USING SHOPPER BEHAVIORAL DATA & AI FOR INNOVATION

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Retailers looking to remain competitive are increasingly relying on artificial intelligence (AI) and predictive analytics to better understand and enhance the customer experience (CX). While leveraging technology to improve CX is not new, for a long time it was only big-box retailers who could afford to implement and scale tools such as machine learning and sentiment analytics. This often led to big-box retailers maintaining a competitive advantage. Today, however, this trend is shifting.

Retailers of all sizes want to capture customer behavioral data to analyze and inform their next move. Small and mid-sized retailers are now able to compete alongside the major players, by using advanced AI as a service tools. These tools provide the power to glean insightful customer information which informs new strategies and improves competitiveness.

As retailers increase the use of AI and behavioral analytics to capitalize on consumer trends, the retail industry will continue to see actionable data applied to experiences in meaningful ways. For instance, consider the ways AI is being used already:

▶ **Ultra-Personalization:** Devices use geo-tracking and therefore know users' locations and movements if permission is granted across all or certain apps. Couple that information with the ability to collect and analyze user search history, shopping habits and social media interactions, and suddenly a clear user picture is painted. AI devices can then revert product suggestions that are hyper-accurate and tailored to each user.

> For example, a retailer may see that a consumer has looked up someone's wedding registry and been to their wedding website – now it knows to recommend wedding guest dresses.

▶ **In-store sensors:** Retailers want to know where consumers are spending the most time in the store. Increasingly, the industry is seeing sensors placed in aisles to monitor and collect data points on where consumers slow down, stop and assess items. This data is reported back to retail executives so they can make informed decisions about what products to order, where to place them, and how to design stores.

▶ **Sentiment analytics:** It's not only about what consumers say to the customer service clerk, but also about their facial expressions and body language as they walk over to the customer service desk or see their favorite product. Using sentiment analytics, retailers can look at camera footage to determine if customers are happy or not with their in-store experience. This allows a retailer to develop a tailored customer experience based on the emotions of customers.

For retailers to gain these insights, it is not enough to just collect data. When retailers leverage machine learning and predictive analytics, they can turn separate data points into intelligence. For retailers, this leads to the powerful ability to anticipate customer demand and respond to that demand by creating and delivering enhanced experiences.

Data Going in, Decisions Coming Out
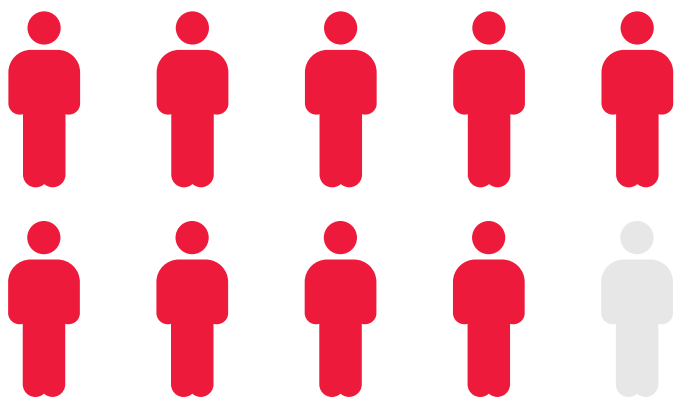
Nearly **9 in 10** consumers say they enjoy receiving personalized offers based on their interests and browsing and purchasing data, **according to a February 2022 Merkle study**.

They understand that brands use their data to develop these personalized recommendations and elastic digital shopping experiences, where items and offers are shown solely to them. Today's consumers have a high expectation of personalized service, and thus consent for their data to be used. When retailers can capture customer data, analyze it and learn from it, they can improve recommendations, improve customer loyalty and capture more of the customer's wallet. And, by improving predictions on what customers want and when they will buy it, retailers can better forecast revenue, allowing them to take steps that encourage revenue growth.

The advanced technology that powers analytical processes like the above is no longer exclusive to major retailers. While the household names in retail have become quite good at leveraging consumer data, small and mid-sized retailers are finding increasing competitive advantages by using AI as a service.

CONSIDER THESE EXAMPLES:

▶ Retailers who use AI as a service can understand customer trends, determine appropriate inventory to support seasonal spikes, launch associated promotions and capitalize on trends before they're gone.

