	$ 2,495	$ 1,126	$ -
106	Super Stores/WH Clubs	EMEA	$ 4,975	$ 1,493	$ 3,483	$ -	$ 19,025	$ 13,857	$ 5,169	$ -
107	Conv./Gas	EMEA	$ 1,631	$ 489	$ 1,142	$ -	$ 7,455	$ 5,615	$ 1,841	$ -
108	Non-Store Retailers/Ecommerce	EMEA	$ 3,708	$ 1,112	$ 2,595	$ -	$ 29,043	$ 23,408	$ 5,636	$ -
109	Restaurants (Bar/Rest./Fast Food)	EMEA	$ 2,531	$ 759	$ 1,772	$ -	$ 20,250	$ 16,352	$ 3,898	$ -
110	Entertainment Other	EMEA	$ 2,367	$ 710	$ 1,657	$ -	$ 11,948	$ 9,142	$ 2,807	$ -

14

BACK TO DISCUSSION

Retail's Radical AI Transformation

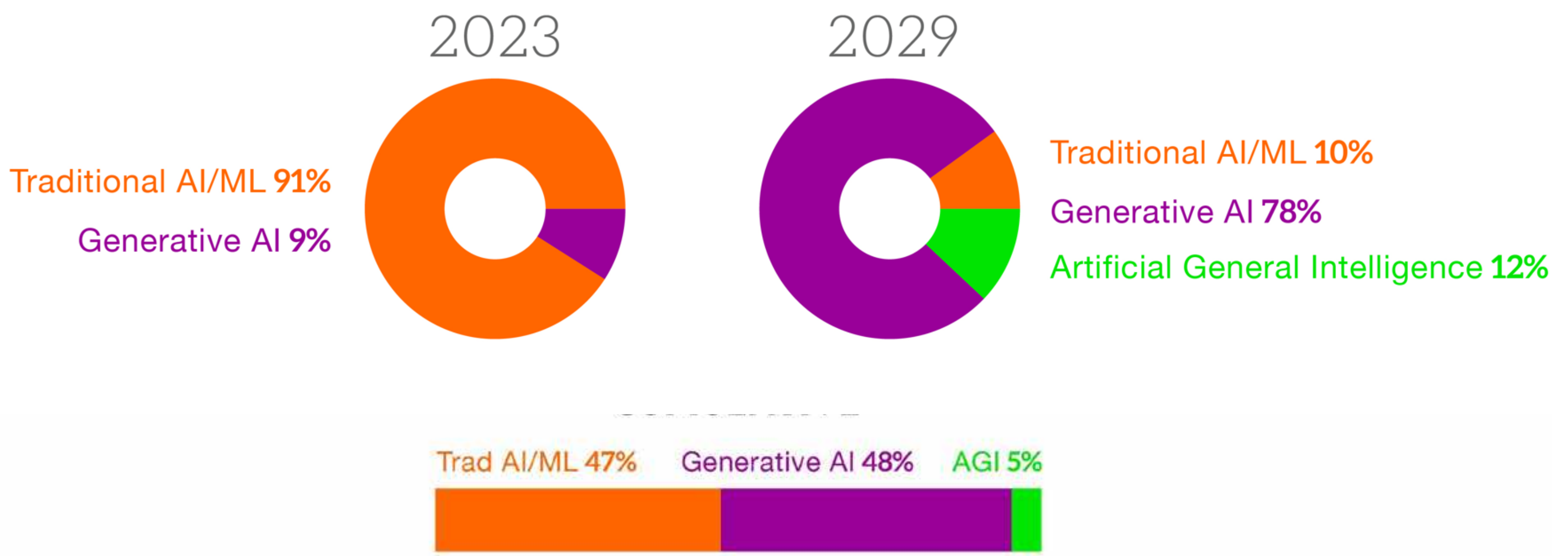


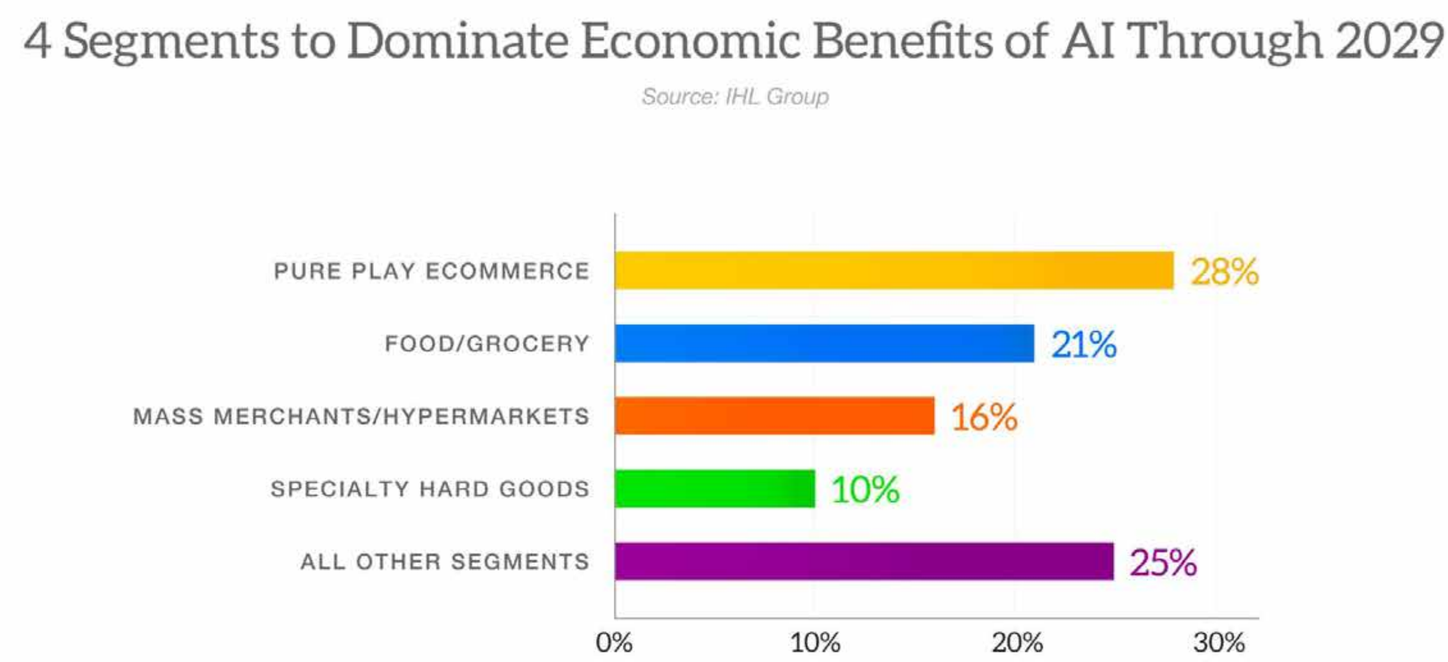
16

BACK TO DISCUSSION

Radical Change in Type of AI Driving Impact Per Year

Source: IHL Group





18

BACK TO DISCUSSION

Rich Get Richer - The Real AI Bias

Source: IHL Group

72%

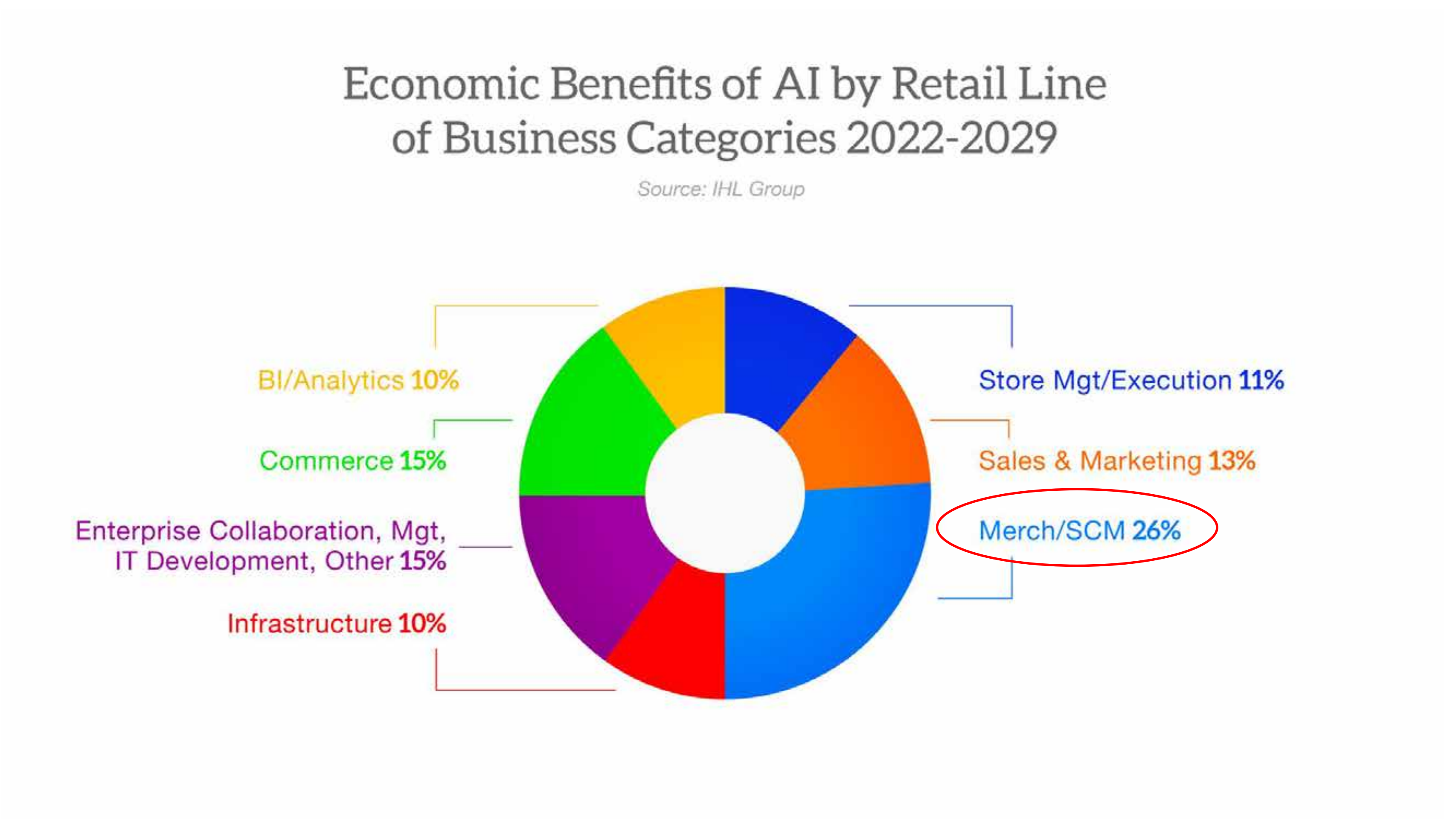
of cumulative AI economic benefits will go to retailers over $1b in size.

Only 13%

of cumulative AI economic benefits will go to retailers under $100m in size.

BACK TO DISCUSSION

Retail's Radical AI Transformation



20

BACK TO DISCUSSION

Sample Sales Impact

- Improved Product Recommendations
- Personalized Promotions and Pricing
- Increased Customer Engagement

Value of 1-2 more additional sales per year per customer?

