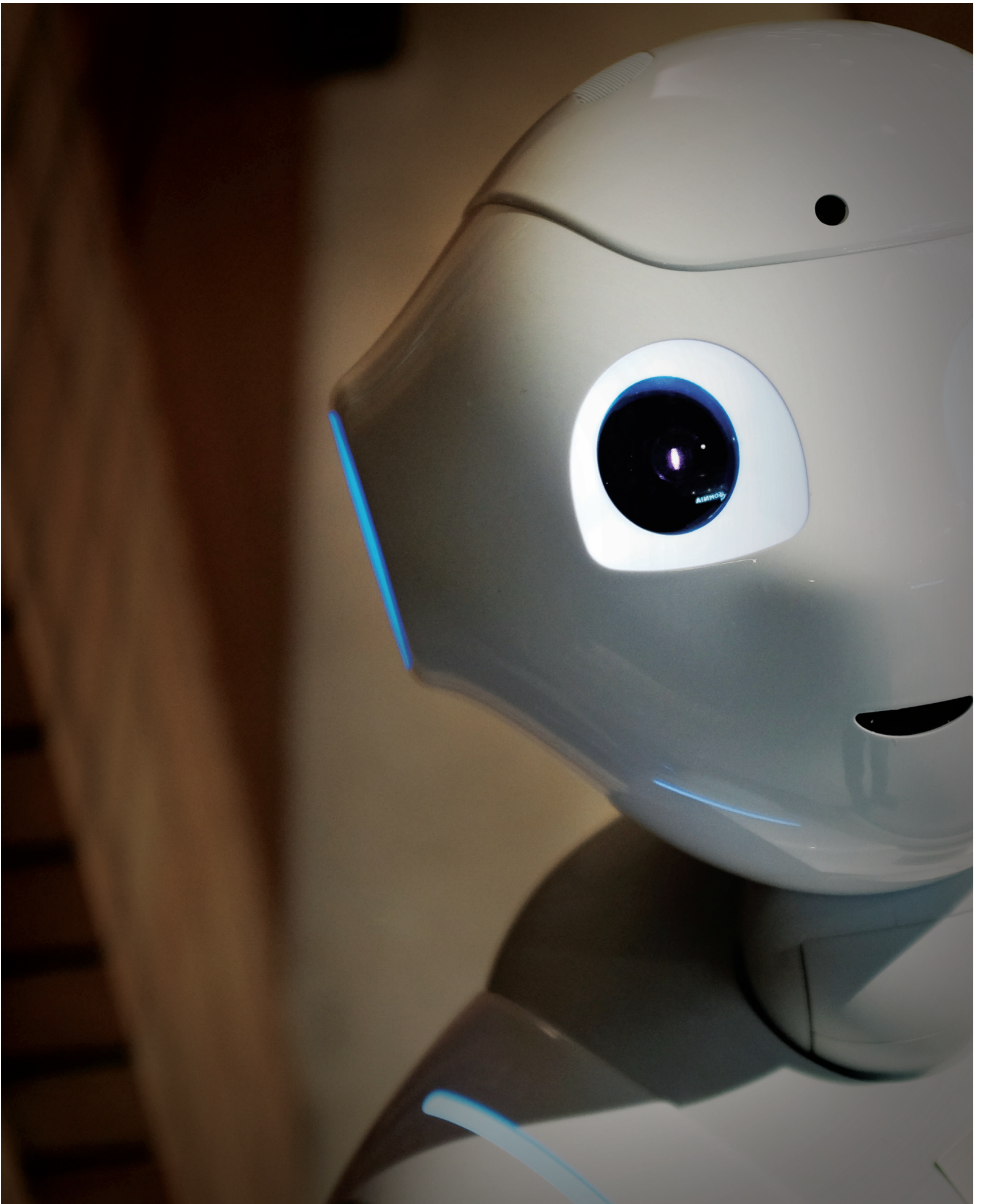


RISE OF THE MACHINES • THE PRIVACY PARADOX  
VISIONS OF EXPERIENCE • NEW CARD TRICKS  
MADE TO ORDER • CLASSIC/REFINED, CONTEMPORARY/DEFINED

# paybook

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# Rise of the Machines

## AI-powered robots are popping up in retail— but are they a fad or the future?

Step into a SoftBank mobile shop in Japan and there's a chance you'll be greeted by a bright-eyed, four-foot tall, sales representative named Pepper, a humanoid robot manufactured by SoftBank Robotics. Pepper interacts with customers by answering their questions, providing in-store directions, and, by way of his programmed, cheerful nature, brightening up their day—sometimes with a dance.