- For example, a mid-sized retailer may not have the capacity or budget to stock up on a wide array of holiday-season inventory. Using AI as a service, this retailer could analyze and forecast the specific holiday items consumers are clamoring for ahead of the holiday and focus on ordering enough inventory for those items, rather than overstocking on other items that may not sell. This helps improve supply chain efficiency by forecasting product demand based on consumer data and eliminates waste.

▶ Retailers can bolster their sales numbers by digging into data to determine what sells and what does not, enabling them to implement an 80/20 model for customer buying propensity.

- For example, actionable data resulting from advanced AI and analytics could tell a small hardware retailer if 80% of revenue is coming from the same 20% of popular products. Having a machine learning model notice this uneven distribution equips the retailer with information to take action and increase inventory, as needed, of popular products.

▶ With the rise of e-commerce sales many retailers are experiencing an influx of returned products. To reduce the number of returns, retailers must first understand why products are returned. Advanced analytics and machine learning can model return data and present findings on why a specific product is returned so frequently. It can then recommend a course of action.

- For example, a retailer might find that a product is frequently returned because that product is a target of theft and subsequent return fraud.

With AI at retailers' fingertips, executives can make strategically informed decisions on inventory, purchasing, marketing and promotions, as well as product placement with far more confidence than they could only a decade ago.

The Riches are in the Niches

Being nimble and connecting with customers is key, and for small retailers, targeting a niche customer base may result in higher profitability.

Take this highly specific retailer, for instance: Vermont Wooden Toys. **A recent blog** explored what makes this toymaker so special – and profitable. The answer is that owner Ron Voake knows his clientele. Voake sells mostly to parents that put a high price on safe and enduring toys. As such, he figured out that this is the type of person willing to pay for quality products that take time, skill and craftsmanship.

This is what marketing to a niche customer base looks like.

Targeting a niche customer base enables 1:1 marketing.
With AI readily available as a service, all-sized retailers can engage in 1:1 marketing at scale, a concept that was not feasible for small or mid-sized retailers five years ago.

How does this look in context outside of a brick-and-mortar store like Vermont Wooden Toys?

For a local brick-and-mortar retailer, it may be easier to get to know your customers on a deep level. These retailers are often woven into the fabric of their communities. E-commerce retailers, on the other hand, must get creative. One way to do that is to employ marketing that is highly targeted toward their customer base.

Consider how leveraging consumer data allows for this. Rather than a small e-commerce retailer targeting females 18-35, this retailer can specifically target urban, married females between the ages of 25 and 30, with no kids, making $100,000 per year who enjoy going to spin classes every week. Doing so means this small retailer does not have to waste resources and capital on marketing efforts that miss the mark. The personalized approach could positively influence sales conversion rates.

> **Personalization drives loyalty because consumers feel the shopping experience is tailored to how they prefer to shop. Happy customers have positive experiences, which often leads to an uptick in sales conversion rates – 63% of customers said they would spend more when they "feel an in-store experience is pleasing," according to a 2022 report from Raydiant.**

To do this, some level of technology investment is required. For small and mid-sized retailers, investing in AI as a service can provide more robust features that add a competitive edge. Small and mid-sized companies do not have to be the biggest to be profitable.

With actionable insights, all retailers can:

- ▶ Address the right target audiences
- ▶ Improve service
- ▶ Connect with customers
- ▶ Increase velocity
- ▶ Reduce risk
- ▶ Reduce costs
- ▶ Align products and services to customer behavior and demand

How Does AI Work?
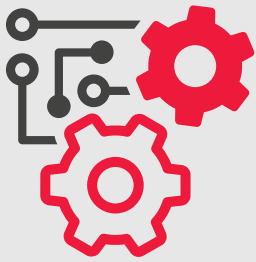
Today, AI enables retailers to use in-the-moment data to respond to consumers in real time, while also using current and past data to model and predict future shopping trends with a high degree of accuracy. AI in the retail market is expected to grow from $4.8 billion in 2021 to a whopping $31.2 billion by 2028 , **according to Fortune Business Insights**. Retailers that don't start implementing AI-enabled processes now are at great risk of being left behind.