BACK TO DISCUSSION

GM Impact

- Supplier Negotiations
- Demand Forecasting
- Inventory Optimization
- Routing and Logistics
- Quality Control and Negotiations

Traditional AI/ML well on the way –
Generative will take to new level

SG&A Impact

- Automation of Routine Tasks
- Reduction of Labor Costs
- Personalized/Targeted Marketing
- Streamlining Payroll and Benefits, Labor Scheduling
- Improved Communications
- Better and faster financial performance
- Improved Infrastructure/Security Management

Where Generative AI will shine brightest

BACK TO DISCUSSION

Some Use Cases

- **Walmart – "Ask Sam"**
  - **Fixtures Negotiation**
- **Tapestry**
  - **Personalized Online Marketing 3-5% increase in sales**
- **Macy's – AI Powered Shopping Assistant**

BACK TO DISCUSSION

Power of AI on Retail Performance

Source: IHL Group/RIS News Retail Transformation Study Initial Results

How much higher growth for those using AI/ML Today

Average performance over 11 different solution areas:
Forecasting, Order Management, Order Fulfillment, Supply Chain/WHS Management, Merchandise Allocation, Pricing/Promotions, BI/Analytics, Loss Prevention, Sales & Mktg, HR/WFM/App Dev/Customer Service, Other

BACK TO DISCUSSION

Power of AI on Retail Performance

Source: IHL Group/RIS News Retail Transformation Study Initial Results

How much higher growth for those using AI/ML Today

Sales Growth 2023 2.3x

Profit Growth 2023 2.5x

2024 Sales Growth 2.4x

2024 Profit Growth 2.9x

Average performance over 11 different solution areas: *Forecasting, Order Management, Order Fulfillment, Supply Chain/WHS Management, Merchandise Allocation, Pricing/Promotions, BI/Analytics, Loss Prevention, Sales & Mktg, HR/WFM/App Dev/Customer Service, Other*

BACK TO DISCUSSION

Key Warning

Priorities are critical

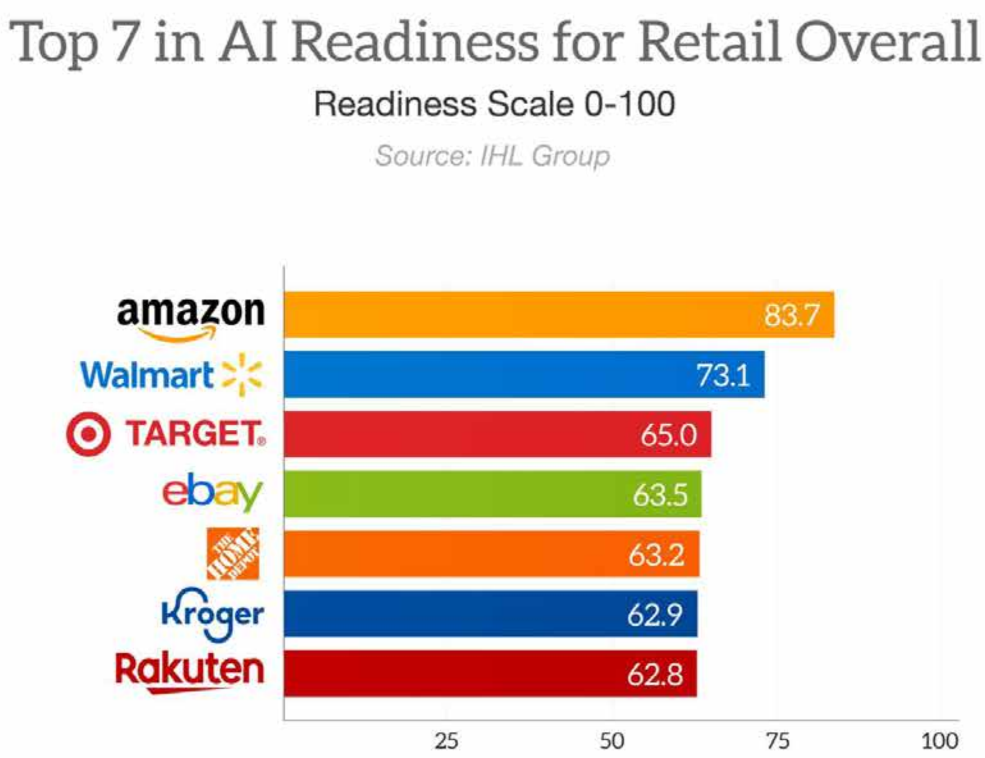
"Dumb loses more than smart wins"

