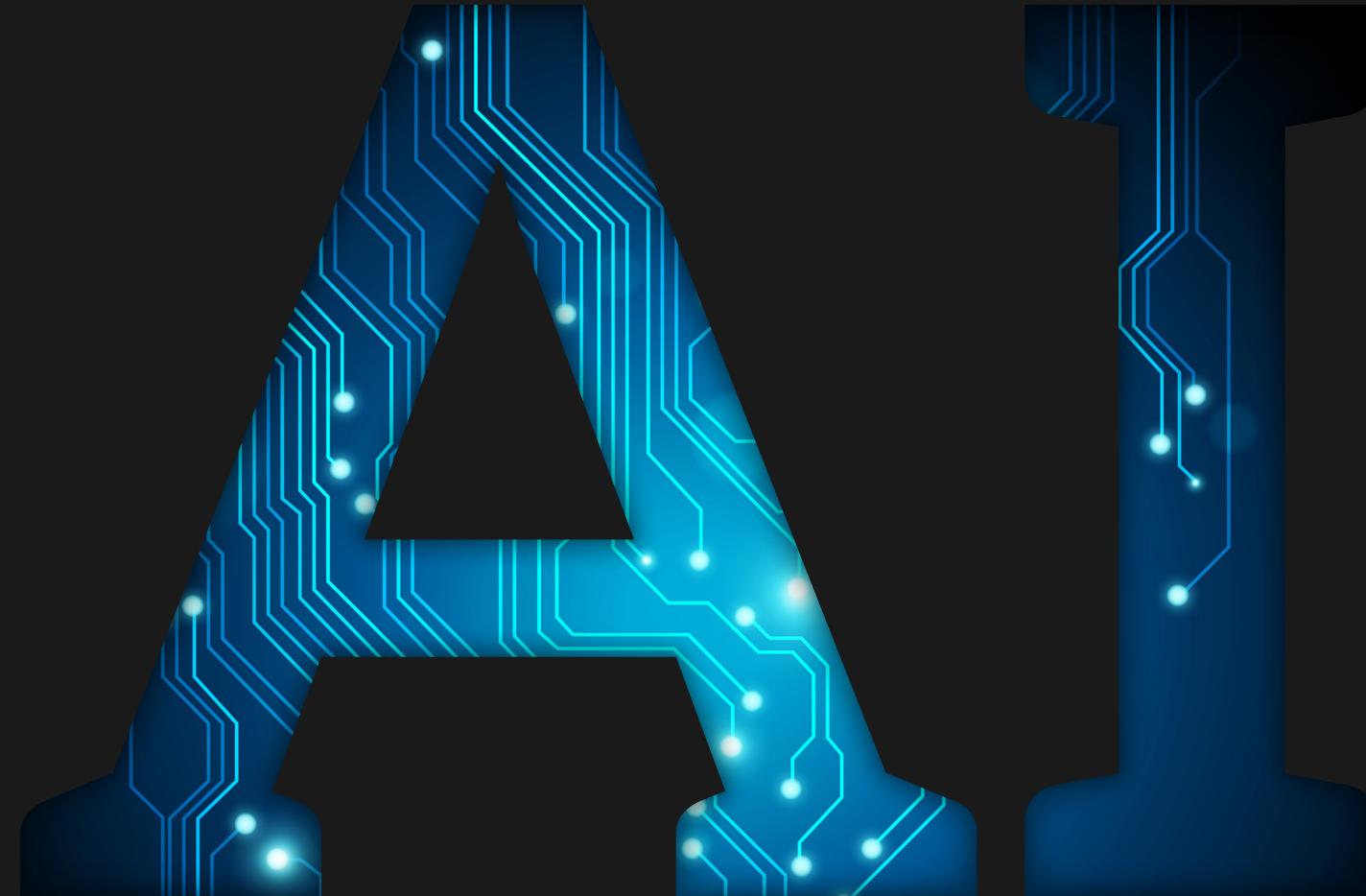


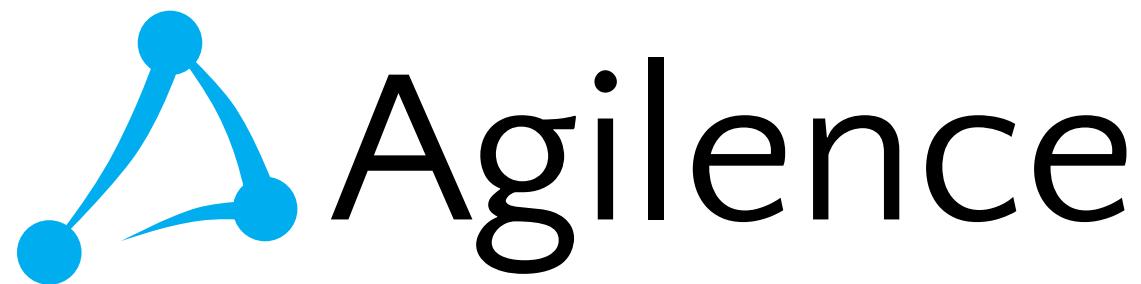
RETAIL'S



REVOLUTION



RESEARCH MADE AVAILABLE THANKS TO OUR SPONSOR



Introduction and Definitions

The last few years have been bust and boom for several types of retailers. Essential vs. Non-Essential, rapid ecommerce growth, government funds growing overall retail by over \$2 trillion in North America alone, a pandemic, massive supply chain disruptions, and then the war in Ukraine and skyrocketing interest rates that are rapidly slowing consumer spend. Just when you hoped – could we get a pause from the rapid and radical change? ChatGPT comes on the scene creating a truly Gutenberg moment that has the potential to change everything.

Before we dive into the forecasts, let's begin by defining a few key terms. Artificial Intelligence (AI)/Machine Learning (ML) refers to the use of algorithms to analyze data and perform tasks that traditionally require human intelligence.

AI/ML has the potential to greatly enhance retail operations by analyzing customer data, providing personalized recommendations, optimizing inventory

management, and automating customer service, but implementing these technologies can be challenging and requires extensive data cleansing and tagging.

