

THE AMAZON CANARY IN THE COAL MINE



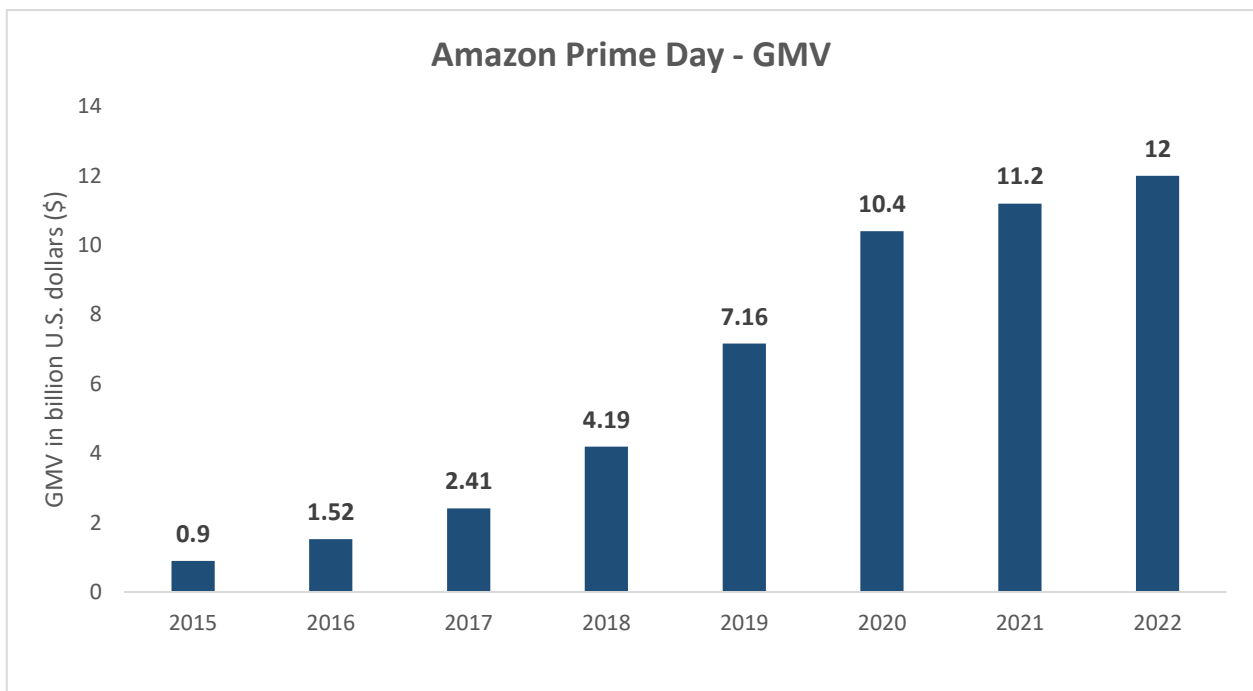
WHAT PRIME DAY 2022 DEEP
DISCOUNTS REVEAL ABOUT THE
UPCOMING HOLIDAY SEASON





Why Does Prime Day Matter?

Amazon Prime Day, the 48-hour sales extravaganza for Amazon Prime members, has become one of the most anticipated shopping events in the US. Since the time it was launched in 2015, the event has clocked in a Gross Merchandise Value (GMV) growth of ~11x over 7 years. In recent years, Amazon has spent approximately \$65 million on ads to promote this mega event. The lucrative promo deals, the anticipation, and the immense marketing buzz contribute to this event's continued success year over year. Prime day has now become the summer equivalent to Black Friday. While shoppers await this event for the deals, analysts and data scientists use sophisticated machine learning algorithms to keenly observe this event for leading indicators of shopping trends, consumer behavior, and anticipated promotional intensity.



Source: Statista^[1]



Prime Discounts Become Even Bigger in 2022

Post COVID, retailers around the world have witnessed whipsaw changes in consumer demand patterns, making it imperative for brands to closely watch, and more importantly - carefully manage, the way they offer promotions.