Many retailers have been making data-driven decisions but are relying on historical data. Every business has access to vast amounts of look-back data that shows the customer behavior and business response. The problem is that by only relying on historical data, retailers are making decisions assuming that the future will follow the same patterns as the past.

Instead, feed this historical data to AI, which can then build models and predict trends that are more likely to happen. The use of AI and data analytics allows retailers to make decisions that have a higher probability of accuracy.

To clarify the distinction between mature and immature data analytics, imagine that analytics and AI exist on a spectrum. As we move from the left to the right side of that spectrum, we gain the ability to not only learn from the past but also predict the future. On the right side is artificial intelligence (AI). AI can most easily be understood as a synthetic reproduction of human cognition. Within AI sits Machine Learning (ML), through which algorithms can learn from the data they mine, applying their newfound knowledge to improve performance and outcomes.

The path to AI maturity must start with a sturdy data foundation.

The ability of a business to move along the spectrum from data analytics to AI depends on the availability and cleanliness of that data. Data hygiene is the bedrock.

Consider this approach for forming a data analytics foundation:

DESCRIPTIVE ANALYTICS	DIAGNOSTIC ANALYTICS	PREDICTIVE ANALYTICS	PRESCRIPTIVE ANALYTICS	COGNITIVE ANALYTICS
What happened?	Why did it happen?	What might happen?	What should I do?	What don't I know?

From there, an artificially intelligent program ingests data, while machine learning tools use the data to identify patterns. Machine learning tools can develop tables and systems to formulate the data and generate insights. AI enables this by finding non-obvious combinations within the gray area of the data, taking an analytical eye to see what the human brain might miss in the gray area, and then pushing out findings, often in easy to digest dashboards or reports. These reports, filled with actionable insights, empower retailers to look at what the program found and what the recommended action is.

Many of the answers on how to improve the customer experience lies within a mature AI architecture. The key is the predictive ability to forecast demand and future challenges, then develop a plan to navigate changes that will make customers happy.

Want to know more about how data analytics powers AI? Check out our insight on 'Getting from A to AI' ▶

The beauty of AI lies within the "aha moments" or action-based insights it can generate for retailers. AI as a service gives retailers of all sizes an opportunity to better understand data without having to overhaul their technology infrastructure or hire data scientists to glean that information.

Perhaps a mid-sized retailer is looking to discount select items to improve sales, but executives are unsure which products to discount. AI can help this retailer by recommending SKUs where they can or should offer discounts. Executives can check dashboards with actionable insights to easily understand which SKUs are recommended for a price alteration and then change those prices in real time. This is the concept of elasticity, and it is no longer exclusive to big-name retailers like it used to be.

