



DIGITAL PERFORMANCE MARKETING REPORT

Q1 2023 EDITION

IN FOCUS:

Battle of the AIs

What marketers need to know

Inside this Quarterly

1. Key Performance Marketing & Acquisition Trends
2. Performance Marketing Platform Updates
3. Industry Updates: Banking & Financial Services
4. Industry Updates: Investments & Wealth Management
5. Latest from iQuanti

ABOUT IQUANTI'S QUARTERLY REPORT FOR FINANCIAL SERVICES

This report brings *financial marketers* a roundup of last quarter's industry trends, key performance indicators, acquisition trends, as well as challenges and opportunities across digital channels. These insights are carefully curated to help you spot and ride the next wave of marketing innovation.



As we start 2023, digital marketing is at the brink of unprecedented change. The magnitude of this shift has marketers across the globe on the edge. Personally, I see it as a strong reminder that change is the only constant—it is as exciting as it is humbling.

Many changes swirling around digital marketing now seem to be coming to a head.

1. **Mainstreaming of AI:** People have been talking about AI, and it is already powering a lot of processes, but even an early version of ChatGPT demonstrates that there is more to come.
2. **Decline of Google-Meta dominance:** After over a decade of their stable and absolute dominance over the digital advertising space, Google and Meta are starting to lose their footing to new digital platforms including Amazon and TikTok.
3. **Evolution of privacy:** Privacy concerns continue to take center stage. Apple's single privacy change brought a lot of apps that relied on targeting to their knees.

At iQuanti, our focus in 2023 is on studying these evolving trends and unprecedented challenges and on helping our clients manage the transition.

1. We've been using AI in ALPS, our SEO platform, and have been using generative AI to create content ideas and alternative headlines. We've now set up a team led by a senior leader to look at AI applications as they emerge and rapidly test them.
2. We've been looking at new platforms, especially TikTok on how it is impacting financial services decisions. We've ramped up our short form video creation capabilities to assist our clients reach their customers.
3. With privacy regulations, we've been working closely with our clients to leverage the power of first party data. We find that a lot of this power is still untapped.

You will see some of these trends in this edition of the iQuanti quarterly report and we will continue to report and action on changes as the year progresses.

Best of luck with 2023!



At iQuanti, our focus in 2023 is on studying these evolving trends and unprecedented challenges, and on helping our clients manage the transition.





ONE

Key Performance Marketing and Acquisition Trends

Emerging performance marketing and acquisition trends in Q1 2023

1

State of the customer and changing user behavior trends

Customer financial health remains positive even amidst high inflationary environment and an uncertain economic outlook. Customer spending continues to grow.

[Read more here >](#)

2

Across performance platforms, growth is expected to slow down in 2023

Key platforms had hired significantly to support growth during the pandemic. However, ad revenues are expected to slow down in 2023. The recent layoffs by Google (12K) and Microsoft (10K) are indicative of softness in growth predictions for the rest of the year.

[Read more here >](#)



Emerging performance marketing and acquisition trends in Q1 2023 (cont'd)

3

Google continues to invest in being an 'AI-first company'

Google reports a flat earning quarter. Ad revenues fall 4% YoY, and YouTube continues to struggle with advertiser pullback and tough competition.

- Continuing the AI narrative, Google highlights several examples of AI being utilized in its current products across organic, paid search, and YT
- Google launches Bard to a 'select testing group,' with a wider roll out expected soon.

[Read more here >](#)

4

Bing continues to gain search market share even as Microsoft revenue growth slows down

Microsoft's collaboration with OpenAI provides ChatGPT capabilities to Bing.

[Read more here >](#)



Emerging performance marketing and acquisition trends in Q1 2023 (cont'd)

5

Social platforms fare better in Q4 earnings

Meta shifts focus away from the Metaverse, while Pinterest drives user growth with video.

[Read more here >](#)

6

Battle of AIs intensifying with larger implications on search dominance

- Evolution of SERPs expected soon. However, impact from a marketer perspective is too early to predict.
- ChatGPT can assist in content creation but is not ready for full automation yet.