- According to early estimates, Prime Day 2022 has clocked in a healthy 8-9% growth in GMV over the past year. The increase in sales comes as the U.S. inflation rate skyrocketed to 9.1% in June 2022,^[2] the highest recorded rate in the last 40 years.
- The high levels of inflation were driven by spikes in fuel prices, food, and housing,^[2] further motivating consumers to look for savings and spend more on the deals offered during Amazon Prime Day. Estimates suggest that the average order value increased by 16-17% over last year.^[3]
- Categories with the most attractive deals: Amazon brands (Alexa devices, Kindle, Ring, etc.), smart wearables, small consumer durables/appliances, consumer electronics, and home improvement goods, had huge discounts on them in the year 2022, as compared to 2019-2021. While the discounts in the previous consecutive years were of a homogenous range, they doubled in 2022.
- We took a deep dive into Amazon's best deals for Prime Day 2022, to see how these discounts compared to previous Prime days for the past three years.
- We observed 10-20% increased discounts across the top categories under promotion, versus last year's Prime Day.

Category	2019	2020	2021	2022
Amazon brands	Light Blue	Medium Blue	Light Blue	Dark Blue
Apparel	Dark Blue	Light Blue	Medium Blue	Dark Blue
Earbuds	Light Blue	Light Blue	Light Blue	Medium Blue
Food	Medium Blue	Medium Blue	Light Blue	Medium Blue
Home improvement	Light Blue	Medium Blue	Medium Blue	Dark Blue
Household supplies	Light Blue	Medium Blue	Light Blue	Medium Blue
Personal care	Light Blue	Medium Blue	Medium Blue	Medium Blue
Small appliance	Light Blue	Medium Blue	Light Blue	Medium Blue
Smart home	Light Blue	Light Blue	Light Blue	Dark Blue
Toys	Light Blue	Medium Blue	Light Blue	Medium Blue
TOTAL	Light Blue	Medium Blue	Light Blue	Dark Blue

*Historical promo percentages are estimated

Shallow Average Discount% Deep

- Home improvement and casual apparel, the two categories that were hot sellers during the pandemic, but have since seen softening demand, were the two categories that saw the deepest discounts this year.
- Household supplies and home improvement categories have in fact seen 30-40% average discounts which is much deeper than compared to the prior three years.



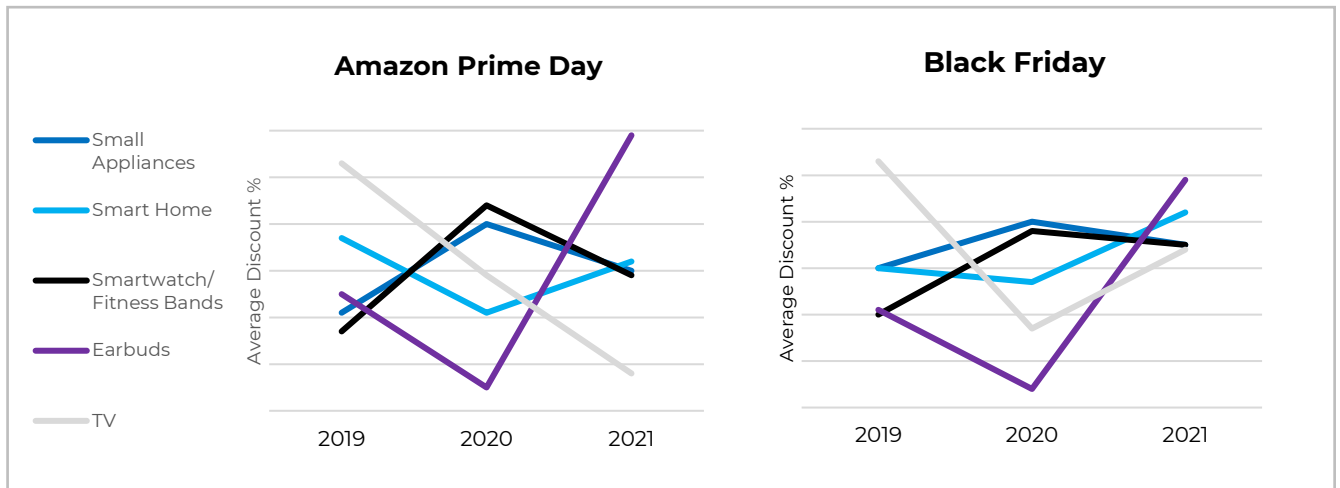
Black Friday is Just Around the Corner, and Prime Day is a Good Indicator of What to Expect.

Impact Analytics has been closely tracking pricing and promotional information across major retailers and brands for the past few years. Our analysis indicates a clear correlation between promotional intensity (average promo depth) for

Amazon Prime Day sales and the ensuing Black Friday deals for the major categories which tend to be under heavy promotion during these mega-events.