ChatGPT was the AOL experience for a new type of AI called Generative AI. Just like that first time people experienced the internet with AOL, for the general public ChatGPT was that first “Oh Wow” experience for Generative AI. This is a type of AI that can create new content based on data it has learned from. The most popular that has been used so far are Large Language Models (LLM) that predict the next words and in the context of language. Trained by a huge internet data source, it can write, create photos and videos from scrap among other things. In retail, Generative AI can be used to create unique product designs, packaging, or even store layouts. It has incredible potential to disrupt the knowledge worker and impact the Sales as well as the General Administrative part of retail, greatly increasing productivity. And when combined with the AI/ML tools already in place and working, can provide exponential growth.



Artificial General Intelligence (AGI) is a hypothetical form of AI that can perform any intellectual task that a human can. In the context of a retail operation, AGI is still largely theoretical. Most companies believe we are 3-5 years away from this technology if it can be achieved. However, if achieved, AGI could potentially transform the retail industry by automating complex tasks, such as product design and supply chain management, and providing a level of customer service that is indistinguishable from a human representative.

The realm of AI is saturated with a mix of genuine breakthroughs and exaggerated claims aiming to capture attention, but akin to electricity and the internet, AI holds transformational power that can be harnessed for positive or negative outcomes. However, one undeniable truth applies to both organizations and individuals: while AI may not directly replace jobs, those who possess expertise in leveraging AI tools will have a distinct advantage over those who do not.

THE NEXT BATTLEGROUND IN RETAIL

Source: IHL Group

► Age of Systems Integration for Unified Commerce

► Better Tools for Associates

► Fixing Inventory Issues

► AI/ML on Store Operational Issues

► Generative AI

► Artificial General Intelligence

2015

2022

2029

Retail Economic Impact

In our forecast, we adopted a comprehensive approach to assess the overall economic influence that each AI type will have through 2029. We utilized our Worldview IT Spend Model as a foundation, considering various segments and categories. By refining the data based on 10 Line-of-Business Categories (such as BI, Ecommerce, Sales and Marketing, Distribution and Supply Chain, etc.), we calculated the projected impact over the next 7 years. Additionally, we factored in regional and tier differences. Worldwide, IHL is forecasting that the overall economic impact worldwide through 2029 will be \$9.2 trillion USD. In the following pages we will discuss what we believe the impact will be across the financial statements of retailers from Revenues, Gross Margins, and SG&A improvements. We chose economic impact as the measure as it is impossible to predict company behavior and other macro-economic events that will speed or delay the benefits.

This impact will vary dramatically by region, by tier, by retail segments, and by solutions. While the curves might look linear, the impacts of AI are more akin to being in a traffic jam on a highway with 6-10 lanes. Each lane will move at a different pace. Some regions and segments will benefit faster, others slower. Some will be at the front of the line, others will be at the back and sadly, many will run out of gas.

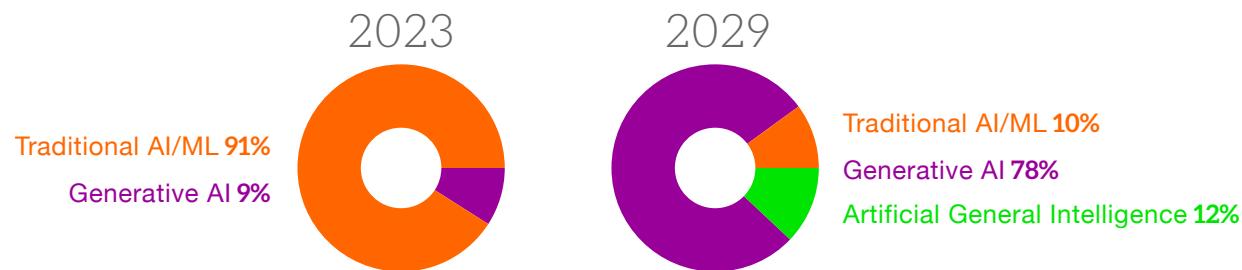
WORLDWIDE RETAIL AI ECONOMIC IMPACT THROUGH 2029

Source: IHL Group

\$9.2
Trillion USD

RADICAL CHANGE IN TYPE OF AI DRIVING IMPACT PER YEAR

Source: IHL Group



We forecast the Asia/Pacific market will have by far the biggest economic impact from AI over the next 7 years, with an overall economic impact of \$3.8 trillion, or 42% of the total. This is due to overall population, size of the retail market, and long-term growth rates. Also, we expect less regulation to slow down the business use of AI than we will see in other regions.

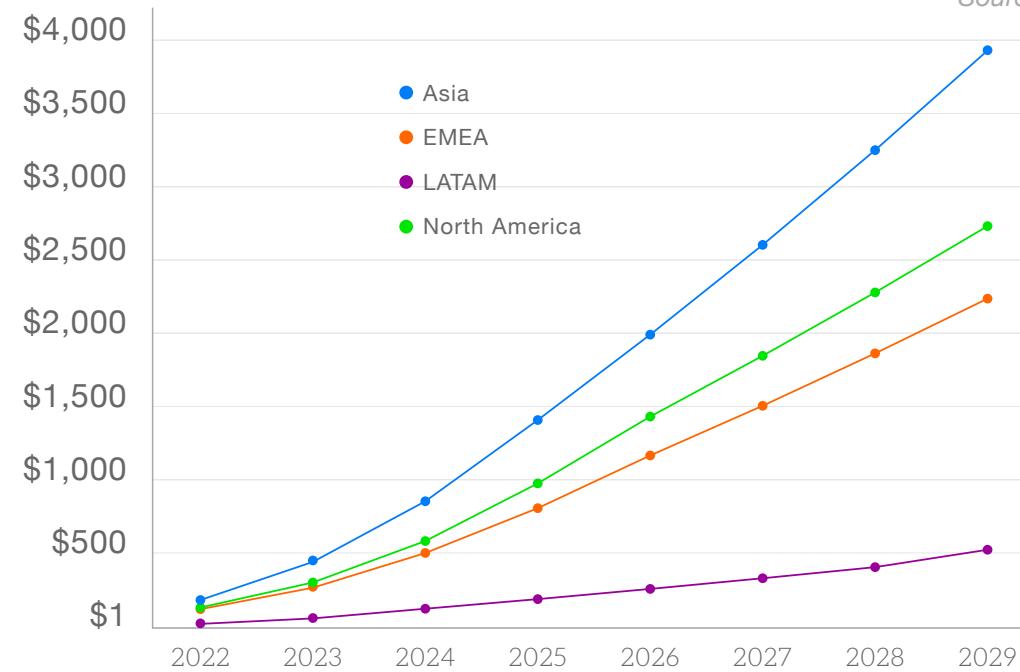
Our next largest perceived impact will be in the North American market at \$2.7 trillion or 29% of the total. North America's higher concentration of larger retailers will enjoy benefits of scale. Many of these retailers also have a substantial head start in traditional AI/ML deployment as they have already been enjoying benefits from forecasting, computer aided ordering, and other areas.

