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# How Large CPG Companies Can Act with the Agility of a Start-Up

USE ARTIFICIAL INTELLIGENCE & MACHINE LEARNING TO REACT TO  
MARKET OPPORTUNITIES & RISKS FASTER THAN THE COMPETITION

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# Overview

## The challenge of data

Consumer packaged goods (CPG) companies are inundated with data from all points of the enterprise. There's marketing data from web browsing, social media channels, and advertising, as well as sales, margin, and valuation data from finance. Meanwhile, there's information from manufacturing plants, supply chain partners, and a plethora of data from retailers about everything from merchandising to product returns. CPG companies are challenged to make sense of all of this data and put it to work in a way that provides an edge over the competition.

## Harness the power of data to act with the agility of a start-up

However, when companies can aggregate disparate data sources, use artificial intelligence (AI) and machine learning (ML) solutions to recognize patterns in data, and automate processes based on AI and ML rules and models, you can gain insights to act with the agility of a start-up to uncover opportunities and overcome challenges.

For example, CPG companies can:

- **Create innovative smart products**—like [Blueair's](#) new line of [HealthProtect](#) connected products.
- **Identify manufacturing issues before they occur**—like [Georgia-Pacific's](#) ability to predict equipment failures 60-90 days in advance to keep more than 150 converting lines in operation.
- **Orchestrate supply chain processes to manage disruptions**—like [Carrier](#), who's ML-based Lynx digital cold chain operations platform was recognized by *Fast Company* as a 2021 "world changing idea."
- **Boost sales by sending personalized content and messages**—like [KEEN Inc.](#), the outdoor shoe brand, that increased revenue by 12.5% with customized product recommendations.
- **Connect channels to improve service**—similar to [Subway](#), who stood up a fully-functioning call center in hours to better support franchisees.
- **Predict customer preferences with precision accuracy**—like [Domino's Pizza](#) that can proactively make pizzas before orders are complete to deliver pizzas in 10 minutes or less.

*AI and ML solutions from AWS gave these leading CPG companies insights to make better decisions by mining company information.*



## In this e-book

We will explain how your company can increase agility with AI and ML technologies. We'll also outline the benefits and use cases specific to the CPG industry so you understand how these innovative solutions can help your company.

Regardless of whether you are a top 10 manufacturer with dozens of brands or an emerging direct-to-consumer (DTC) brand that wants to accelerate growth, we'll give you the information you need to put AI and ML to work in your organization—so you can act with the agility of a start-up.

# History of AI & ML

## The beginning of AI

Although the concept of AI has been around for centuries, it wasn't until the advent of computers in the early 20<sup>th</sup> century that AI was within the realm of possibility. And then in the 1950s, scientists, mathematicians, psychologists, engineers, and economists began working to to establish a body of research to build machines that could mimic human brain power.

## BIRTH OF AI

Psychologist Frank Rosenblat creates the **Mark 1 perceptron**

# 1950s

## The slow growth of AI

Although there were advances in AI in the latter half of the 20<sup>th</sup> century, for all practical purposes, researchers couldn't deliver on the promise of AI. It didn't become a useful technology because it required enormous amounts of computing power and data—neither of which were readily available in the 1970s, 80s, and 90s.

## AI WINTER

The 70s and 80s deliver **little progress** towards the promise of AI

# 1970s

# 1997

## IBM DEEP BLUE

IBM's **chess computer defeats** grandmaster Garry Kasparov



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## ERA OF BIG DATA

'Big data' is coined as data goes **beyond data warehouses**

# 2005

## AI & ML began to flourish

Let's fast-forward to the early 21<sup>st</sup> century, when the internet, cloud computing, and social media emerged as transformative technologies. Data scientists had the computing power and data to apply AI and ML technologies in a meaningful way.

After spending more than a decade building and running a highly scalable web application, Amazon launched Amazon Web Services (AWS) in 2006 to allow anyone to run their applications on its technology infrastructure platform. Suddenly, researchers, students, global enterprises, and start-ups alike could easily access massive amounts of computing power to analyze petabytes of data generated from consumer purchases, social media posts, reviews, and many other data sources. The time had arrived for AI and ML to become useful technologies to help companies answer challenging questions, gain insights, and increase agility.