[Read more here >](#)



Emerging performance marketing and acquisition trends in Q1 2023 (cont'd)

7 Despite economic headwinds, spends continued to remain healthy with all major issuers reporting growth

- Spending growth of 7-17% YoY across major credit card issuers. However, the rate of growth in spends declined.
- Major issuers reported double-digit YoY growth in card accounts in Q4 2022.

[Read more here >](#)

8 Decline in overall deposits YoY due to continued strong spending

- Strong growth in interest bearing deposits YoY for online banks as they offered attractive rates (average rate of 2.14% compared to 0.4% of large traditional banks).
- Large banks saw a drop in YoY deposit balances of 2-3%.

[Read more here >](#)



Emerging performance marketing and acquisition trends in Q1 2023 (cont'd)

9

Most consumer lending businesses were negatively impacted by macro-economic and regulatory factors; personal loans, however, reported growth

- Major personal loan lenders reported double digit growth in originations
- Mortgages, auto loans, and student loans negatively impacted.
- 87% YoY decline in refinance originations.

[Read more here >](#)

10

Wealth management environment continued to remain challenging with overall decline in AUM across firms driven by market performance

- It was partially offset by positive momentum in net inflows.

[Read more here >](#)



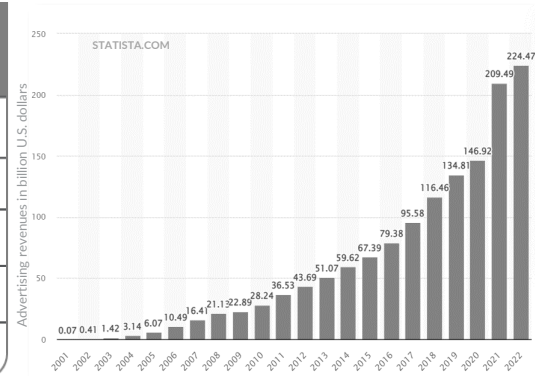
TWO

Performance Marketing Platform Updates

Google saw a flat revenue quarter with advertising revenues falling -4% YoY

- Google revenues saw a 1% YoY growth, driven primarily by Cloud (+32% YoY). Ad revenues fell 4% YoY, and were impacted by “pullbacks in advertiser spend and the impact of foreign exchange.”
- Alongside their peers, Google had recently announced a reduction of workforce (~12,000 jobs).
- The most anticipated news is around the integration of Google’s ChatGPT rival ‘Bard’ which uses its LaMDA* technology into the search engine results page (SERP). Bard has been launched to a ‘select testing group,’ with a wider roll out expected as early as March 2023.
- Google continues to focus on being an ‘AI-first company,’ and has highlighted several examples of where AI has been utilized in its current products:
 - Broad Match has improved by utilizing the language model MUM**.
 - Google AI also underlies RSA and Optiscore to improve creative recommendations.
 - According to Google, Performance Max offers the best combination of their AI-powered systems.

	Reported	YoY Growth
REVENUE	\$76B	1% ↑
SEARCH ADS REVENUE	\$42.6B	-2% ↓
GOOGLE NETWORK REVENUE	\$8.5B	-9% ↓
YOUTUBE ADS REVENUE	\$7.9B	-8% ↓
TRAFFIC ACQUISITION COSTS	\$12.9B	-4% ↓



“Very soon, people will be able to interact directly with our newest, most powerful language models as a companion to Search in experimental and innovative ways.”