Our third largest region is Europe/Middle East/Africa at 24% of the total benefit or \$2.2 trillion. Our view is that this could be higher, but we project more government regulations than any other region. This will limit the full potential for the region by 2029 but might preserve more jobs in the retail industry in the period that might otherwise be lost.

Finally, we expect the lowest impact on retail in the region of Latin/South America. This is because the overall retail market is considerably smaller than the other regions. While there are some very sophisticated retailers operating in the region, a much higher proportion of retail in the region is not as organized. In total, we expect to still see \$520 billion in economic benefit or about 6% of the total worldwide amount of economic benefit from this region.

WORLDWIDE RETAIL AI FORECAST ECONOMIC IMPACT 2022-2029 BY REGION

Source: IHL Group



Impact by Tier

If you are familiar with our previous research at IHL, you are aware of our assertion that the government's classification of certain retailers and restaurants as essential while deeming others as non-essential during the pandemic resulted in a monumental wealth transfer from smaller retailers to larger ones, particularly supercenters, hypermarkets, and grocers. This led to the unfortunate closure of over 400,000 smaller retailers in the United States, and similar effects were observed to some extent in other countries. However, we anticipate that the impact of AI in the coming seven years will be even a more significant advantage to larger retailers.

We are not saying that large retailers are going to wipe out smaller ones. But big and/or fast adopters of these productivity gains will wipe out the slow, regardless of size.

The reason we project this is that larger retailers, particularly those that enjoyed "essential" status, are presumably farther

down the path of deploying and utilizing traditional AI/ML solutions. These large retailers had the means available to hire data scientists where smaller retailers could not. The future of Generative AI is a bit more democratic than traditional AI/ML, but those retailers who have made the efforts to get accurate, clean data are ahead of the pack. In car racing they call this "clean air." Cars can go much faster and extend their lead because they are already ahead of the pack, with minimal turbulence, better traction, improved stability, and better overall performance. The same will be true for retailers who have begun their AI journey already.

RICH GET RICHER - THE REAL AI BIAS

Source: IHL Group

72%

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

Retail worldwide is not an equal division of small, medium, and large companies. Rather, most markets are a U shape, with a high number of sales coming from a few retailers that are extremely large and a lot of companies that are tiny retailers with sales well under \$2m in annual sales. These smaller companies pop up and go out of business at an incredibly rapid pace so there is tremendous churn. There exists a middle segment comprising approximately 5-15% of companies, varying based on the region, which fall within the range of \$10 million to \$1 billion USD in annual sales.

Considering the impact of AI, it is important to acknowledge that the larger players are more likely to be at the forefront, benefiting from the clean air advantage derived from their efforts in organizing and labeling extensive datasets, as well as their sheer scale. To illustrate this, even a minute 0.01% improvement in revenue for a company like The Home Depot would have a significantly larger impact, more than ten

times greater, than the entire revenue of a retailer with a modest \$1 million turnover. For these reasons, we're projecting that almost 72% of all economic benefit from AI through 2029 will go to retailers \$1b in size or more, with 15% of the benefit being enjoyed by retailers \$10m - \$1b, and 13% for the retailers under \$10m in size.

We want to be clear on this point; we are not stating that the smallest retailers and restaurants will be eliminated due to AI. What we are emphasizing is that they will need to demonstrate a significantly higher level of excellence in service style, and substance due to the cost benefits larger retailers will have simply due to scale. The advantage of economy of scale has traditionally favored larger entities, and with the advent of AI tools, this advantage is elevated to an entirely unprecedented level.

COMPANY CHURN LIMITS SMALLER RETAILERS

Source: IHL Group

Only 13%

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

Impact by Retail Segment

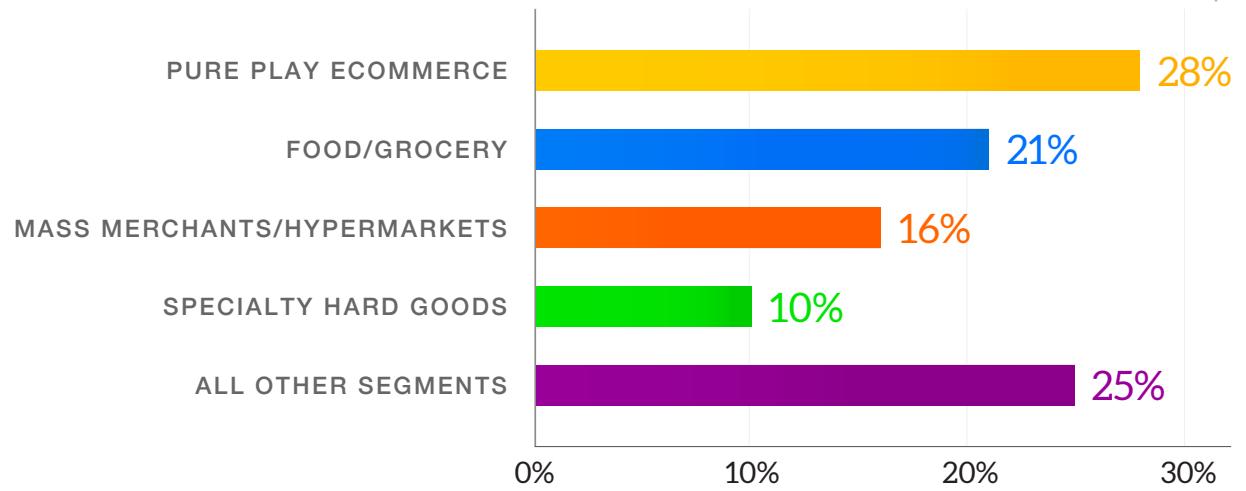
AI benefits will also not be distributed equally among companies of different segments. Certain segments have inherent benefits. For this part of the model, we will simply highlight the four we believe will most benefit from AI over the next 7 years.