BACK TO DISCUSSION

North America

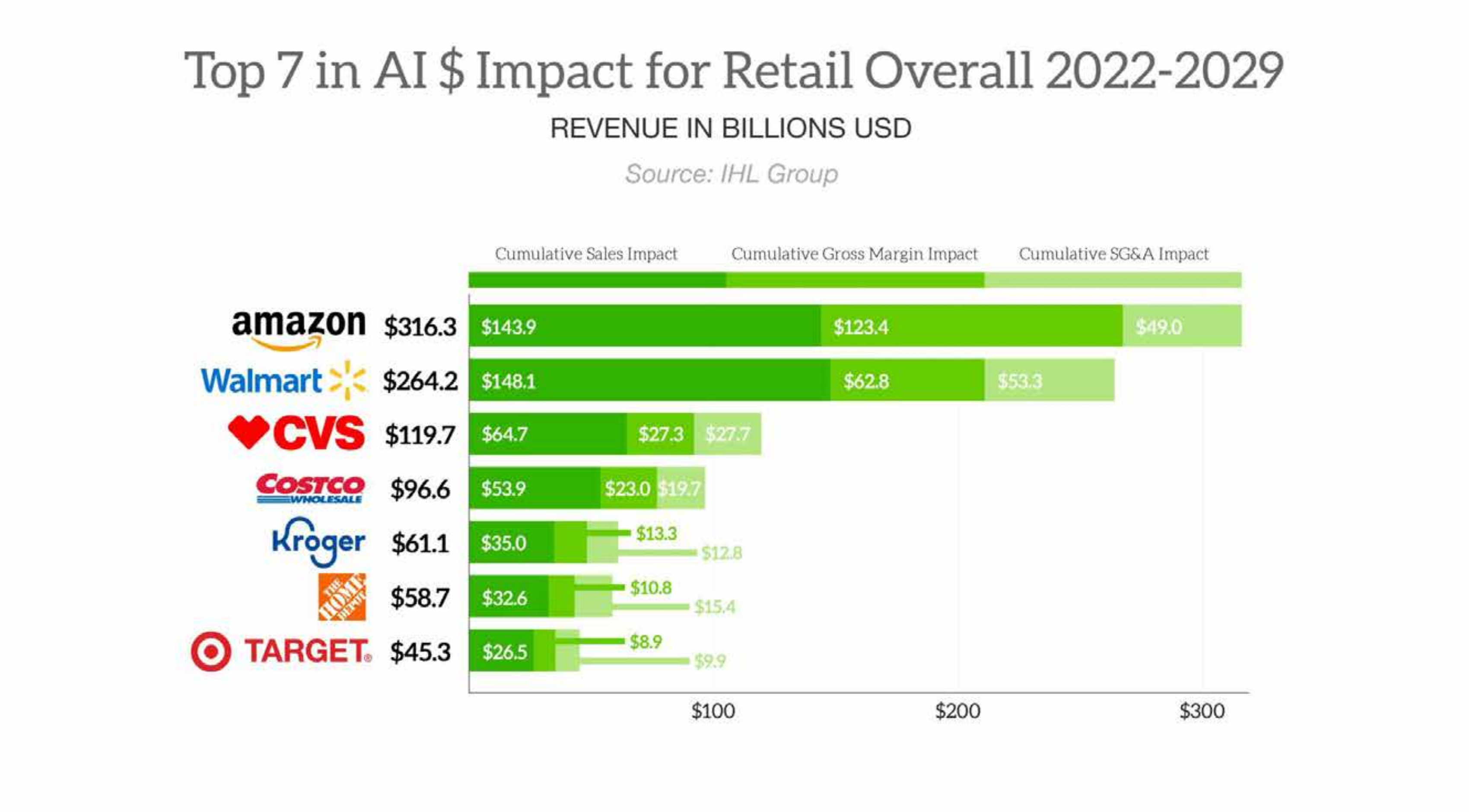
AI Readiness Rankings

BACK TO DISCUSSION



BACK TO DISCUSSION

CTVG Views | In The Room with CTVG | Retail Radical AI Transformation



BACK TO DISCUSSION

IHL AI Readiness (AIR)