Pepper is one of several, diversely skilled, retail robots popping up in stores across the globe. These bots may not be household names just yet, but depending on where you live, you might've stumbled upon the LoweBot at Lowe's, which helps customers look up and locate items, or Tally at Target, which scans aisles to keep track of product inventory. Once hidden behind the scenes—performing repetitive tasks in the manufacturing industry—autonomous robots are now disrupting the retail space.

In this digital age, where consumers have access to everything at their fingertips, it's vital for brick-and-mortar retailers to up the innovation ante. While e-commerce continues to grow, it still only accounts for roughly 10% of retail transactions—a number that is expected to plateau at anywhere from 20% to 30% by 2025. Physical stores aren't going anywhere, but they still need to evolve in a rapidly changing, fiercely competitive retail ecosystem.

On top of efforts to engage shoppers with mobile points of sale and self-service kiosks, having a semi-cognizant presence like Pepper in a store setting can be quite the differentiator. And thanks to breakthroughs in AI, robots

are now being powered by software with real cognitive capabilities. For example, there is now a version of Pepper enhanced with IBM's Watson, the supercomputer most commonly known for beating two Jeopardy! champions at their own game.

Over at IBM, the concept of cognitive computing is driving AI to new heights, allowing for even greater forms of engagement with shoppers, from speech to other forms of biometric recognition.

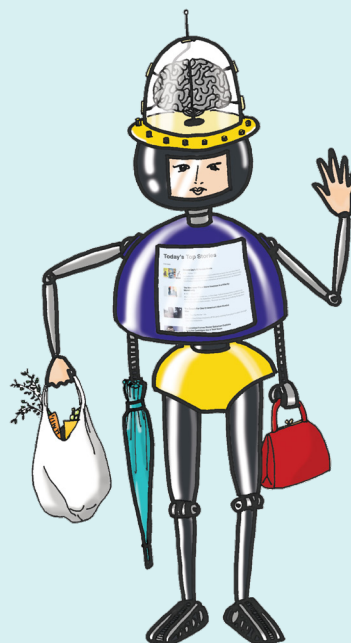
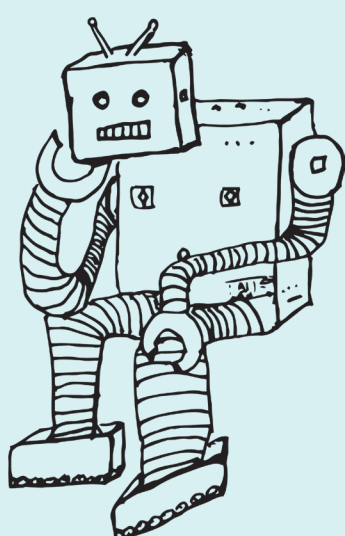
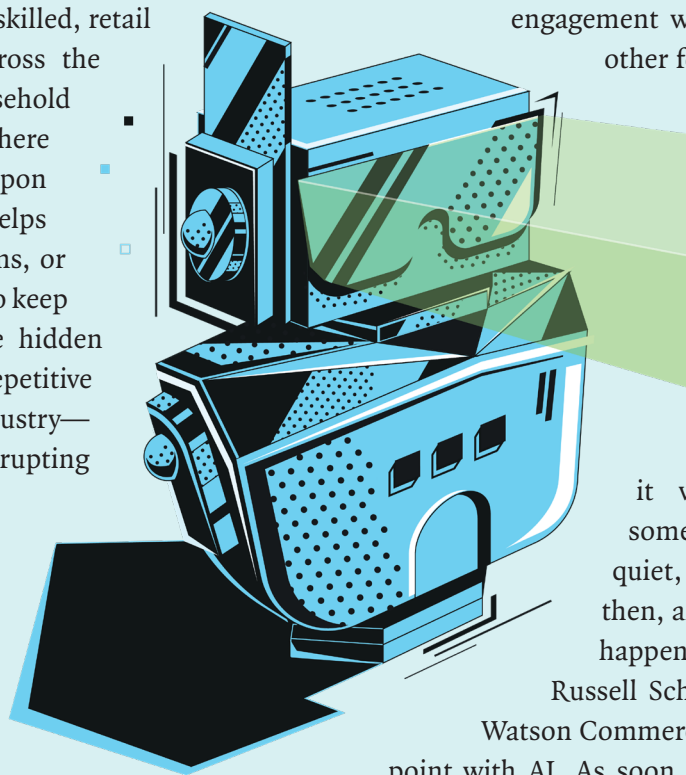
With better access to and comprehension of customer data, new tech becomes less of a novelty and more of a requisite for retailers, allowing them to better understand and engage their customers.