For example, the deals in the small appliances segment during Prime Day 2019 were ~7-10% lower than the historical average, while the same were higher by ~5-10% in 2020. A very similar trend followed in the subsequent Black Friday sales, with deals being ~5-7% lower in 2019 and ~5-7% higher in 2020 than the historical average.

Prime day deals are the harbinger of what to expect in the upcoming Black Friday.



The Volatile Macro Environment will Impact More than Just Promotions during the 2022 Holiday Season in Unprecedented Ways

While Prime Day is a good indicator of holiday trends, retailers must also think about the unique and unprecedented combination of socioeconomic factors that will impact product demand. It will be critical to consider the following when determining upcoming pricing and promotional strategies:



Inflation: As inflation continues to exceed forecasts, with the Consumer Price Index (CPI) rising 9.1% in June when compared to last year, the effect of rising prices will prevail during the holiday season. Impact Analytics introduced their own Grocery Inflation Index (IA-GII),^[4] which tracks price movements of key grocery items across the US on a higher frequency than the official Government reporting, and early estimates indicate only a slight price correction in the coming months. With skyrocketing first and last-mile costs and the cost of raw materials rising steeper than what retailers can absorb, the burden is getting passed to consumers with most retailers now increasing prices across their products. As customers feel the squeeze due to rising inflation, it leaves them with less wallet share to grab non-essential products. According to reports,^[5] the fashion and apparel industry has increased their prices by 3%. However, some retailers are holding prices to minimize lost sales. Inflation is known to catapult revenues, but the 2022 holiday season will be different. Adoption of sophisticated forecasting solutions that account for leading macroeconomic indicators and advise downstream planning, pricing, and allocation can help retailers come out as winners.



COVID: Although no new variant of concern has been found following Omicron, its sub-variants continue to cause waves across the globe, giving rise to speculations that the pandemic is nowhere near over. As the world has pivoted from managing the COVID crisis, to reopening and recovery of economies, one cannot deny the significant impact of lockdown on people's lives. New shopping behaviors have emerged with a rise in preference for e-commerce, category shifts (such as choosing more relaxed work attire for post-pandemic life), and a heightened focus on health and organic products. Rapid shifts in consumer behavior have important implications for retailers and CPG companies. Traditional methods of demand forecasting cannot keep up with the changing times. AI led demand forecasting algorithms, built on the back of new age data points like vaccination info, mobility data, incidence rates, etc. can identify the implications of such black swan events, deliver highly accurate results at the most granular levels, protect margins, and combat inflationary pressures.



Looming Recession Threat: Estimates indicate two consecutive quarters of negative growth rate for the US. With the US dollar soaring to a 20-year high against the Euro, there are crippling fears of a global recession. There is a high likelihood that consumer behavior will recalibrate economic expectations downwards, as they postpone holiday purchases, actively hunt for better deals, and trade down across categories and brands. Most retail forecasts are based on historical trends from last year, which is why retailers are having a hard time tapping into the current shopper psyche. Such forecasting techniques cannot compete with contemporary demand models that incorporate an exhaustive set of macroeconomic constructs like GDP growth, inflation rate, unemployment claims, consumer confidence index, and many more. Retailers need to invest in solutions that take recency, current economic conditions, and business trends directly into account, in order to make backed data decisions around how much to stock, and what prices to set.



Consumer Confidence: With tightening monetary policies, increased mortgage payments, inflation, and a worsening job market, shoppers no longer have a lifestyle that encourages massive consumption. The situation of extremely stretched household budgets is evident from recent sharp declines in consumer confidence surveys. The wave of inflation is eroding confidence and purchasing power; and while there is no formal recession, consumers have shifted their economic thinking, and are modifying their buying behavior in fundamental and more permanent ways. This is why retailers will see a real quick shift in consumer purchasing patterns - from loyalty to experience this holiday season. -.



Retail Inventory Levels: After nearly two years full of facing supply chain woes. watching inventory levels bottom out, warehouses are overflowing this year. A classic bullwhip has led to a widespread inventory glut across most major retailers in the US. This means that the holiday season will likely be sweeter this year, and possibly earlier too. Due to inaccurate assortment decisions, and flawed demand forecasting, retailers will have to resort to steep markdowns this holiday season. Retailers will need to undergo a rapid technological transformation and invest in next-gen inventory

management tools which can provide store-SKU forecasting precision by leveraging dynamic best-fit modeling just to keep up and stay profitable. This investment will be easy to justify to executives and investors.