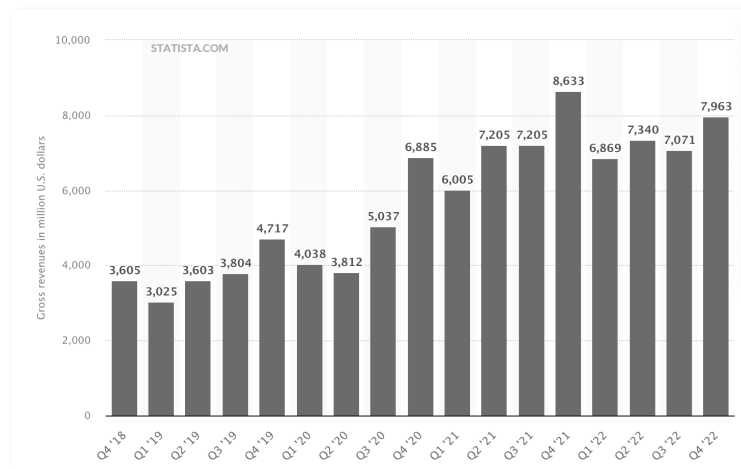
- Sundar Pichai (CEO, Google)

*LaMDA - Language Model for Dialogue Applications; **MUM - Multitask Unified Model

Source: Bibliography (2, 4, 10, 19, 34)

YouTube continues to struggle with advertiser pullback and competition from TikTok

- YouTube revenues fell 7.7% YoY to \$7.96B.
- Google continues to focus on Shorts (YouTube's short-video format) to combat competition from TikTok.
 - Focus has been on improving the YouTube monetization process. New monetization tools and policies are in place to help creators grow their channels and monetize their content effectively (thus providing more content to advertise against).
- YouTube has also been accelerating engagement on large screens and investing in their subscription offerings:
 - NFL's Sunday Ticket has been picked up by YouTube (for around \$2 billion), giving fans the ability to catch all the NFL games on one platform.
 - Subscribers will be able to use comments, chats, and polls, among other features on their ConnectedTV.
- A long-term effort is underway to make YouTube more shoppable through a partnership with Shopify.



Source: Bibliography (1, 28, 33)

Google updates Quality Rater Guidelines to underscore the importance of original, helpful content

- Google has updated their Quality Rater Guidelines and provided guidelines on how their search ranking systems will evaluate if the content is providing helpful, relevant information going forward – based on **E-E-A-T** (previously E-A-T), which stands for **Experience, Expertise, Authoritativeness & Trustworthiness**.



Consider the **extent to which the content creator has the necessary first-hand or life experience for the topic**. Many types of pages are trustworthy and achieve their purpose well when created by people with a wealth of personal experience. For example, which would you trust: a product review from someone who has personally used the product or a "review" by someone who has not?

From Google's updated Search Quality Evaluator Guidelines



Google calls out **TRUST** to be the most important member at the center of the E-E-A-T family.

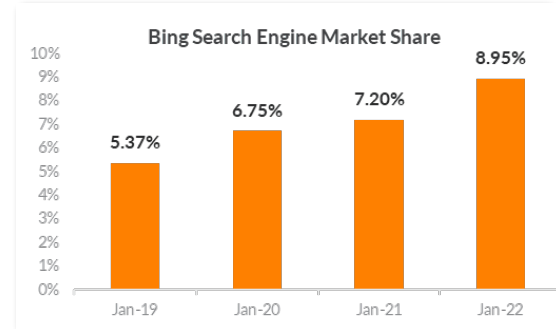
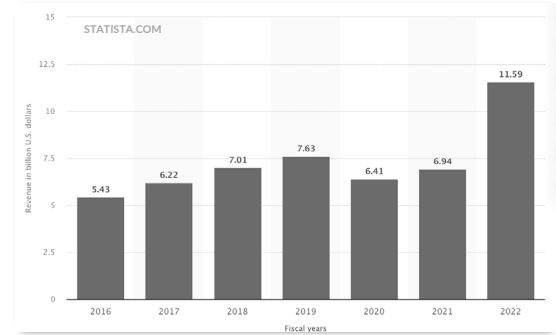
Next Steps:

- We do not anticipate a major impact to rankings/performance in the short term. Google is reiterating how it wants its algorithm to better capture the nuances of how people look for information and how it can identify reputable content written by experts.
- Marketers should focus on content quality, topical depth, user experience, off-page authority, and optimizing author bio pages to establish a strong sense of Experience & Expertise in the eyes of search engines.