Macy's, Inc. (Parent Company)

Segment: Department Stores Stock Symbol: M

Sub-Segment: Department Stores

Total AI Impact 2022 - 2029

$7.5 Billion

Total AI Score

49.5

AIR Rank - Retail

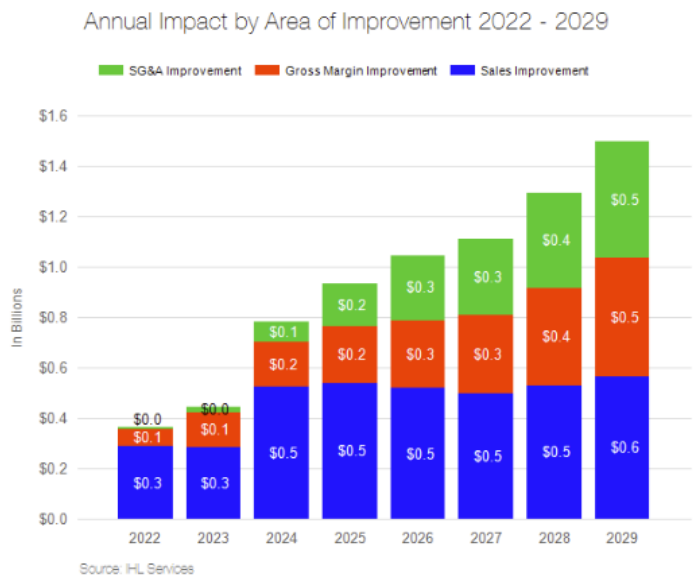
22

of 184

AIR Rank - Department Stores

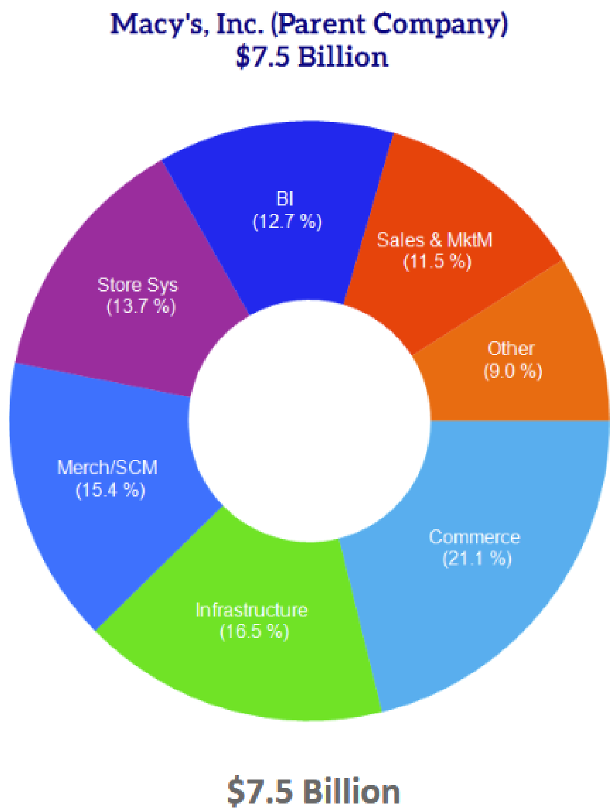
1

of 4



Total AI Impact 2022 - 2029 By Line of Business

Source IHL Group



BACK TO DISCUSSION

Top Categories by Line of Business for Potential AI Impact 2022-2029

Macy's, Inc. (Parent Company)