### 2006

#### CLOUD COMPUTE

AWS begins offering **cloud infrastructure**

# JEOPARDY!

### 2009

#### GPUS & SOCIAL

GPUs accelerate AI and social media data **feeds**  
AI's need for data

### 2011

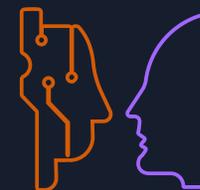
#### DIGITAL ASSISTANTS

Apple launches **Siri**

### 2014

#### TURING TEST

AI-based chatbot  
**Eugene fools a judge**  
into thinking it's human



#### AI WINS JEOPARDY

An **artificial intelligence** beats  
the top two Jeopardy  
contestants

### 2011



2016



COZMO AI TOY  
Anki releases **AI-powered Wall-E** inspired toy

2018

JUST WALK OUT  
Amazon releases **Just Walk Out** tech to streamline retail



DRIVERLESS CARS  
Tesla announces **Autopilot** and Waymo takes to the streets

2015



DELIVERY BOTS  
Amazon begins testing **delivery robot "Scout"** in select cities

2021



FACEBOOK FACE AI  
Facebook rolls out **facial recognition** to help with tagging

2017

# Understanding AI & ML

## A glossary of key terms & definitions

Now that you know the history of AI and ML, it's important to have a general understanding of key terms and concepts to help you determine how best to deploy AI and ML technologies within your organization to increase agility.



### **Algorithm**

A function of both mathematics and computer science, it's a finite sequence of well-defined instructions that tell a computer to perform specific calculations on a dataset to generate an output.



### **Artificial intelligence**

It's the intelligence demonstrated by machines versus the natural intelligence displayed by humans. In practical terms, AI works by programming a computer with algorithms that analyze large amounts of data and automatically detect patterns and trends.



### **Computer vision**

This is an aspect of AI in which computers are programmed to analyze digital images and videos. It mimics the human visual system and enables computers to assess vast amounts of visual images that would overwhelm the human brain.



### **Machine learning**

A subset of AI, ML is the practice of using mathematical models to adapt an algorithm to learn from data over time. The initial algorithm is designed using a set of "training data." The ML model is fine-tuned with "validation data" and "test data." Once the ML model is deemed valid, you can use the ML algorithm to analyze data over time and identify trends and clusters of data as the information changes.



### **Natural language processing**

A field that combines linguistics, computer science, and AI, it's the practice of programming computers to analyze natural language data (i.e., language spoken by humans) versus a computer programming language. This is an important component of analyzing social media sentiment data where algorithms sift through millions of posts, comments, and image captions.

# Benefits of AI & ML for CPG Companies

As the CPG landscape has evolved and industry growth has slowed with disruptions like COVID-19, the emergence of [digital native brands](#), as well as ever-changing consumer behaviors, companies are looking for transformational technologies to increase agility. AI and ML can do just that—across every functional area in the CPG enterprise—with these benefits.

## Improve decision-making

CPG companies can use AI and ML-based technologies to gain more insight from data to make better decisions. By connecting data across the enterprise, you can analyze data holistically with AI and ML to identify opportunities and risks in real time—so you can act more quickly.

### Use cases

- Create forecasts with more accuracy using an ML-based demand forecasting solution, like [Amazon Forecast](#).
- Improve real-time awareness across manufacturing lines and supply chains with an AI computer vision solution.

## Accelerate scalability & growth

With a connected, cloud-based technology platform enhanced with AI and ML, CPG companies can transform, orchestrate, and automate processes across the supply chain and in manufacturing to improve asset utilization, production yield, and demand planning. And with simplified, integrated systems, companies can realize value more quickly from acquisition integrations.

### Use cases

- Automate processes to manage, stow, pick, pack, ship, and deliver products with ML-based computer vision solutions.
- Use predictive analytics to optimize the transportation of raw materials and finished goods.
- Consolidate disparate data sources in M&A situations to rapidly gain holistic analytical insights.