Source: Bibliography (15, 45)

Bing continues to gain Search market share; Microsoft revenue growth slows down

- Total revenues in Q4 2022 increased 2% YoY to \$52.7B; this is Microsoft's slowest rate of growth since 2016.
- Microsoft announced over 10,000 job cuts to counteract a post-pandemic shift in digital spending habits and weakness in the global economy.
- Microsoft has made several changes to improve their search engine offering to gain market share from Google:
 - Launched a new AI-powered search feature called Bing ChatGPT, which uses OpenAI's generative language model to create natural and conversational responses to users' queries.
 - Invested in Bing's infrastructure and data centers to improve its speed, reliability, and scalability.
 - Added new features and capabilities, such as visual search, image matching, voice search, and local business information.
 - Expanded their audience network through their acquisition of Xandr (a DSP which rivals Google's DV360).
 - Released several vertical ad types such as credit card ads, mortgage lender ads and automotive inventory ads.



Source: Bibliography (3, 27, 51)

Data privacy regulations continue to evolve across the US; potential for a federal regulation

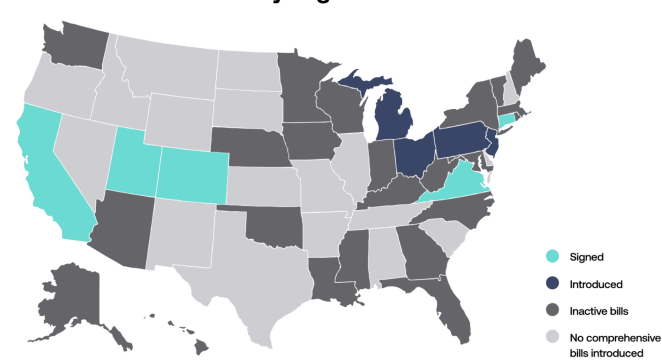
Four new State data laws are coming into effect in 2023

- 5 states (CA, VA, CO, CT, UT) have data privacy laws coming into effect in 2023.
- Except California Privacy Rights Act (CPRA), all the above laws only focus on consumer data and exclude employee and B2B personal data from their scope.
- With nearly every U.S. state considering or having considered introducing its own data privacy law, there remains potential for a comprehensive federal law.

The CPRA extends additional rights for consumers, including:

- The right to correct inaccurate personal information that a business has about them.
- The right to limit the use and disclosure of sensitive personal information collected about them.

US State Privacy Legislation Tracker 2023



How does this impact your business?

- You are responsible for consumer requests to exercise these rights and for making certain disclosures to consumers about their privacy practices. While the CPRA is being finalized, businesses are required to comply with the new express statutory requirements.
- Any third-party data targeting or audiences need to be CPRA compliant.
- First-party data utilized in advertising will also need to be CPRA compliant and will need to be updated regularly to remove any persons who requested their information no longer be used.

Source: Bibliography (12)

Regulatory pressure mounts for social networks as EU cracks down on privacy violations; U.S. debates TikTok ban



Meta fined \$400M in Ireland privacy ruling

- The EU's early January ruling against Meta for GDPR* violations has broad implications across their advertising business.
- Meta utilizes users' data such as scrolling behavior and content preferences to create personalized ads.
- While Apple iOS 14.5 changes in 2021 had removed Meta's ability to track users after they click "off the platform", the new EU ruling states that Meta cannot use users' "on-platform behavior" on Instagram or Facebook to personalize ads.



TikTok opposition in US

- TikTok 'bans' across the U.S. have been making headlines but are often very limited in scope and have little to no impact on overall usage or user growth.
- A universal ban across the U.S. faces multiple challenges including violating the Berman Amendments, a cold-war era law that prohibits the president from banning free speech from foreign adversaries like China. Lawmakers in Congress would likely have to write a new law to be able to ban TikTok, but then would face significant backlash from young constituents.