The first segment is Pure Play ecommerce companies who we believe will see up to \$2.6 trillion or 28% of all the economic benefit. Our rationale behind this is that pure play ecommerce companies tend to possess superior customer data, which is inherently cleaner compared to that of many multi-channel retailers. With fewer systems to manage, achieving a unified and accurate version of customer data becomes easier. Consequently, it is no surprise that these companies are already significantly ahead in utilizing traditional AI/ML, automated warehouses, delivery robots, and similar technologies. By integrating Generative AI into their existing advancements, they gain a distinct first-mover advantage over the majority of competitors. Our second

segment seeing the biggest impacts from AI will be the Food/Grocery segment, with potential economic benefits of up to \$1.9 trillion over the next several years or roughly 21% of the total. In this case, the primary factor at play is the sheer magnitude of the segment, coupled with its rapid expansion due to being classified as “essential” during the pandemic, resulting in substantial growth and increased funds for investment. One specific area showing great improvements already is in Computer Aided Ordering solutions leveraging AI. Some retailers are seeing between 3-9% in sales gains per category when utilized. This is disrupting vendor managed categories and direct store deliveries, leading to even greater profits.

4 SEGMENTS TO DOMINATE ECONOMIC BENEFITS OF AI THROUGH 2029

Source: IHL Group



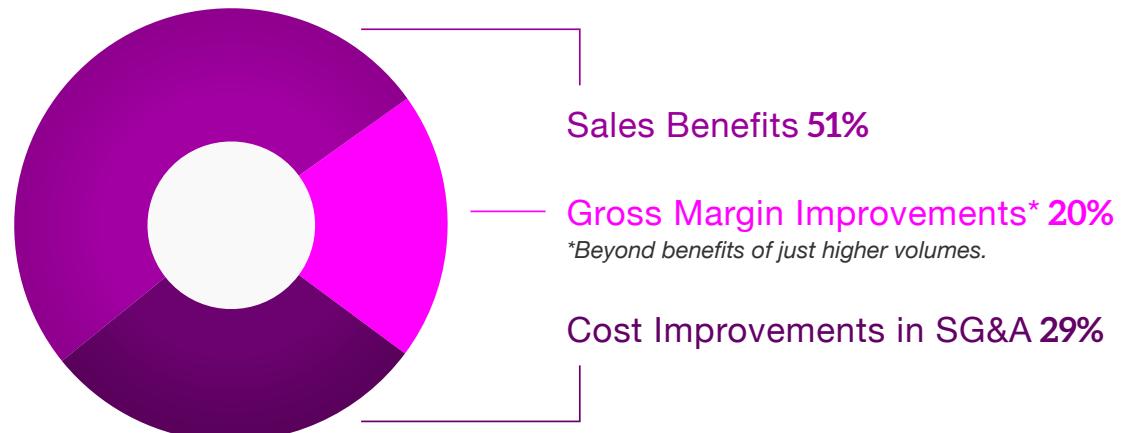
Next, we project Supercenters, Warehouse Clubs, Hypermarkets and Mass Merchants will enjoy up to \$1.5 trillion in potential economic benefit from AI in the next 7 years, or a little over 16% of total benefit. Among all the segments, this particular one reaped the greatest benefits from the wealth transfer that occurred during the pandemic. They have been one of the fastest growing and have invested the most in AI tools, data scientists, and others. For instance, it was rumored that leading up to the pandemic, Walmart was hiring more data scientists than even Google. Those investments provide huge advantages towards AI economic benefits that other segments do not enjoy.

The final segment we want to emphasize is Home Improvement, which constitutes a sizable portion of the overall Specialty Hard Goods sector, accounting for slightly over 10% of the total economic benefits. Unlike other segments, Home Improvement witnessed growth both prior to the pandemic and throughout

the recovery period. The surge in remote work and re-homing initiatives resulted in substantial profits and resources, enabling them to undertake the essential task of data cleansing. As a result, Home Improvement companies hold a significant advantage in this regard. This is not to say that clothing or restaurants are not going to see huge benefits as well, they simply have additional challenges. For example, the lack of consistent sizing for clothing is particularly devastating to that segment. While major strides can be made with Tru-Fit type technologies to reduce returns, as well as tremendous gains in the SG&A part of the companies, the challenges of sizing plus the added complexity of SKU-based scanning instead of UPC adds greater complexity and face greater hurdles in achieving comparable efficiencies to those enjoyed by other segments that rely on UPC only.

GENERATIVE AI WILL BRING RETAILERS OVER
\$4.4 TRILLION IN ECONOMIC BENEFITS BY 2029

Source: IHL Group



Sales & Revenue Growth Opportunities

Revenue growth is an area that is already leveraging traditional AI/ML and is quickly adopting tools with Generative AI. Overall, we are projecting that the impact of AI will amount to more than \$4.9 trillion over the course of next 7 years or roughly half of our overall projections of economic impact. Some of this will be a further increase in the size of retail, others will come from stealing market share. So, the total pie will grow for retail and hospitality, but as well the size of the slices of the pie will change dramatically.

Quite simply, there is progress already being made here thanks to the years of efforts on marketing tools as well as product recommendations and product availability through traditional AI and this will continue in the near term. But it is our view that big gains will come from Generative AI. In fact, as we look at Sales Growth worldwide, we are projecting 49% of the growth will come from traditional AI/ML projects already in motion, but 46% will come from new enhancements from

AI IMPACT ON RETAIL SALES

Source: IHL Group

54%

of cumulative economic benefits from AI through 2029 will be in increased sales (inclusive of all types of AI)



Generative AI and 5% from Artificial General Intelligence when this comes to fruition.