## Boost sales & revenue

As CPG companies strive to increase agility, AI and ML technologies can be embedded in new, innovative connected products; transform marketing processes to engage consumers; and unify commerce experiences across physical and digital channels.

### Use cases

- Increase up-sell and cross-sell opportunities with ML-based personalized recommendations.
- Develop products more quickly with ML-based product development tools.
- Improve brand loyalty by sending curated content at every touchpoint along the buyer's journey.

## Reduce costs

By automating repetitive processes, speeding workflows, eliminating human error, and detecting safety issues or product defects, companies can significantly reduce costs to accelerate agility.

### Use cases

- Improve manufacturing machine uptime with an ML-based predictive maintenance solution.
- Reduce contact center call handle times with AI-enabled call routing.
- Decrease injuries on the manufacturing floor with AI-based security cameras that can identify employees who aren't following safety protocols.

# CPG Innovators

## Successfully increasing agility across the CPG organization

Leading consumer brands around the globe have increased agility and transformed their companies with AI and ML technologies from AWS. Check out the customer successes on the following pages to inspire your transformation and learn how different CPG companies use AI and ML solutions to overcome challenges, fuel growth, reduce costs, and boost revenue.



# Product Development

Typically, 80% of new product introductions fail. To prevent failure, CPG companies need to improve innovation ROI. With AI and ML-based product development, companies can explore different product options, eliminate poor performing options, and quickly develop both traditional and smart products to launch into the market.

**Accelerate new product development**—Automate and streamline product design workflows with AI and ML to connect disparate design teams and speed testing. CPG companies can reduce the time to develop new products by 23%, from 15 to 11 months.

**Create smart, connected products**—Design and manufacture smart products that are embedded with IoT, AI, ML, and robotics.

## Blueair

The company launched a line of connected products called [HealthProtect](#), which proactively monitors air quality, tracks levels of fine particles and volatile organic compounds, and determines the probability of germ growth. To support the global scalability of the connected devices, Blueair rapidly developed and deployed its HealthProtect product line using [AWS IoT Core](#). Building on AWS enables enhanced security and privacy for Blueair's customers and allows the company to release new and upgraded features so that every air purifier continues to deliver value throughout its life span. To learn more, read the [case study](#).

**“By changing our technology foundation on AWS, we can focus on the value added, deliver features quickly, and drive the connected experience as a market leader.”**

**-Anders Overgaard, Global Head of IT, Blueair**

## Nestlé Purina Australia

The company developed a networked smart bowl with a corresponding app to help pet owners provide optimal nutrition as pets transition through different stages of life. The smart bowl leverages [AWS IoT Core](#), [AWS IoT Analytics](#), and [Apache Solr Container Solution](#) by Bitnami VMware to connect devices to the cloud and process hundreds of data points to deliver personalized food recommendations, monitor consumption, and combine this information with data on an animal's activity level to help owners care for their pets. To learn more, read [this article](#).

**“Our data scientists will continue to leverage the findings and study everything from how different breeds eat, which form of nibble is more desirable, to a pet's oral health—with the aim of helping pet owners keep their animals healthier and happier.”**

**-Nicole Battistessa, General Manager, Nestlé Purina Australia**



# Manufacturing

The next revolution in manufacturing is here. However, CPG companies are still challenged to squeeze out additional productivity, increase asset utilization, and improve quality—all while lowering costs. Although CPG manufacturers understand the value of data, they need to adopt AI and ML-based methods to optimize planning, execution, and product quality in order to increase agility.

## Georgia-Pacific

The company used an AWS-based advanced analytics solution to eliminate 40% of parent-roll tears, reduce 30% of raw material waste, reduce chemical usage to create wood pulp, and improve overall yield. The company can now predict equipment failures 60-90 days in advance to keep more than 150 converting lines in operation. To learn more, read the [case study](#).