“We've all experienced it where people yabber about something for years, things go quiet, the promise is not realized, and then, all of a sudden, implementation happens and it really booms,” says

Russell Scherwin, Director of Marketing, Watson Commerce, at IBM. “We are now at that point with AI. As soon as this year, we'll start seeing some incredible use cases.”

In addition to what IBM is doing with Watson, AI systems built by Microsoft and Alibaba have achieved similar breakthroughs in natural-language processing, both outscoring humans in a reading comprehension test designed by Stanford researchers.

So, if AI-powered robots can beat humans in Jeopardy! and other feats of intelligence, what can they do for retail? The use cases vary, but for robots acting as customer



service reps, better AI allows them to answer a multitude of customer-specific, product-related questions based on machine learning and computer vision. Think of Johnny 5, the lovable robot from the 80s sci-fi comedy *Short Circuit*: the more input he takes in, the more knowledgeable and responsive he becomes.

While pilot programs of Pepper in the U.S. have reported increases in foot traffic and revenue, there's a popular opinion among industry analysts that robots are good for short-term PR, but not for long-term profits. How robots adapt with both employees and customers has also been scrutinized; Pepper has gone through everything from being fired by a Scottish grocery store for poor performance, to being assaulted by an inebriated, 60-year-old patron at a SoftBank just outside of Tokyo.

In the case of Pepper's early termination, the model in question—nicknamed “Fabio” by the staff at Margiotta Food & Wine in Edinburgh—failed to meet expectations during a one-week trial run. Complaints ranged from him not giving accurate information on products, to miscommunication caused by ambient noise, to customers simply not liking his shtick, which includes telling jokes. The model's chatbot was programmed by a local university, so it's worth debating whether Fabio's AI was up to snuff. Furthermore, the trial was filmed for a BBC documentary, raising the question of whether it was all one big publicity stunt.

The store also reported that a human employee well outperformed the robot in slinging free samples, suggesting shoppers still prefer the hands-on experience only real people can offer. Jade Shames, Verifone's Copy Lead, was greeted by Pepper at a Tokyo airport.

“He was so cute and charming, but ultimately I didn't think he was advanced enough to really help me,” says Shames.