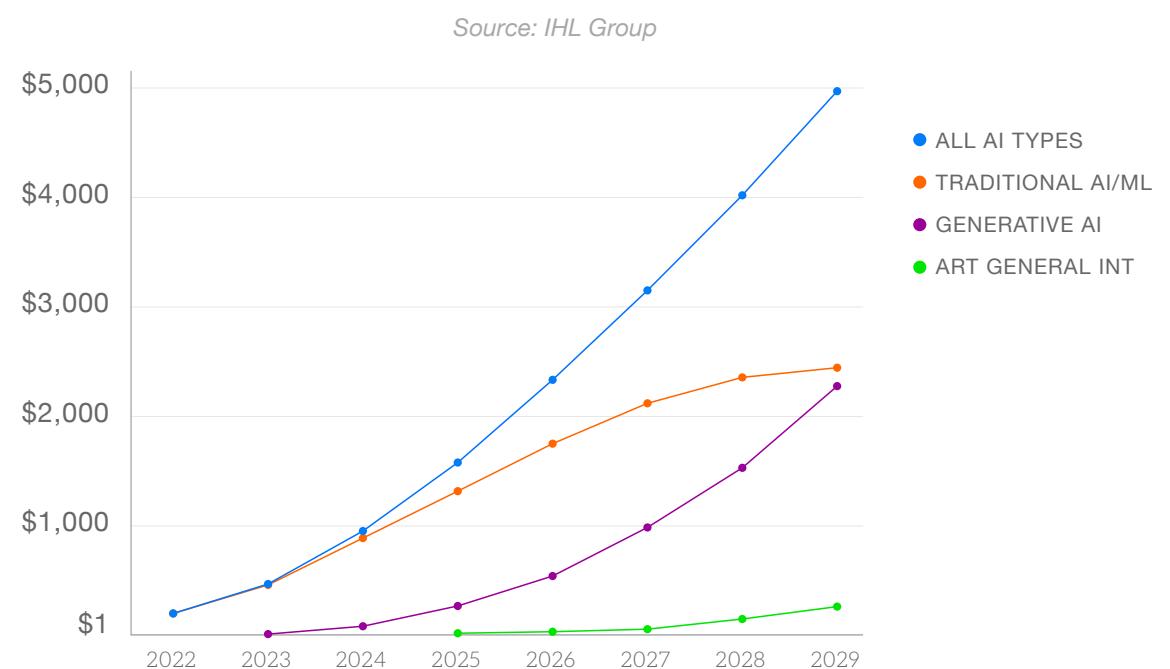
There has been much written about traditional AI/ML tools, such as better forecasting and supply chain efficiencies. But it is the expanse of opportunities from Generative AI where we see a significant bump. Some examples include the following:

- **Improved product recommendations** with easier ability to analyze customer data to make personalized product recommendations, leading to increased sales and higher margins.
- **Personalized pricing strategies** that factor in customer behavior, market trends, and competitor pricing.
- **Increased customer engagement and loyalty** with better insights into customer behavior and preferences, which can be used to create more engaging and personalized experiences.

If these create just 1-2 additional sales per customer during a year, it will provide significant revenue increases for retailers that leverage all aspects of AI.

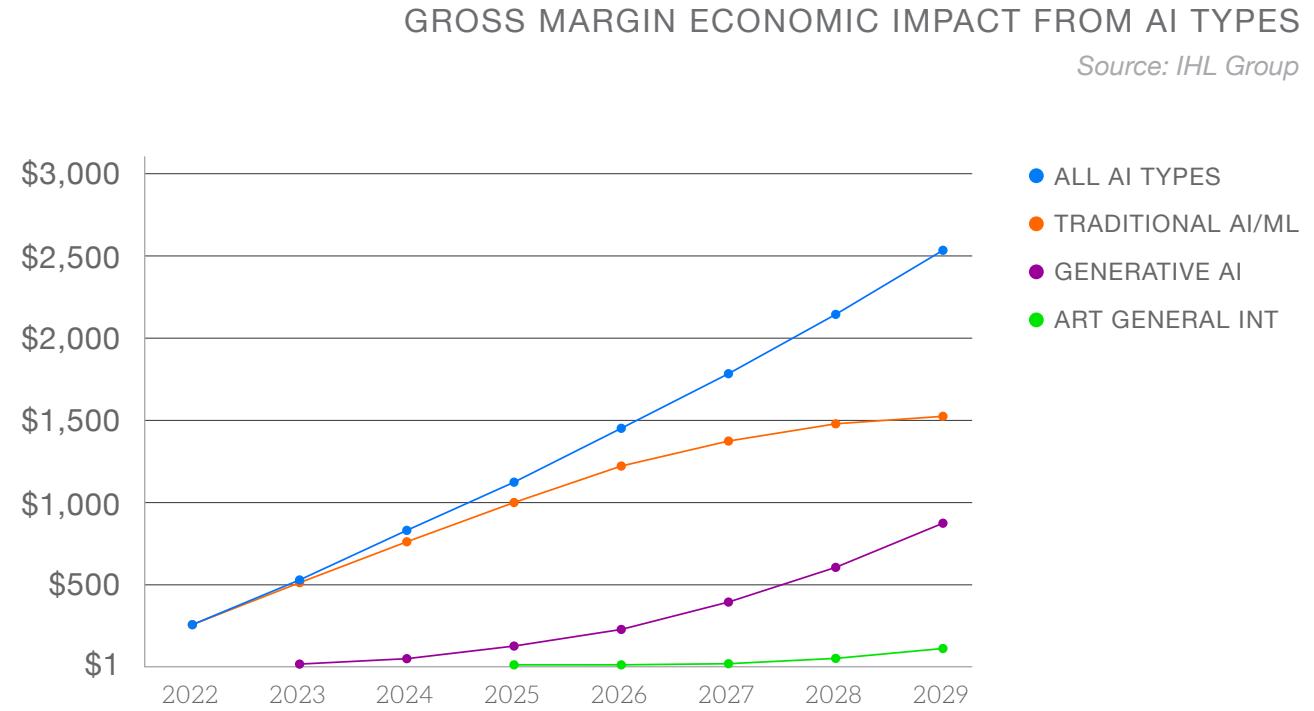
CUMULATIVE SALES FORECAST AI IMPACT GLOBALLY 2022-2029

Source: IHL Group



Product Cost/Supply Chain/Gross Margins Impact

The next area of impact is in lowering product costs, with an estimated \$2.5 trillion economic benefit over the next 7 years. Areas for improvement include the raw product price as well as other pricing, order management and supply chain efficiencies. This is an area where traditional AI/ML excels, particularly for retailers who have invested effort into ensuring their data is clean, accurate, and properly tagged. But Generative AI has the potential to elevate this on a grander scale. As an example, retailers who have already embraced prescriptive analytics for category management, supply chain, forecasts, or pricing will experience the advantage of exploring a broader range of scenarios by incorporating the creative elements of Generative AI. Subsequently, when implementing actions based on predictive and prescriptive analytics insights, they can effectively communicate and report in plain language the decisions made and the underlying rationale, thereby fostering continuous knowledge enhancement.