**“We are using AWS data-analysis technologies to predict ... precisely how fast converting lines should run to avoid tearing. By reducing paper tears, we have increased profits by millions of dollars for one production line.”**

**- Steve Bakalar, Vice President of IT/Digital Transformation, Georgia-Pacific**

## Reduce machine downtime and improve manufacturing yield—

Use AI-based manufacturing solutions to capture, analyze, and visualize disparate plant data to predict production problems before they occur and optimize manufacturing processes to improve yield. CPG companies can reduce unplanned downtime by 48% and improve average overall equipment effectiveness by 16%.

## Dafgård

Founded in 1937, Dafgård is Sweden's largest private food producer of popular products like Swedish meatballs, pizza, and lasagna. The company wanted to improve quality control on its pizza manufacturing lines to ensure an even coverage of toppings. With an AWS ML-based computer vision solution, Dafgård has successfully expanded quality assurance. To learn more, [click here](#).

**“[Amazon Lookout for Vision](#) automates and scales inspection of diverse product types such as a cheese pizza with vegetables using the same machine vision system. We successfully expanded our quality assurance for new product types with minimal impact to operations.”**

**- Fredrik Dafgård, Head of Operational Excellence and Industrial IoT, Dafgård**



# Supply Chain

Supply chains pose a complex challenge for modern CPG companies as they orchestrate layers of moving parts—from forecasting demand to transporting raw materials, planning production lines to managing distribution centers. Although the pandemic put added pressure on supply chains and will continue to impact them well into next year, CPG companies can build agility into supply chains with AI and ML technologies to optimize every element of the process.

**Improve forecast accuracy**—Replace spreadsheets and complex financial planning software with an ML-based demand forecasting solution that combines historical data with more complex datasets

that change over time (e.g., price, discounts, web traffic) and other independent variable data (e.g., product features, store locations) to improve forecast accuracy by as much as 50%. CPG companies can also reduce days of inventory on hand (DOH) by 20%.

**Gain end-to-end visibility to predict risks**—As modern supply chains expand, they are also becoming more complex and disparate. Supply chain leaders need a unified view of data along with AI and ML technologies to predict risks and identify underlying root causes before they become major issues. CPG companies can increase inventory turns from 14 to 19 and reduce late deliveries by 60%.

## Aramex

This global logistics and transportation company wanted to improve service by giving customers a more accurate prediction of delivery time frames. With the help of AWS and AWS Premier Consulting Partner [Inawisdom](#), the company deployed an ML-based data science platform that ingests 1.2 million rows of customer data every 15 minutes. To learn more, read the [case study](#).

**“We have seen a 74% increase in the accuracy of our transit-time predictions because of the machine-learning models we developed on AWS with Inawisdom.”**

**-Mohammed Sleet, Chief Digital Officer, Aramex**

## Carrier

In October 2020, Carrier and AWS announced the co-development of Carrier’s new [Lynx digital platform](#), a suite of tools that provide the Carrier customers with enhanced visibility, increased connectivity, and actionable intelligence across cold chain operations to improve outcomes for temperature-sensitive cargo, like food, medicine, and vaccines. To learn more, read [this article](#).

**“Carrier is committed to powering a healthy, safe, and sustainable cold chain. Through this collaboration with AWS, we are building on our experience to develop a powerful tool that gives Carrier customers greater flexibility, visibility, and intelligence across the cold chain.”**

**-David Appel, President, Carrier Refrigeration**



# Marketing

CPG companies are feeling pressure from sluggish growth as well as increased competition from digital native brands and private labels. Compounding this challenge is fragmentation from mass media, privacy concerns, and changing buying habits, all of which make it hard for CPG companies to connect with consumers in meaningful and relevant ways. Against this backdrop, marketers are looking for innovative technologies to increase agility and give them an edge over their competition. AI and ML solutions can do just that.

**Optimize advertising**—With a plethora of advertising options, CPG marketers can use AI and ML solutions to improve advertising planning, bidding, placement, and personalization, saving up to 70% on analytics and 25% on real-time bidding costs.

**Improve customer segmentation**—Using a centralized data repository, CPG companies can combine millions of data points from internal and external sources, use data clean rooms to anonymize data, and analyze the data with AI technologies to define consumer profiles and personas.