Merchandise/SCM	$705.6m
Enterprise Order Management	$201.1m
Assortment and Allocation Planning	$137.3m
Multi-Channel Merchandise Management	$131.9m
Replenishment	$127.6m
Distribution	$107.7m

Sales and Marketing	$498.2m
Promotions Management	$132.3m
CRM For Retail	$128.6m
Price Mgt. and Optimization	$107.0m
Call Center	$67.3m
Digital Content Creation	$63.1m

Store Systems	$586.3m
Other Store Systems	$245.1m
Loss Prevention	$138.3m
Fraud Prevention	$73.8m
Receiving And Ordering For Retail	$66.4m
Payment Systems and EMV	$62.8m

Infrastructure	$891.0m
Other Infrastructure	$502.0m
Desktop/Laptop	$155.6m
Anti-Virus/Firewall	$84.3m
Store Monitoring	$76.2m
Platform-Application Server SW Platform	$72.9m

Commerce Solutions	$1,082.4m
Cross Channel Integration	$311.0m
B2C-Web (Desktop)	$239.9m
B2B-Web (Desktop)	$200.9m
B2B-Mobile/Tablet	$181.0m
B2C-Mobile/Tablet	$149.6m

Business Intelligence	$487.9m
Inventory Optimization	$129.6m
Predictive Analytics	$101.0m
Multi-Channel Analytics	$93.4m
Big Data Tools/Integration	$82.3m
Web Analytics	$81.6m

Retail Radical AI *Transformation*

Greg Buzek
President – IHL Group
greg@ihlservices.com
@gregbuzek

BACK TO DISCUSSION

RetailROI
Retail Orphan Initiative
Helping Vulnerable Children Worldwide
www.RetailROI.org

Join us for RetailROI SuperSaturday

January 13, 2024 – Manhattan

Keynote - Run DMC's Darryl McDaniels

Retailers attend free

https://www.retailroi.org/supersaturday

All proceeds from vendor sponsorships goes to build schools, computer labs, etc.

BACK TO DISCUSSION

The Convenience Technology Vision Group (CTVG) brings together invited technology leaders for quarterly virtual meetings to discuss technology issues impacting the convenience channel. The group addresses trends, challenges and solutions in AI, computer vision, alternative payments, robotics, IoT, blockchain, cybersecurity, data analysis, EVs, food tech, frictionless checkout, digital experiences, workforce management and more. The group is committed to sharing its views and perspectives in order to advance the convenience retailing and mobility industry. CTVG 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**

CTVG
CONVENIENCE TECHNOLOGY
VISION GROUP

A part of Vision Group Network

For more information about Vision Group Network email us:

Myra Kressner
myra.kressner@tvgsolutions.com

Eva Strasburger
eva.strasburger@tvgsolutions.com

Roy Strasburger
roy.strasburger@tvgsolutions.com

VGN
VISION GROUP NETWORK

Want more?

Access the growing library of FREE Vision Reports at **tvgsolutions.com**

CTVG | CONVENIENCE TECHNOLOGY VISION REPORTS

In Focus: A CTVG Conversation with POS Solution Providers

November 2023

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

September 2023

EV Infrastructure and Strategy Updates and POS Systems Challenges and Opportunities.

Unraveling the Road to EV Charging Infrastructure

July 2023

Explosive EV growth; the role of utility companies; government funding programs; operators moving forward

Tech Trailblazing

May 2023

Debating the AI hype, tech as it relates to shift flexibility, and the breaking point on data collection

CLVG | CONVENIENCE LEADERS VISION REPORTS

AI: Predictive Fuel and Dynamic In-Store Pricing

December 2023

Examining AI fuel and product pricing potential.

AI: Dawning of a New Era in Retail Analytics

June 2023

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

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

March 2023

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

January 2023

Changing work schedules and the gig economy; foodservice tipping in the convenience segment; alternative fuels and the timeframe for electric vehicles