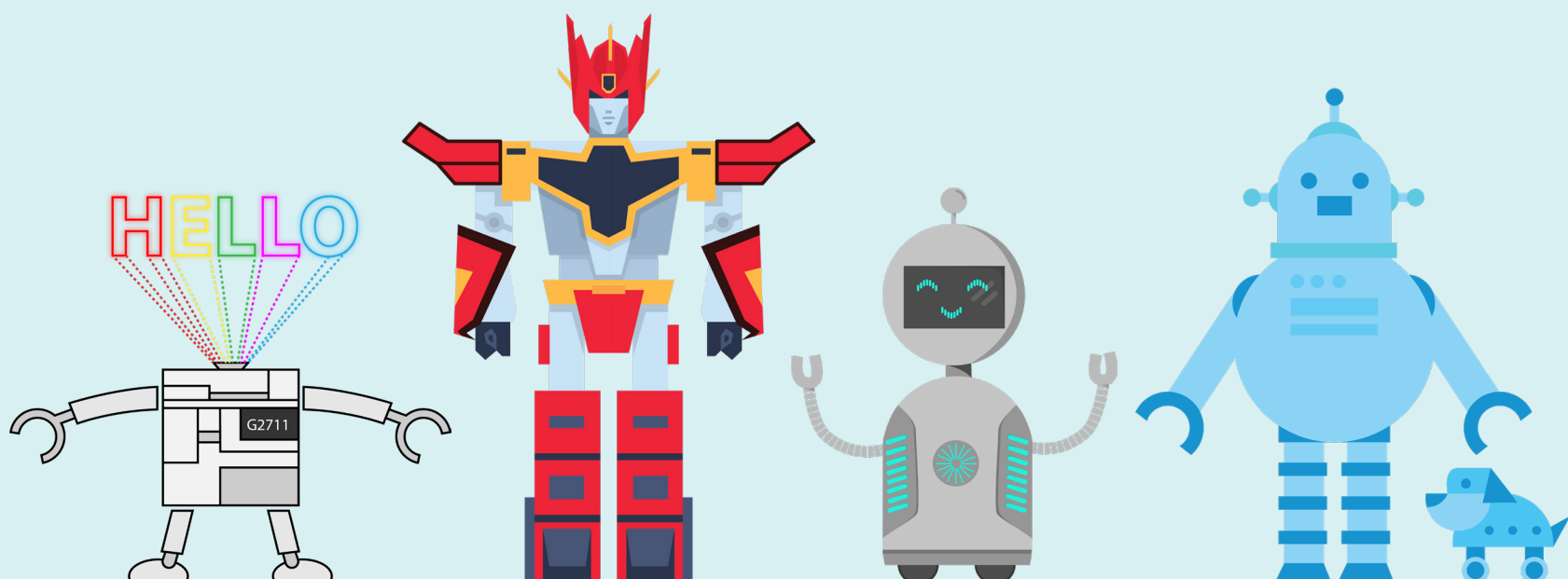
“Maybe it's all the experience I've had trying to navigate automated answering services; I just feel there's no way robots are going to take the place of humans in terms of customer service.”

Customer service is not the only use case for robots disrupting the retail space, nor the most controversial. Inventory trackers like the aforementioned Tally at Target, and similar roving robots being used at Walmart, have the ability to scan and assess 100,000 square feet of shelves in mere minutes, way faster than humans. This contributes to the ongoing debate about whether automation is really a good thing, especially with advancements in robotic manipulation allowing them to stack multiple, unique items on shelves better than ever before.

As autonomous as these robots continue to become, they still require humans to build, maintain, and repair them. According to Forrester, robots will take 24.7 million jobs by 2027, but create 14.9 million new jobs in the same time period. The research firm also predicts that cognitive technologies, including robots, AI, and machine learning will replace 7% of U.S. jobs by 2025.

While those margins may not be encouraging to some, according to Scherwin, technology like Watson is about “augmenting human intelligence, not replacing it.” It's still up for debate whether robots will ultimately become the best vessels for AI in retail settings, but the software is clearly here to stay.

And no matter the use case, the future of robots in retail may not depend on what retailers want. In an October 2017 *Wired* article, author Ben Sullivan wrote, “While many argue that replacing human staff with robots is a damaging trend for human labor forces worldwide, it's ultimately the consumer that's going to decide whether robots deserve a place in the brick-and-mortar store.” ■



# The Privacy Paradox

**Consumers demand personalized experiences when they shop, and, at the same time, they don't want to give away any personal information.**

Research conducted by Accenture shows that despite 44% of consumers being frustrated when companies fail to deliver personalized shopping experiences, 49% are worried about personal data privacy when they subscribe to services designed to understand and anticipate their needs. This type of contradiction is ubiquitous in retail. While the U.S. Census is reporting a steady increase in the percentage of shopping done online, most Americans (84%) still say they prefer shopping in store. And this has birthed the longstanding belief that if physical stores are going to survive, they need to start adopting the conveniences of online shopping.