**Create personalized recommendations and experiences**—With increased competition and the pressure of commoditization on CPG companies, brands need to create personalized consumer experiences to boost sales and win consumer loyalty. According to a study by [McKinsey](#), personalization can deliver five to eight times the ROI on marketing spend and lift sales 10% or more. Deliver sophisticated, unique experiences to consumers across channels and devices with an ML-based personalization solution.

## Dollar Shave Club

As the company grew, it wanted to gain more in-depth knowledge of customer trends so it could provide a more personalized customer experience. To learn more, read the [case study](#).

**“We are taking the data we access and analyze through the [Amazon Redshift](#) lake house and enabling personalized product recommendations, website optimization, and new features.”**

**-Saritha Ivaturi, Director of Data Systems, Dollar Shave Club**

# Marketing

## KEEN

The company wanted to increase sales by engaging more closely with customers. KEEN worked with AWS and partner, Data in the Raw, to develop a solution powered by [Amazon Personalize](#) to use purchase and browsing history to tailor recommendations and content for customers along their purchasing journey. To learn more, [click here](#).

“With the initial use we looked to improve the experience for our browse abandon customers through our email program. ... With the implementation of Amazon Personalize we are seeing email CTR is up 67% over our control messaging. Rev/M Sends is up 49%, and because the content is even more relevant, our opt-out rate has dropped 36%. But where the rubber hits the road for me is on revenue. Test emails have shown a 12.5% increase in revenue versus the control. It is clear that AWS has given us another arrow in our quiver.”

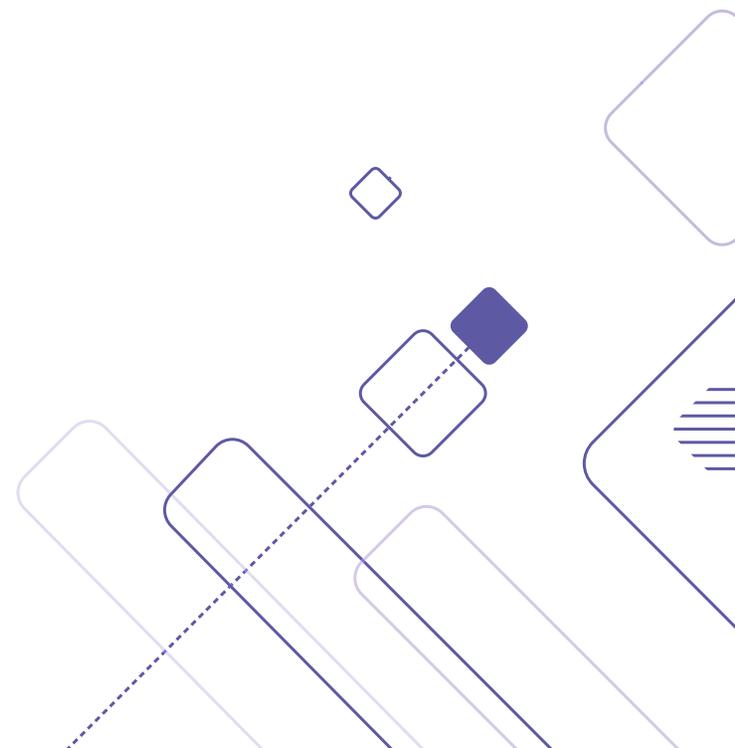
-Kristina Smith, Director of Global Digital Marketing, KEEN

## Nike

The sportswear brand used [Amazon Neptune](#) to build a social graph to connect 25 million users, map 150 million relationships for its [Nike Run Club app](#), and provide friend and interest recommendations. To learn more, watch [this video](#) or read [this blog](#).

“Using the Amazon Neptune graph database, Nike is unlocking the possibility for world-class athletes and millions of their followers to have unique Nike experiences.”