There are many areas impacted by AI that impact gross margins. Some include:

- **Supplier negotiations:** Walmart is already using AI to negotiate certain purchases. They assert that they have already achieved a 3% reduction in procurement costs, while human negotiators on the receiving end report a higher satisfaction level with overall experience.
- **Demand forecasting:** Traditional AI/ML models can be used to predict customer demand more accurately, which helps retailers optimize their inventory levels, avoid stockouts, and reduce waste. Generative AI can simulate different demand scenarios and help retailers make even more informed decisions.
- **Routing and logistics:** Through the identification of optimal routes for shipments and deliveries, considering variables such as traffic patterns, weather conditions, road closures, and truck cargo optimization, AI can play a pivotal role in minimizing transportation costs and enhancing delivery times. The trucking industry currently faces significant inefficiencies,

with many trucks operating at less than full capacity. AI has the potential to optimize these inefficiencies, ensuring that trucks operate at maximum capacity, thereby improving overall logistics efficiency.

- **Quality control and communications:** These detect quality issues early in the supply chain process, which can help retailers avoid costly product recalls and reputational damage. Generative AI can help with informing other parts of the business when there are supply chain disruptions. Consider a scenario where a sale with planned promotions encounters a product delay. Currently, managing this situation involves a manual process, often resulting in advertisements running despite the product being out of stock. Consequently, when the merchandise finally arrives, it leads to excessive inventory levels in areas without ongoing promotions.

These are just a few examples. The use of AI/ML and Generative AI in the supply chain can have a transformative impact on major retailers. By leveraging these technologies, retailers can optimize their operations, reduce costs, and boost their product margins.

RETAIL AI/ML VS GENERATIVE AI INCREMENTAL BENEFITS PER YEAR ON GROSS MARGINS

Source: IHL Group

2022 vs. 2029

AI/ML	\$250b	\$158b
GENERATIVE AI	\$0b	\$886b

The Huge Generative AI Opportunity - Reducing SG&A

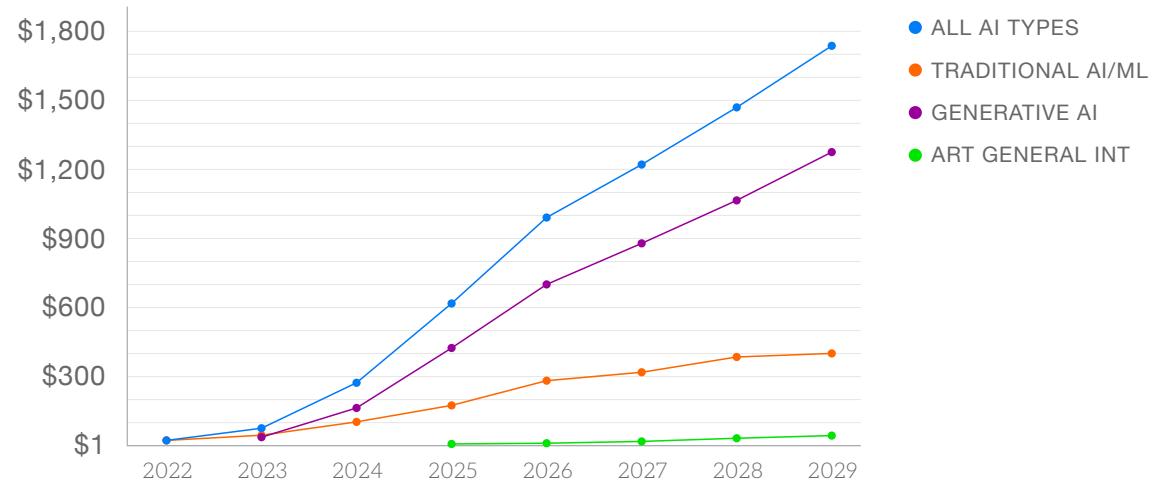
While traditional AI/ML is ideal for the bulk load of gross margin impacts, it is the emergence of Generative AI that promises to completely transform many knowledge worker positions in retail. And the impact can improve productivity in ranges from 5:1 to 100:1 or more. In this dynamic landscape, innovative ideas and tools are emerging rapidly, creating an environment akin to the “wild wild west” with constant innovation and an influx of fresh concepts. In total we are projecting a \$1.7 trillion economic opportunity. While we expect considerable transformation SG&A runs only an average of 29% of a retailer’s total sales, thus limiting the total impact.

There are many ways Generative AI will impact the SG&A costs.

- **Automation of many routine tasks**, including data entry, freeing up time and resources for other important tasks.
- **Reduction of labor costs** improves operational efficiency. Doing more with less. Here we are already seeing improvements that range from 10x to 100x.

CUMULATIVE AI IMPACT ON RETAIL SG&A WORLDWIDE 2022-2029

Source: IHL Group



- **Personalized and targeted marketing campaigns** analyze customer data to create personalized and targeted marketing campaigns, improving the effectiveness of marketing efforts.
- **Enhanced customer experience and engagement** through more engaging and personalized experiences for customers, improving overall customer satisfaction and loyalty.
- **Streamlining payroll and benefits administration**, labor scheduling, optimized labor/sales ratios – all will enjoy reduced administrative costs and accuracy improvements.
- **Improved communication.** Many tasks require a human touch and will continue to require that input, but that first draft, core formatting that Generative AI can bring is a game changer.
- **Improved financial reporting** and analysis as well as more potential views and scenarios.

- **Enhanced compliance and risk management:** AI can help retailers identify and mitigate compliance and risk issues, reducing potential liability and improving overall risk management.
- **Improved infrastructure management:** All things network management, configuration, asset control, security, maintenance, preventative activities will be improved.

Once again these are just a few examples. There are countless others. We expect Generative AI to completely revolutionize the Sales and General Administrative functions of retail businesses in the future. From marketing and customer segmentation to financial reporting, payroll and benefits, labor scheduling and labor costs, the benefits of Generative AI in these areas are expected to be numerous. By leveraging the power of Generative AI, retail businesses will be able to improve their operations, reduce costs, and drive growth and profitability in the future.