“The consumer that walks through a merchant’s door today is more digitally attuned than ever before, and their expectations around what makes a great commerce experience have accelerated based on all the great functionality they now get in mobile applications and online,” says Nathan Gill, Vice President of Verifone Services in Europe. “So their ability to deal with long lines, or digging for plastic loyalty cards, or dealing with store personnel that don’t know much about a product has diminished, and their expectations have been elevated.”

But if a merchant is to provide that seamless, online experience of, let’s say, offering cardless loyalty services, then the consumer has to willingly give something to the merchant—namely, personal information. This information can take many forms (a phone number, an email address, a birthdate, etc.), but once a customer feels comfortable providing this information and accepts the fact that the merchant may record their purchases in a customer profile, the possibilities for personalization are endless. Merchants can offer more tailored experiences, sales on items that the customer actually likes, and recommendations for other products—just to name a few.

Still, none of this is possible without the willing consent of the consumer.

Only a couple of years ago, the Pew Research Center reported that 47% of Americans find it acceptable for a merchant to track consumers’ purchases in exchange for occasional discounts, but nearly a third (32%) call this practice unacceptable.

Whether they’re aware of it or not, consumers seem much more willing to provide the exact same information

online. Anytime an Amazon customer makes a purchase, it’s recorded to a customer profile. Anytime someone visits a website and accepts the use of cookies, they are, in essence, providing consumer data that’ll be used in a marketing technique called “retargeting.” If it feels like you keep seeing an ad for a product you were thinking about buying, chances are you’ve been retargeted.

In 2010, right when it seemed the world was waking up to the perceived privacy invasion of retargeting, the *New York Times* published an article in which a privacy advocate and the executive director of the Washington-based Center for Digital Democracy said that “[retargeting] illustrates that there is a commercial surveillance system in place online that is sweeping in scope and raises privacy and civil liberties issues, too.”

It wouldn’t be unreasonable to say that Americans are a little creeped out when the internet seems to know exactly what they want. However, this is the kind of personalized shopping experience that merchants want to create in the store—and, paradoxically, it’s what consumers are asking for as well.

“The key,” says Ken Taylor, Verifone’s Global Head of Product Development, Legal, “is giving consumers something they want.” Ken has experience developing and implementing loyalty programs, and what he’s learned is that, “at the end of the day, if there’s no real benefit to the consumer, they’re not going to participate.”

Perhaps the answer is to modernize the retail environment first—give consumers what they’ve been getting online. If a merchant can make checkout faster by emailing or texting the receipt instead of waiting for it to print, for example, maybe the customer will be more willing to hand over that particular information.

The bottom line is that for everyone to get what they want out of the shopping experience, things need to change. Merchants need to provide better experiences, and consumers need to understand that much of the information they are giving away freely online can benefit them in the store. It’s a chicken and egg situation, and there’s really no way of telling who is going to be the first to crack. ■

FAVORITE COLORS

BLUE, RED, BLACK

BIRTHDAY  
JUNE 16  
EMAIL  
JONE@GMAIL.COM  
PHONE  
(408) 332-1234

BODY TYPE  
SLENDER

“

The consumer that walks through a merchant's door today is more digitally attuned than ever before, and their expectations around what makes a great commerce experience have accelerated based on all the great functionality they now get in mobile applications and online.

”

STYLE  
CLASSIC  
SIMPLE AND STRUCTURED

TOP SIZE 4 BOTTOM SIZE 26<sub>28</sub>  
SHOE SIZE 7<sub>1/2</sub>



## Visions of Experience

Business legend **Don Kingsborough** provides a sneak peek at how his new company is going to change the way people shop, and offers an **optimistic view** of the **shopping centers** of the future.