-Marc Wangenheim, Senior Engineering Manager for User Services, Nike





# Unified Commerce

The COVID-19 pandemic radically reshaped consumer shopping behaviors, spending habits, and brand preferences. The rapid consumer adoption of ecommerce, curbside pickup, delivery, and drive-through services changed the nature of shopping and brand relationships. With AI and ML solutions, CPG companies can better coordinate between customers and digital commerce channels to ensure consumers find the right product, when and where they want to buy it.

**Streamline call center processes**—With a fully-integrated, omnichannel call center solution that’s embedded with AI and ML, calls automatically go to the right agent with the appropriate knowledge and skill set based on a prediction of the caller’s needs. CPG companies can reduce the average handle time by as much as 15% and reduce agent training time by a full week.

## Subway

“Setting up [Amazon Connect](#) was straight forward and seamless, enabling us to be operational within a couple of hours. The ability to offer our franchise customers a callback instead of waiting on the phone has improved their experience resulting in a dramatic increase in our customer satisfaction (CSAT) score. Using Amazon Connect, we will be able to decrease costs and realize significant time savings in how quickly we can process the customer calls.”

-Neville Hamilton, VP of Technology Business Mgt & Acting CIO, Subway

## Slice Pizza App

“Reliability was the #1 factor that drove us to look for a new contact center. ... With [Amazon Connect](#), we spun up our own contact center, completely built it ourselves with the functionality we wanted, and tested everything before making the decision to switch off our old system and port our numbers over. ... The cost savings is a huge benefit for us and the ability to scale seamlessly is also important ... but what we value the most with Amazon Connect is that we no longer have to consider tradeoffs between reliability, value, or quality. ... We are 100% confident that Amazon Connect will continue to scale with our fast-growing business.”

-Mohsin Hassan, Director of IT, Slice



# IT & Digital Transformation

Many CPG companies are data rich yet insight poor. To find valuable insights and make better decisions, you need to connect siloed data sources and apply tools such as visualization, analytics, AI, ML, and automation. Meanwhile, IT departments need to find ways to drive efficiency across all operations, from enterprise resource planning to web hosting. By moving to a cloud-based platform, CPG companies can achieve significant cost savings and lay the foundation for a culture of IT innovation, experimentation, speed, and agility.

**Identify business opportunities and issues**—CPG companies need to make sense of high volumes of data to identify potential opportunities and risks so they can respond quickly. With AI and ML-based solutions, CPG leaders can proactively detect abnormal machine behavior, improve consumer targeting, and develop new products much faster.

## Domino's Pizza

[Domino's Pizza Enterprises Limited](#), the largest franchise holder in the Domino's brand with more 2,600 stores in Australia, New Zealand, Belgium, France, the Netherlands, Japan, Germany, Luxembourg, and Denmark, wanted to provide faster pickup and delivery. To accomplish its goal, the company recently launched Project 3TEN, an initiative that aims to have pizzas ready for pickup within 3 minutes or safely delivered within 10. With a focus on technology, Domino's deployed an AI and ML solution that predicts orders so kitchen staff can proactively make pizzas before orders are complete. To learn more, read the [case study](#).

**"Customers are getting their pizza faster, hotter, and fresher because of the improvements we've put into place with Project 3TEN. The predictive ordering solution we developed by using AWS is a big part of that."**

**-Michael Gillespie, Chief Digital and Technology Officer,  
Domino's Pizza Enterprises Limited**

## Coca-Cola Andina

To facilitate profitable growth, the company wanted to create the best possible experience for its 54 million consumers in Chile, Argentina, Brazil, and Paraguay. To achieve this goal, Coca-Cola Andina developed world-class processes to increase productivity and quality. In one initiative, the company developed a data lake on AWS that increased the productivity of its analytics team by 80%. This improvement allows Coca-Cola Andina and its customers to make informed decisions that promote growth for the entire ecosystem, maintain its competitive advantage, and increase revenue. To learn more, read the [case study](#).