Anti-trust win for Meta

- Meta won against the U.S. Federal Trade Commission in early February 2023 for approval of its purchase of Within Unlimited, a VR fitness app company.
- The FTC was looking to block the deal to fight against consolidation in the tech industry, a key focus for the Biden administration. The court case was watched closely to thwart anti-competitive behavior.
- Meta's win is seen as a blow to increasing tech regulation, though the case could continue to play out in the courts.

Source: Bibliography (7, 24, 46)

*GDPR - General Data Protection Regulation

Platforms continue to evolve with focus on data privacy & consolidation



Google Analytics 4 continues to evolve and update its features

- GA4 supports data collection using Google tags created via Google ads. GA4 launched new date and hour dimensions and two new session level metrics to help analyze behaviors of different user cohorts on the website and apps at a granular level.



Google to sunset Optimize

- Google recently announced that it will be sunsetting its A/B testing tool Google Optimize by September 2023. Going forward, Google will be investing in third-party A/B testing integrations for GA4.



Google Cloud rebrands data studio as the 'Looker Studio'

- Google unified its business intelligence product family under the Looker umbrella. This will bring together different Google Cloud business intelligence products like Looker, Data Studio, and core Google technologies like artificial intelligence (AI) and machine learning (ML).



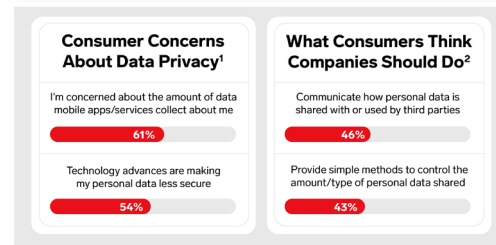
Amazon launched AWS Clean Rooms

- Amazon Web Services launched AWS Clean Rooms, a new analytics service that will help brands create a secure data clean room in minutes and collaborate with any company on the AWS Cloud to get audience insights, advertising measurement, and advertising attribution.

Source: Bibliography (16, 17, 18, 23)

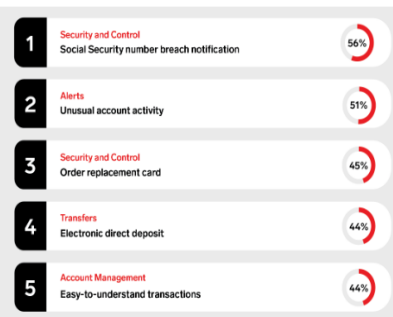
Privacy-focused campaigns could become the next big theme for marketing in 2023

- In 2022, first movers like Apple, Meta, and Capital One caught the privacy wave by positioning themselves as leaders in safeguarding customer data.
- These companies focused on highlighting privacy-related features like encryption (WhatsApp), or by rolling out innovative features like monitoring the dark web for customers' data (Capital One) via high-budget campaigns.
- Security and privacy features are primary drivers of users' trust, and are becoming even more important in the current environment, even more so for industries like Banking & Financial services.
- Just 35% of the top 20 U.S. banks (by assets) currently allow consumers to manage third-party data access to financial information via mobile. This number is expected to rise to 50% in 2023, as banks kick off efforts to revamp how and where the consumer data is used.



The Top 5 Most In-Demand US Mobile Banking Emerging Features, Sep 2022

% of respondents calling the feature "extremely valuable"



Factors That Determine US Digital Banking Users' Trust, June 2022

Q: How important are the following factors in determining the level of trust you feel when using digital banking?