“What retail needs, in a simple way, is a mirror image of Amazon,” says Don Kingsborough, the new CEO of OneMarket. For lack of a less garish term, Don is famous. He’s invented some of the most popular products in the world, introduced the U.S. to game-changing technologies, and now, he’s poised to revitalize that huge, struggling animal known as the mall.

In 1985, Kingsborough launched Teddy Ruxpin while running Worlds of Wonder. He was also instrumental in developing and marketing Lazer Tag, bringing Nintendo to the United States, and leading the consumer products division of Atari. If you search for Worlds of Wonder on Wikipedia, you’ll find a photograph of Kingsborough, suited up and ready for an epic laser battle, next to the company’s long list of products. Don says that when he’s developing a new product, he simply trusts his gut.

“It’s not so much whether the product is for kids, it’s just understanding what the consumer wants...I get a gut feeling about these things—an emotional feeling about how good the products are,” says Kingsborough. “When I listen to that, I’ve generally done OK.”

At this rate, Don’s gut should be insured, as it’s taken him to high-powered positions at top companies like PayPal, Westfield, and the National Retail Federation.

Now, he’s running a new company that aims to help brick-and-mortar retailers compete more effectively in the evolving retail environment.

“Amazon changed the landscape for physical retailers,” says Kingsborough. He goes on to explain that Amazon has valuable data that helps it move merchandise. For instance, when someone views a product page or when they search for a product category, they are showing intent to purchase. “If someone searches for something in a store, if they look in a window, if they text a friend, we need that information for retailers. We need a neutral party that accumulates a comprehensive set of consumer data to provide retailers and shopping malls with insights and intelligence regarding their consumers and the products they browse and buy.”

And that’s exactly what OneMarket is doing. They aim to create a global network of retailers, brands, shopping venues and technology companies that shares technology, strategic relationships, and data-driven consumer insights

to improve the businesses of all network participants. The idea is that a customer will first opt into the program because it promises personalized benefits and offers. Today, single retailers can only gather information on a limited number of consumer interactions, while networked data will enable a broader view of shoppers’ needs and behaviors. This improved understanding may be used to generate more informed insights about consumer needs and behaviors and ultimately create more relevant, personalized, and enjoyable shopping experiences for the consumer. Rewards programs, for instance, could be seamless—there will be no need to identify oneself with a loyalty card or phone number. A merchant could send promotional offers for products they know the customer likes straight to their phone. Kingsborough described the potential for a customer to simply pay for their items on their phone and leave.

When asked about the future of retail, Kingsborough described society as a grandfather clock: “It tells the time accurately all the time, and society is like that—it’s the minute hand. But the thing that runs it is a pendulum—it goes back and forth, and it causes time to change. The pendulum has swung to digital, but it’ll swing back.”

He says that people are “craving experiences. They write about it in their blogs, showing them off across social media. I have a granddaughter and I can’t take enough pictures of her. People even take pictures of food! It’s an experience economy. It’s Times Square. It’s Green Park in London. So shopping malls are going to move to that. If I were to rename a department store or shopping center, I would include ‘experience’ in the name. To me, whether it’s an outdoor or indoor shopping center, it has to have the very best experience—the most magnetic attractions that someone wants to do.”

In Don Kingsborough’s vision, condos and apartments will rest on top of these new, experience-driven shopping centers. People will be able to live and shop and dine out and engage with something new all in the same space. It’s a fascinating premonition, and one that makes complete sense when taking into account the oversaturation of digital conveniences in today’s world. People are tired of looking at their phones and browsing the internet—they want to go somewhere and experience something in real life... and then use their phones to post about it on the internet. ■

NON-CENTS

## New Card Tricks

*Payment cards for modern times.*

According to Gallup data, the average American owns between three and four credit cards, which in the past, may have added some unnecessary heft to your wallet. Now, though, there's a company that aims to consolidate all your cards into one. It's called the Wallet Card™ and it's made by Dynamics. Much like the failed Plasticard, the Wallet Card houses all your cards in a single electronic device that looks and functions just like a regular payment card. It has an E-Ink display for toggling between accounts, a GSM chip, and a reprogrammable magnetic strip in the back. It can hold loyalty information as well. Owners of overstuffed wallets are rejoicing.