**"We are sure that, through innovation and incorporation of new capabilities, such as data lakes and analytics, we will achieve sustainable growth for the benefit of our customers, consumers, and the communities where we operate."**

**-Miguel Angel Peirano, Executive Vice President,  
Coca-Cola Andina**

# Key Points to Consider

## **The difference between AI & ML**

Although many people use the terms AI and ML interchangeably, they are different technologies, and it's important to understand the nuances between them. AI is the overarching concept of creating intelligent machines that can mimic human thought, processes, and actions. Meanwhile, ML takes the intelligent machine a step further by programming machines with algorithms that can learn over time as they analyze more and more data.

## **The “black box” challenge of AI**

Because AI-driven technologies analyze large datasets that are typically too vast for the average human to manage, it's difficult for humans to fully understand how the computer derived the output results. This lack of understanding or transparency in the calculations is referred to as the [black box problem of AI](#). The black box issue comes into play when the algorithm output is unexpected or problematic, which may indicate bias. This topic is of particular concern for industries that must explain exactly how computer-driven computations were derived.

## **Be aware of bias in AI & ML**

Although this phenomenon is often called “AI bias,” it's particularly problematic with ML, and here's why. As you train the ML algorithm with your initial set of data, if your training data isn't representative of the larger dataset, you can introduce bias whereby the algorithm may overlook characteristics that weren't included in the training data as it derives patterns and predictions from the larger set of data. As put by [TechTarget](#), “Machine learning ... depends on the quality, objectivity, and size of training data used to teach it. Faulty, poor, or incomplete data will result in inaccurate predictions.”

## **The importance of data privacy**

CPG companies have traditionally been a step away from consumers since products have been sold through wholesalers and retailers. As these companies aim to collect and analyze data to more closely engage with consumers, data privacy must be a priority, and there are techniques to use anonymized data to derive accurate AI and ML results. [Forbes.com](#) outlines the importance of data privacy and regulatory compliance, especially with AI technologies.

# Next Steps to Increase Agility

The world's population [produces 2.5 quintillion bytes of data each day](#) and analyzing even a small fraction of that data is overwhelming for humans. That's where AI and ML solutions come into play—with sophisticated computer applications and algorithms to quickly analyze petabytes of data to draw conclusions, gain insights, make recommendations, and increase agility across organizations. These technologies are changing the game for CPG companies right now with innovative approaches to engage with consumers, reduce costs, streamline processes, and increase revenue.

So, just how can CPG companies increase agility with AI and ML-based solutions? Here are a few suggestions to consider:



## **Determine your high-level pain points**

You may want to improve decision-making, accelerate growth, increase sales and revenue, or reduce costs. Pinpointing and prioritizing your top-line challenges will give you a starting point to address your organizational agility. From there, think about how the use cases and customer successes in this e-book can inspire you to transform your operations.



## **Take inventory of your data sources**

Since AI and ML solutions provide insights by analyzing petabytes of data, you'll need a good grasp of the data in the different systems across your company. You may even need to look at data from partners, like supply chain vendors and customer retailers. Once you understand where your data resides, then you can work toward unifying and consolidating information so you can gain meaningful insights with AI and ML technologies.



## **Prioritize the areas where you want to increase agility**

Here, you want to consider your most pressing needs across your organization to determine where to invest your efforts, resources, and budget dollars. Whether it's product development, manufacturing, marketing, or another area of your company, it's not an all-or-nothing proposition. Instead, it's a starting point. As you address a particular area, gain agility with AI and ML solutions, and see measurable ROI, you can then tackle another challenge in a different area of your organization.