THE JUMP TO LIGHT SPEED

Source: IHL Group

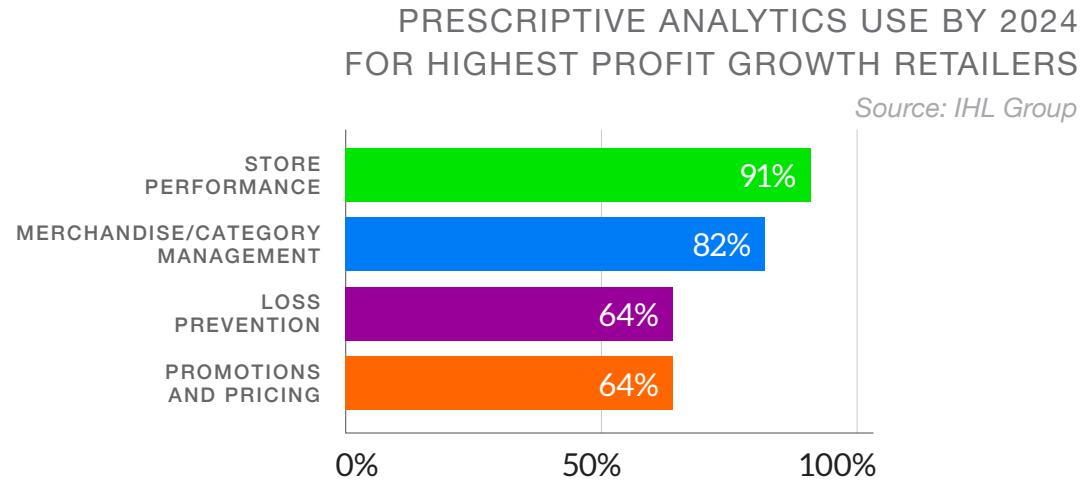
Generative AI's impact on retail SG&A could see gains per function that provide **5-100x more efficiency by 2029** than today depending on the function.



Solutions Ready to Go

Due to previous investments in data cleansing and other pressing needs, there are many solutions that are already bringing returns with the help of AI tools. In general, they are solutions that reduce the reliance of labor at the store and supply chain levels, those that increase margins on digital orders (particularly those that have a store-fulfillment component), those that improve on-shelf availability, those that impact pricing and optimization, and those that impact loss prevention.

An integral aspect of these solutions revolves around the availability of extensive datasets that have undergone repeated training. Some solutions are designed as complete AI systems, while others incorporate AI components to enhance existing technologies for various objectives. Additionally, many retailers who have invested in data cleaning for AI/ML purposes are now prepared to implement prescriptive analytics or video analytics, leveraging the fruits of their AI/ML endeavors. Some examples include the following:



- **AI IN SELF-CHECKOUT:** The pandemic ushered in a rush of new self-checkout devices to the point that many stores have full automated checkout. The obvious is the use of just walk-out technology which is all done with AI. But it is also impacting traditional self-checkout as well as Scan and Go options. AI can provide the breakthrough for a lot of Scan and Go options, since the main issue in the past was to miss the additional information on products (nutrition facts, allergy information) and the connection to other items to upsell (recipes, complimentary items (cheese & wine) what was a huge effort for retailers to keep the database up to date in order to provide this information to consumers. With Generative AI this information can be created on demand by AI and integrated into the database in real-time. As all of these expanded in use theft through the devices as well as honest misidentification of items such as produce have become more

common, leading to the addition of AI/ML technologies to reduce losses and improve margins. These technologies have already saved retailers well over \$4b in losses at major retailers. Specific key use cases for AI at the Self-Checkout (and also partly at the traditional checkout are:

- **AGE VERIFICATION:** Using Machine Learning and Camera Based technology to verify a certain age threshold can reduce the number of staff interventions by up to 80% and reduce clearance of those cases from 2 minutes to 10 seconds. Considering that almost 22% of all transactions involve an age verification this is a big gain for consumers but also for retailers.
- **FRESH PRODUCE RECOGNITION:** Instead of scrolling through long menu boards to select the unbarcoded items the AI based recognition via camera at the Self-Checkout makes this process 4 times faster (on average 3 seconds per item instead of 15). This can ult in up to 45% less interventions in this field and 40% more transactions per hour.
- **LOSS PREVENTION:** Considering the risk of fraud during Self-Checkout transactions AI and camera-based technologies can help to detect potential fraud (malicious or not) and help the staff to intervene without alienating customers.
- **STORE PERFORMANCE TOOLS:** When IHL completed its recent research on prescriptive analytics (AI tools applied to data for recommended actions), by far the largest category being invested was in store performance improvements. In fact, the retailers that had profit increases of 15% or more in 2022 were investing at a rate 13x higher than average



performers in their segment.

- **MERCHANDISING/SUPPLY CHAIN/CATEGORY MANAGEMENT:** A great deal of progress has been made in these wide-ranging categories in the last 3 years. The most significant challenge in achieving full benefits, however, is related to almost constant disruptions to the supply chain since the beginning of the pandemic.
- **PRICING:** With rapid inflation, pricing has never been more important for retailers. Increased adoption of these tools and real-time adjustments due to supply chain, competitors, or other market dynamics are now possible with existing tools. Generative AI will make them even better.
- **LOSS PREVENTION:** The domain experiencing the most rapid growth in AI and prescriptive analytics is loss prevention. This encompasses security measures at the checkout, combating online fraud – an immense challenge – and addressing instances of theft from customers, associates, and Organized Retail Crime (ORC). Notably, the most profitable retailers are investing in prescriptive analytics for loss prevention at an astonishing rate, projected to witness a staggering 600% growth over the next two years. These are just a few of many solutions that are ready with abundant, accurate, clean, and tagged data. Generative AI takes this to another level.

RACE TO REDUCE LOSSES PRESCRIPTIVE ANALYTICS IN LOSS PREVENTION

Source: IHL Group

Fastest Growing Retailers:
340%
growth in next 2 years.

Highest Profit Retailers:
600%
growth in next 2 years.