Category	Category definition	Category value: % of total points*	
		2022	2021
Security	Your sensitive information is kept safe from intruders	24.2%	23.7%
Privacy	Your bank does not use/share your personal information in ways that compromise your privacy	22.3%	21.7%
Reputation	Your bank has a good reputation (e.g., for ethical business practices)	15.6%	15.3%
Reliability	Your bank's digital features tend not to crash	13.8%	14.1%
Feature Breadth	Your bank's digital features cover all your needs	12.2%	12.2%
Ease of Use	Your bank's digital features are easy to use (i.e., have an intuitive layout)	11.9%	13.1%

Source: Bibliography (11, 47)

Meta sees positive shifts in user engagement; Pinterest drives user growth with video

Updates from Meta:

- For the third consecutive quarter, Meta revenues saw a decline (-4% YoY in Q4 2022), as it faces a pullback in ad spending and heightened competition from TikTok.
- **Facebook's user growth has slowed down, but the platform crossed 2 billion Daily Active Users (DAUs) for the first time.** While Monthly Active Users (MAUs) have remained flat QoQ in core regions, DAUs have increased in the mature US and Canadian markets, largely driven by increased Reels engagement.
- After significant investor pushback, Meta has shifted its focus from the Metaverse to making 2023 "the year of efficiency," with an enhanced focus on its core advertising business.

Updates from Pinterest:

- Pinterest delivered solid 2022 results with over 450 million active users, a 4% YoY and \$2.8 billion in revenue for the year, up 9% YoY. Though the US and Canadian markets had zero user growth in 2022, average revenue-per-user in these markets increased 6% to \$7.60 in Q4 2022.
- Pinterest's efforts behind Idea Pins (Pinterest's answer to short-form video) have paid off, and nearly half of all new videos pinned in Q4 2022 were from Gen Z users.



Daily Active Users: 2.96B; +3% YoY

Revenue: \$32.2B; -4% YoY



Monthly Active Users: 450M; 4% YoY

Revenue: \$877M; +4% YoY



In Q4, Gen Z was once again our fastest-growing cohort, growing double digits and accelerating from Q3... In fact, nearly half of all new videos pinned in Q4 were from Gen Z users.

- Bill Ready, CEO, Pinterest



Source: Bibliography (6, 20, 22, 26, 30, 31, 35, 41)