As another example, leveraging customer sentiment data via machine learning can help retailers understand service-side issues that allow them to realign marketing support, improve customer service responses, and make changes to products or returns support, as needed. In a scenario where a particular product did not sell or there was a pattern of customers being unhappy with said product, retailers can create action plans to cross sell or up sell. In doing so, retailers can remain competitive, enhance the bottom line and improve the customer experience.
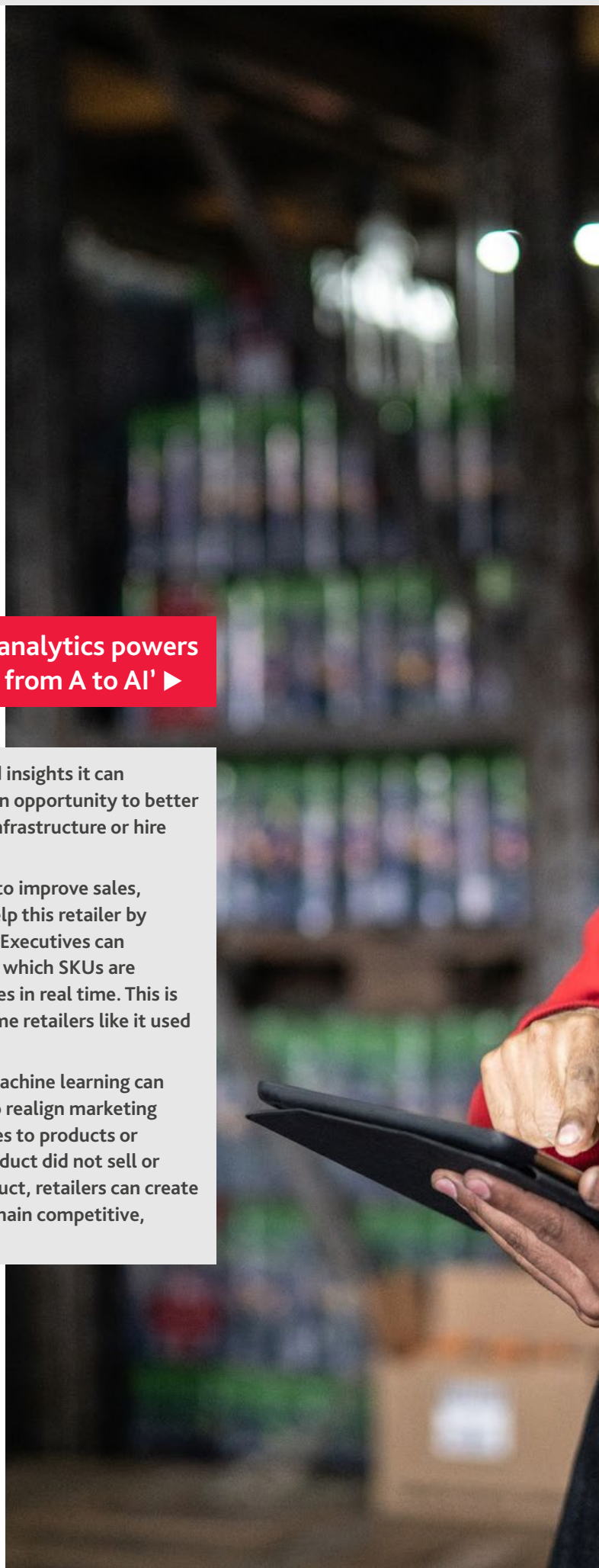
Where AI and People Intersect

The benefits of leveraging AI as a service are wide ranging, but retailers can't harness these benefits without people. Across industries, there is a common fear that advanced technology may replace employees, but that is simply not the case.

Technology does not understand the nuances, emotions or context of what the data is suggesting. People are still needed to look at the data and make the judgment call – in this way, employees move from being data collectors to data proctors.

Think of a football coach. With each play the coach calls, he is learning more about the other team, the strengths and weaknesses of his players, and the playing environment. All of these factors influence the next play he will call. Those factors are all data points the coach collects and uses to make a better-informed decision the next time around.

This same idea applies to data-driven insights in retail.

Retailers who do not adopt machine learning and analytics technology are at elevated risk of being left behind because they will be unable to meet the demand of today's consumers. An innovative mindset and willingness to adapt is critical in the current industry. Regardless of where you, the retailer, may be on this journey, laying the groundwork for data analytics maturity today will help futureproof your business for tomorrow.

Don't forget About Data Privacy

With all the data being collected, protecting consumer data privacy and keeping information secure is paramount to ensure trust with consumers and agencies. There are many data privacy laws that dictate the ways in which retailers can collect and use consumer data. Take, for instance, the EU's **General Data Protection Regulation** (GDPR).

GDPR compliance is far-reaching and complex, encompassing many different regulatory elements that organizations must adhere to – and not just organizations based in the EU. GDPR applies to any organization that does business with and/or transfers or processes EU-based consumer data. GDPR put strict compliance mandates in place around the protection of consumer data and data processing that a vast majority of companies, extending far beyond retail, must adhere to.

The scope of GDPR includes harsh fines and penalties for companies that do not comply.

These regulations apply not only to retail employees, but customers, too. Retailers must develop policies and procedures to effectively:

▶ Protect Personally Identifiable Information (such as last names, addresses, etc.)

▶ Adhere to Payment Card Industry - Digital Security Standards (such as how credit card information is being transmitted, stored, and reconciled)

▶ Comply with the growing list of states releasing their own consumer data privacy laws (such as the California Consumer Privacy Act)

Part of a compliant approach is accurately presenting consumers with robust terms of service. Terms of service are key, especially as the market looks toward new ways to automate transactions and leverage data for convenience. Terms of service should be shared with customers and include information on the relationship between retailer and consumer. Explain to customers how their data is secured, how their data will be used, and provide clear language underlying that consumers are agreeing to these terms to gain a personalized and convenient experience.