Data Driven Insights and Technological Prowess - Imperatives to Win this Holiday Season

Due to rising inflation, customers tightened their purse strings during Amazon Prime Day in 2022; they however did not fail to take advantage of lucrative offers to stock up. With inflation continuing to afflict both retailers and shoppers, consumers have grown more cautious, opting to purchase more consumer-packaged goods and household products, limiting more discretionary spending during Amazon Prime Day.

At this time of heightened price consciousness, Amazon offered almost 2x deeper discounts on products with promotions, as compared to the previous three years. Suffice it to say that with fears of a recession, a challenging job market, and less capital in the hands of consumers worldwide, a majority of shoppers will not buy unless there are enticing discounts on the items they have wishlisted. Retailers that want to profit this holiday season need to gear up early and invest in the right infrastructure to help accurately predict demand and help set margin accretive promotions.

Whatever tools or solutions retailers use to ensure a profitable holiday season, they must ensure that their forecasting engine takes into account an exhaustive set of internal and external variables that can feed and automate key decisions around replenishment and allocation, as well as promotion recommendations including discount offers and length of promotion. Retailers lacking the ability to succeed in all of these areas will take a hit, but those with the greatest insight into the impact this ongoing period of volatility is having on shopper behavior will have the opportunity to not only succeed but will have something to celebrate as they head into the New Year.



Appendix

Category-wise Discounts on Amazon Prime Day 2022

Discounts when normalized with 2019 as the base year-

Category	2019	2020	2021	2022
Household supplies	100%	232%	172%	470%
Home improvement	100%	130%	168%	314%
Toys	100%	138%	128%	282%
Smart home	100%	84%	95%	258%
Small appliance	100%	159%	92%	233%
Personal care	100%	157%	158%	226%
Amazon brands	100%	142%	87%	199%
Earbuds	100%	79%	43%	191%
Apparel	100%	47%	66%	136%
Food	100%	77%	62%	107%
Grand Total	100%	113%	98%	203%

Correlation between Amazon Prime Day and Black Friday -

Discounts as a percentage of the average of the three years - 2019, 2020, and 2021 -

Categories	Black Friday			Amazon Prime Day		
	2019	2020	2021	2019	2020	2021
Earbuds	92%	85%	123%	95%	75%	129%
Small appliances	95%	105%	100%	90%	109%	99%
Smart Home	95%	99%	107%	106%	90%	102%
Smartwatch/Fitness Bands	85%	103%	100%	86%	114%	98%
TV	118%	82%	99%	123%	98%	77%

Category	Correlation coefficient
Earbuds	0.98
Small appliances	0.99
Smart Home	-0.10
Smart watch / fitness bands	0.91
TV	0.56



References

1. [^]["Global Amazon Prime Day sales from 2015 to 2022"](#). Statista. Retrieved July 25, 2022.
2. [^]["Inflation Spiked 9.1% In June—Hitting New 40-Year High As Price Surge Fuels Recession Fears"](#). Forbes. July 13, 2022. Retrieved July 23, 2022.
3. [^]["Amazon's Prime Day 2022 sales top \\$12 billion"](#). Digital Commerce 360. July 14, 2022. Retrieved July 20, 2022.
4. [^][IA's Grocery Inflation Index](#). Impact Analytics. Retrieved July 25, 2022.
5. [^]["State of Fashion 2022: An uneven recovery and new frontiers"](#). McKinsey & Company. December 1, 2022. Retrieved July 24, 2022.





IMPACT
ANALYTICS



Ranked as one of America's fastest-growing private companies by Inc 500 for four consecutive years: 2018-2021



Ranked as one of America's fastest-growing companies by Financial Times for two consecutive years: 2020 & 2021



Ranked as one of North America's fastest-growing technology companies by Deloitte for two consecutive years: 2019 & 2020



Featured as one of the top 25 ML startups to watch by Forbes in 2019

Visit us

www.impactanalytics.co

Contact us

info@impactanalytics.co

About Impact Analytics

Impact Analytics is a proven leader in enterprise AI SaaS solutions, that combine the art and science of merchandising and supply chain optimization. Our cloud native integrated platform's planning, pricing & promotion, inventory management, and intelligence suites, are built on the foundation of an innovative AI & ML guided forecasting engine with robust predictive algorithms. Impact Analytics is a trusted partner for top retailers, CPG and manufacturing companies across the globe, and is empowering them to make smart data-based decisions, unlock process efficiencies, transform their businesses, and achieve unparalleled business benefits. Our unique engagement model allows for implementations to be executed in a quick and cost-efficient manner.