Risks - Few Shortcuts

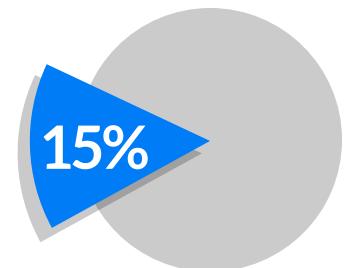
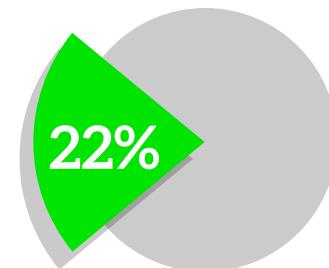
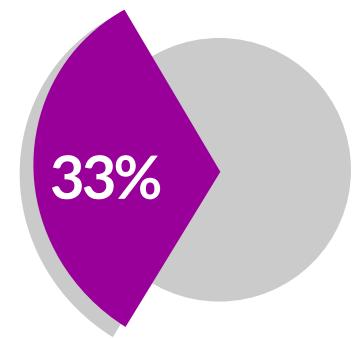
When we look at AI and Generative AI, we must discuss the critical importance of data. The more accurate, clean, tagged, and abundant the data, narrowed to your specific uses, the better the results. The old adage of “garbage in, garbage out” is of utmost importance in traditional AI/ML. If you start deploying AI/ML on incorrect data, you just get wrong decisions much faster. And this can be detrimental to the business. There are few shortcuts to clean data. Companies can deploy services like Tiderise.io to assist, and other AI tools may help, but you cannot skip the cleaning step and still expect superior results from AI/ML.

Generative AI is also subject to these issues although there is a little more tolerance involved. While the news of hallucination of Large Language Models (LLM) models is possible and true, it is extremely easy to improve results and outputs by giving the LLM a persona, specific goals, and relevant context. Where the goal of traditional AI/ML systems is to get the right answer and

WILLING TO PAY A PREMIUM FOR SECURITY IN IoT

Source: IHL Group

THOSE WILLING TO PAY A 10% OR MORE PREMIUM FOR SECURITY IN IoT
MORE CONSISTENTLY DO ALL TYPES OF SECURITY.



convert that to specific actions, or a range of values from which the human can choose, Generative AI can work that way with images and video, or as a replacement for search. In most business contexts, Generative AI will be used to do 85-90% of the job, making the person 10-100x more productive. It does not have to be perfect.

The real magic for retailers will come when Generative AI adds onto the strong data and results from traditional AI/ML. If you recall the BASF commercials from many years ago. “We don’t make the tires (or product x), we make them better.” That explains where we see the greatest impact for the best performing retailers of the next 7 years. “Generative AI doesn’t do what AI/ML does, it makes it better.” Generative AI added to clean, accurate, tagged data that has been optimized will seem almost magical, and produce exponential benefits.

Discussions about AI would be incomplete without addressing the concerns surrounding job displacement.

While a comprehensive research study is warranted to delve deeper into this topic, the labor challenges within the retail industry are noteworthy. In order for the industry to thrive, AI adoption is essential. Given the global shortage of retail and hospitality workers relative to the existing number of stores, concerns primarily arise for non-frontline positions. Will there be unfilled roles in the future? Undoubtedly. Will associates who resist learning and utilizing AI and Generative AI be replaced by those who embrace it? Yes. However, widespread layoffs solely due to AI are unlikely within the next 7-10 years. Throughout history, from the printing press to barcodes, the internet, and mobility, technological advancements have consistently transformed retail. The industry has shown resilience and adaptability, with skills evolving alongside these changes. We anticipate no less in this era. Employees who demonstrate willingness to adapt and grow will experience significant productivity gains, leading to a reduction in repetitive and mundane tasks.

RETAILERS HAVE HEAVILY INVESTED IN LABOR SAVING TECHNOLOGIES IN THE LAST TWO YEARS

Source: IHL Group

8X Increase in
Electronic Shelf Labels

2X Increase in
Self-Checkout Lanes

Finally, security is a huge area where AI/ML and Generative AI will be required in a huge way. These technologies can be used for good or bad, and retailers must protect all endpoints. AI enhancements are crucial for retailers to adopt in their network as well as physical security.

The retail industry has witnessed a swift proliferation of customer-facing interface points in recent years, largely driven by the changes brought about by the pandemic and labor shortages. This expansion encompasses a wide range of innovations, such as self-checkouts, Scan and Go systems, the widespread adoption of electronic shelf labels (ESLs), as well as the introduction of various kiosks and other devices. At the same time, retailers have greatly increased the number of IoT solutions, ranging anywhere from cameras to RFID and Computervision to freezers, fryers, robots, logistics tools and more. All of this has led to an exponential increase in the size of the threat vector.

The CIO's challenge is being consistent in the process and procedures for each new device that connects but still being responsive to the demands of the business units. Each provides a different attack surface so CIOs must be consistent in approach but diverse in the manner each is secured. Increasingly often Marketing and Operations are driving IT purchases faster than IT can keep up, opening up possible security holes with potentially disastrous consequences as the number of attack surfaces exponentially increase. Generative AI has provided malicious actors with an unprecedented arsenal of tools, enabling them to exponentially amplify their attacks and exacerbate problems.

The good news is that the advances in Generative AI can also be used by the good guys to better protect all these networks as well as assist in providing better physical security for associates and patrons. Whether it is IT security or physical security, with the rise of Generative AI, security should be the first thing that CIOs and CISOs should be looking at as they look to take advantage of this technology.



Conclusion

The potential of AI in the retail and hospitality sectors is undeniably immense. However, it is crucial to recognize that potential alone is insufficient. H. Jackson Brown Jr. said, “Potential without discipline is like an octopus on roller skates. There’s plenty of movement, but you never know if it’s going to be forward, backward, or sideways.” It is the companies and individuals who adopt AI/ML, Generative AI, and eventually Artificial General Intelligence in an organized and disciplined manner who will truly reap the remarkable economic benefits afforded by these transformative tools.

As mentioned earlier, our research focuses on the potential economic benefits. However, due to the competitive nature of retailers, many may opt to lower prices in order to gain market share, resulting in a temporary reduction in the overall economic benefit for the sake of long-term sales growth.

While the overall expenditure within the retail and hospitality sectors will expand, those who effectively leverage the advantages of various AI technologies will ultimately reap the greatest benefits by outpacing and surpassing their competitors. There is an old adage in retail, “Speed, quality, low price: pick any two.” Retailers that are first to leverage the power of AI and Generative AI could potentially have all three.

This is the first of several research reports that IHL will be releasing on AI. As well, today we are also releasing our Retail AI Forecast Model with forecasts by segment and region on over 120 distinct categories of impact. If you or your company are interested in further information, please contact us at ai@ihlservices.com.

ECONOMIC BENEFITS OF AI BY RETAIL LINE OF BUSINESS CATEGORIES 2022-2029

Source: IHL Group