For more on how to improve your cybersecurity posture, read our insight, 10 Cybersecurity Best Practices for Your Business ▶

OTHER REGULATIONS TO CONSIDER INCLUDE:

▶ Children's Online Privacy Protection Rule

▶ Rules from the Federal Trade Commission that are aimed at protecting individuals from unfair or deceptive acts or practices, often related to protecting privacy.

• For instance, in August of 2022, **the FTC announced** that it is exploring new rules to take a harder look at commercial surveillance, which is defined as "the business of collecting, analyzing and profiting from information about people." The announcement includes "browsing and purchase histories" as examples.
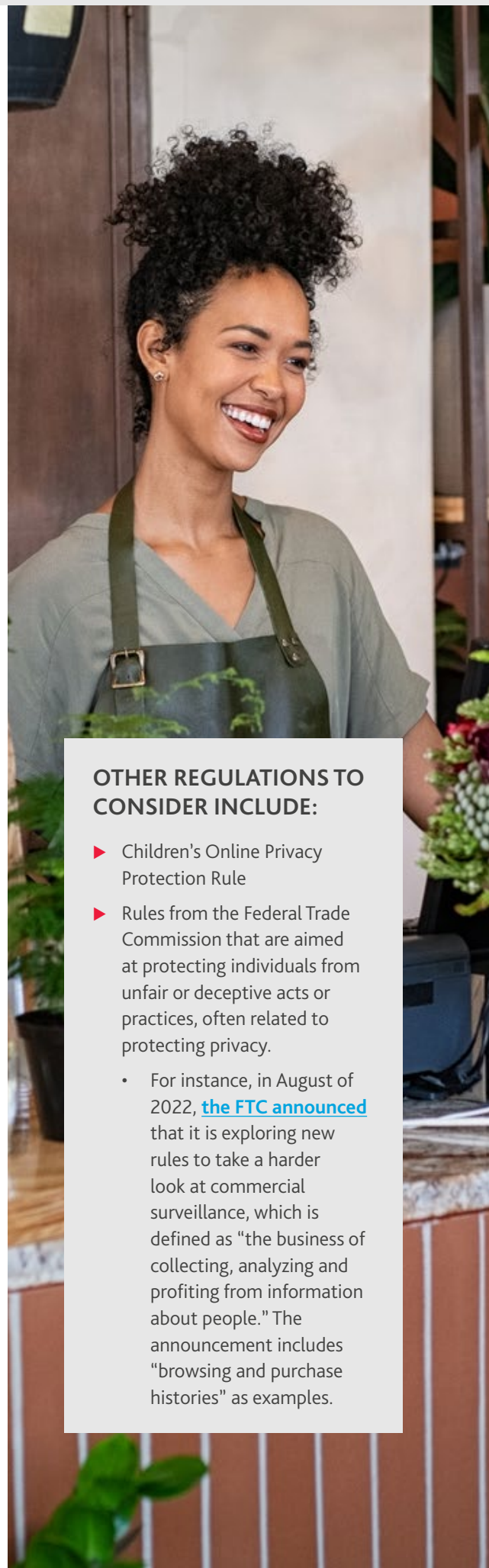
Customer Experience Influences Competitive Edge

Moving into 2023, it is imperative for retailers to understand that data is their friend. Data-driven insights that are used to shape the customer experience are critical to effectively respond to the market and, ultimately, succeed. Retailers that do not have a good understanding of consumer demand, shopping patterns, supply-chain issues and inventory, end up creating undue risk for themselves.

Businesses generate vast amounts of data and have the ability to access, combine, model, and interpret the data into new insights that they can act on to overcome hurdles. Today's new tools allow for simple, quick and powerful outcomes for any sized retailer.

To futureproof your organization, look toward AI as a service to help you understand all of the data coming in. Consider leveraging AI to gain clear insights into the three key pillars: What has happened? What is happening? What will happen? With this holistic view, you can harness data to move away from being reactive and toward being proactive.

Third-party providers like BDO can help guide you along this journey to enhance the customer experience. Our deep bench of retail industry professionals can assist organizations with forward-looking action plans. Our suite of advisory services, such as AI as a service, equips our clients with the insights they need to stay ahead.

Contact BDO today and speak to a professional about how to get started ▶

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