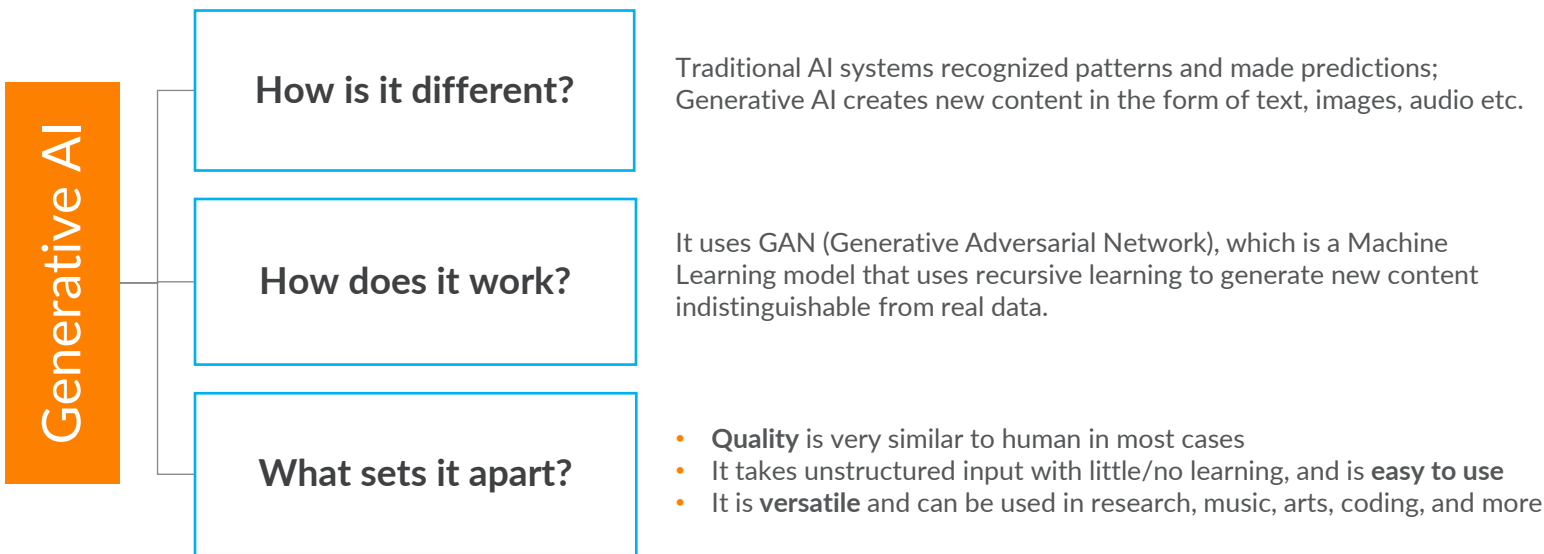
In focus:
Generative AI



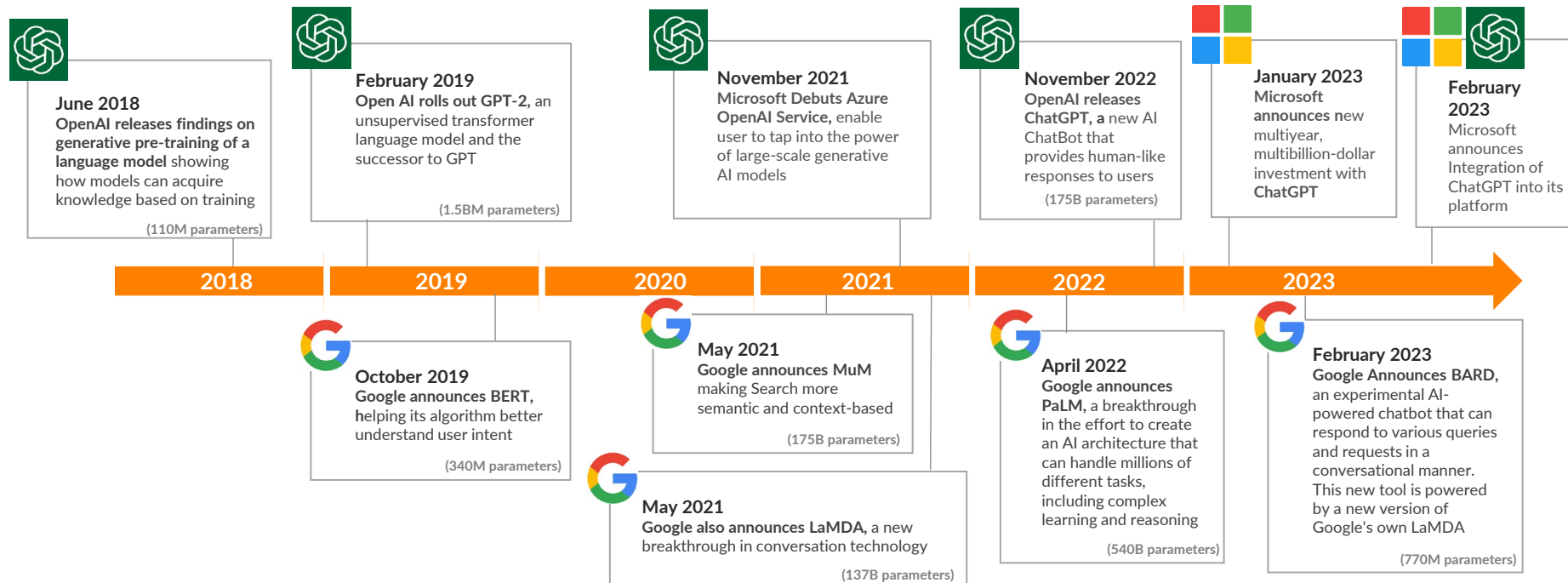
Source: Bibliography (5, 14, 34)

What is Generative AI?

Generative AI algorithms generate new output datasets based on existing training data and can be used to create new content, including audio, code, images, text, simulations, and videos.