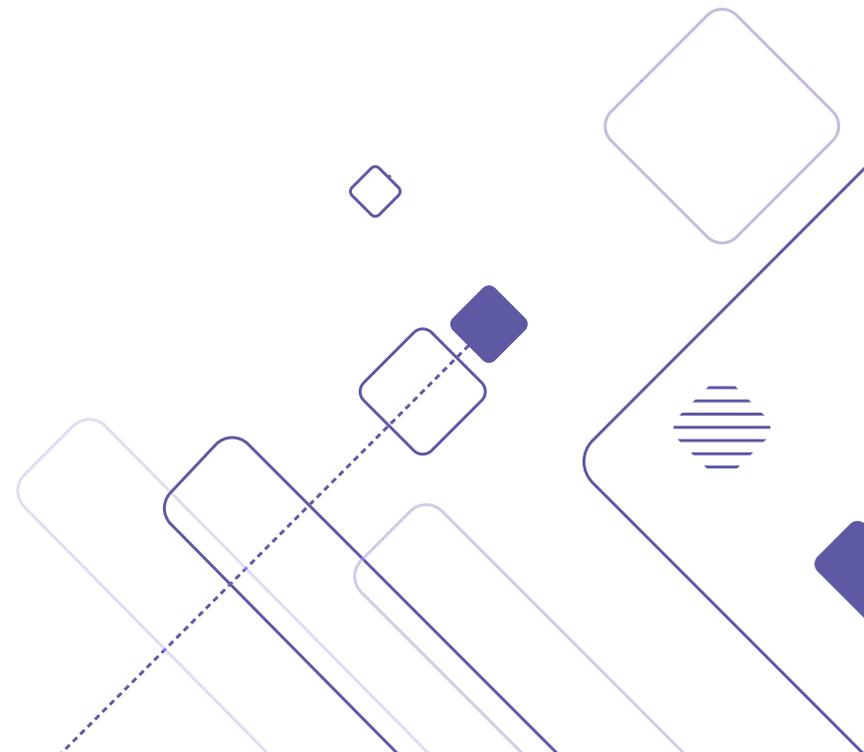
Transformation is a continuum. It doesn't happen overnight, and it's a balancing act as CPG companies work to overcome challenges in an ever-changing business landscape. As you use AI and ML technologies to automate and streamline processes, improve decisioning, and enhance engagement with retail customers and consumers, you can increase agility to deal with turbulence, fragmentation, competition, and changing buying habits.

# Getting Started

- Learn more about [ML solutions on AWS](#).
- Find out how the [AWS Professional Services](#) team can help you design and implement AI and ML solutions.
- Take the AWS and Peak.ai [21-day forecast challenge](#) to improve your demand forecasting.
- Find an [AWS Partner](#) to help you increase agility with AI and ML.

## About AWS

For over 15 years, Amazon Web Services has been the world's most comprehensive and broadly adopted cloud offering. AWS has been continually expanding its services to support virtually any cloud workload, and it now has more than 200 fully featured services for compute, storage, databases, networking, analytics, machine learning and artificial intelligence (AI), Internet of Things (IoT), mobile, security, hybrid, virtual and augmented reality (VR and AR), media, and application development, deployment, and management from 81 Availability Zones within 25 geographic regions, with announced plans for 21 more Availability Zones and seven more AWS Regions in Australia, India, Indonesia, Israel, Spain, Switzerland, and the United Arab Emirates. Millions of customers—including the fastest-growing startups, largest enterprises, and leading government agencies—trust AWS to power their infrastructure, become more agile, and lower costs. To learn more about AWS, visit [aws.amazon.com](https://aws.amazon.com).



# About the Authors



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As Global Solutions Lead for Consumer Products at AWS, Michael Connor helps customers meet their goals for revenue growth and digital transformation using cloud technologies. Michael brings a wealth of Consumer Goods experience from his previous role as Chief Architect for Coca-Cola Freestyle, where he led Digital Innovation, Data Science & Analytics, and Enterprise Architecture. Michael also led Coca-Cola North America's consumer and enterprise cloud migrations as part of a digital transformation, and while leading the innovation group in Coca-Cola, the IP developed represented three of the company's top four innovations in 2020. While at Coca-Cola, Michael was a five-year member of the AWS Customer Advisory Board.



## Eric Seiberling

Eric Seiberling is the Global Head of the Consumer Packaged Goods Industry Marketing at AWS where he helps companies leverage the power of the cloud to build closer consumer relationships with their brands, improve their organizational agility, and accelerate their digital transformation. Prior to joining AWS, Eric led Dassault Systèmes North American marketing efforts, provided strategic and organizational change management consulting to top CPG and retail companies, and was a brand manager at Procter & Gamble.