Meanwhile, Visa is improving on their namesake with a new fingerprint sensor. Developed by the Visa Ready for Biometrics program, the technology allows you to store your fingerprint on the card, which is used as an identifier—just like a signature—to authorize payments.

"The world is quickly moving toward a future that will be free of passwords," said Jack Forestell, head of global merchant

solutions at Visa, referring to the growing ubiquity and increased security that biometrics have to offer. The pilot will be conducted early this year.

With the development of eWallets, voice authorized payments, and similar technologies, it wouldn't have been unreasonable to think that physical credit cards are on their way out. But these innovations show a different future—one where cards are very much alive, and they can do far more than they ever could.



FEATURED APP: APPTIZER

## Made to Order

*Carbon partners with an order-ahead app geared toward SMBs.*

Apptizer is a mobile, order-ahead app designed to benefit SMBs by providing them the same "mobile store" experience a chain like Starbucks can offer. Considering that Starbucks performs 30% of its U.S. in-store transactions through its mobile app, it's a revenue channel that SMBs would be ill-advised to ignore. According to PYMNTS, mobile ordering is projected to become a \$55 billion industry by 2022.

Now, merchants with Verifone Carbon can benefit from Apptizer's quick and easy integration. Developed for Android and iOS

platforms, Apptizer on Carbon allows SMBs to deliver a customized, branded app experience to their customers, aided by Verifone's industry-leading payment services, gateways, and end-to-end security.

"Order-ahead technology has helped big chains increase order value and boost sales," says Dinesh Saparamadu, CEO and founder of Apptizer Inc. "We wanted to bring the special sauce behind these apps to SMBs." Saparamadu said that investing in a software developer to build and maintain an order-ahead app is costly and time-consuming for SMBs, but with Apptizer, creating a mobile app is as easy as creating a Facebook page.

Since Apptizer runs on a software wizard, setup for merchants is minimal, requiring no coding or technical expertise. Within five minutes, according to Saparamadu, a merchant can have their mobile store up and running, which customers can access on a branded, white label app, to both place and pay for orders. Whether a customer chooses to pay on the app or not, a custom QR code is generated that the merchant can later scan at checkout for a seamless transaction. Apptizer's software wizard can also be tailored for other types of specialty shops beyond food service.

More than just allowing customers to order ahead, Apptizer personalizes the experience with real-time notifications about daily specials, discounts, and loyalty-based offers.

"Apptizer has an AI engine that looks at user behavior and preference, and, with that, we can provide certain recommendations to merchants," says Danesh. "Merchants own all the customer data and gain tremendous insight from it, for upselling and other opportunities."

For more info, visit [apptizer.io/partners/verifone](http://apptizer.io/partners/verifone).





## Classic / Refined

### V400c

The brand new, Engage V400c is Verifone's most powerful, high-end, countertop solution. With a 3.5-inch capacitive touchscreen display, the point of sale transforms into a point of engagement—supporting third-party apps to foster loyalty, conduct customer surveys, and much more. It accepts all current payment types and supports various communications methods, including dual-band WiFi and Bluetooth 4.2 BLE. It's intuitive and easy to use for the consumer, yet complex enough for all merchant use cases—from tier 1 to SMB. The V400c meets PCI 5.X, SRED security standards, providing the most up-to-date, end-to-end security available.

A solution for everything, and everything for a solution.

## Contemporary / Defined

### Carbon Mobile 5

It has the durability, power, and advanced feature set to handle anything from the most unique situations in tier 1 retail, to the out-of-the-box needs of small and medium-sized businesses. Sporting a 5-inch, HD IPS capacitive touchscreen, Carbon Mobile 5 is as natural to use as any smartphone. Plus, with a secure, locked-down Android OS, developers can build merchant and consumer apps more efficiently and flexibly than ever before—all while still meeting the highest PCI 5.X SRED security standards. In combination with Verifone Connect digital services, it offers purchase, payment, loyalty, inventory, and the ability to run Android apps. There's literally no other device like it.



**Verifone**<sup>®</sup>