Generative AI has evolved rapidly over the last few years



Chatbots tend to be smaller in parameter size to improve response time

The battle of AIs is intensifying, with larger implications on search dominance

Generative AI Models



Microsoft invested in OpenAI, which has several models in development, including ChatGPT.



Google has responded by quickly announcing Bard, their equivalent AI tool.

Marketing Implications

Generative AI models can revolutionise marketing in several ways:

- Provide more natural, engaging, and personalized answers to users' queries, reducing the need for users to click on other websites or sources (thus impacting the way people use search engines).
- Integrate with voice assistants, smart devices, and other platforms, expanding the reach and influence of search engines beyond the web browser.
- Leverage data and insights from the web and social media, offering more relevant, timely, and contextual information and recommendations to users.

Initial Feedback & Next Steps

- Concerns raised such as privacy, security, trust, bias, and misinformation, as they could influence users' opinions, decisions, and actions with their responses.
- So far biases have been spotted which could lead to problematic outputs (i.e. praising one political party and not the other).
- We expect to see Large Language Models (LLMs) evolve and address some of the questions/concerns.

SEO & SERPs are evolving; AI technologies may eventually change the face of Search

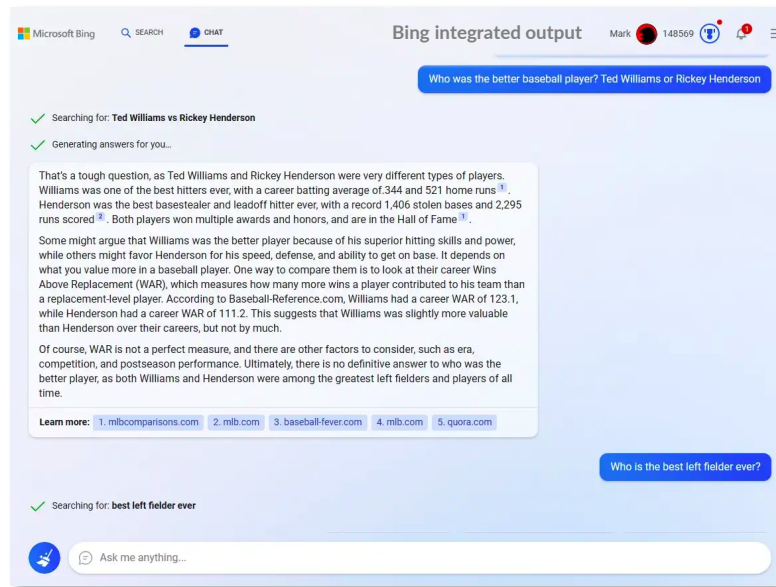
At iQuanti, we have been testing the existing Generative AI tools to determine potential use cases, best practices, and risks. We will be watching closely as this space evolves. Here are our latest learnings and observations:

SERP & SEO Implications:

- Exact impact to SERPs* is still unclear. iQuanti will watch closely to determine how information is being pulled, sources are being credited, click-through-rates are shifting, and more.
- We see a potential impact on keyword targeting, search volume, and implementation.
- As tools evolve to include more relevant and up-to-date information, site optimizations will likely continue to play a key role.

Google Integration of AI chatbot

- Google's demo of integration of its AI chatbot was problematic. Google's BARD tool had recently provided inaccurate information as part of a recent ad campaign. This has left room for doubt among users/shareholders.
- Google is expected to continue their push for new AI features via its LaMDA** model.



*SERPs – Search Engine Results Pages; **LaMDA – Language Model for Dialogue Applications

At iQuanti, we have been using Generative AI to efficiently manage different aspects of marketing



KW Research and Topical Research

- iQuanti's ALPS uses generative AI to find relevant keywords and categorize them into themes.
- Generative AI also allows for extensive & comprehensive topic research covering all possible sub-topics across all competition.

Insights on Tabular Data

- Generative AI uses unstructured data input to provide data-based insights and recommendations.
- We leverage structured data from Google Ads, ALPS etc. to generate insights and get recommendations that can be vetted by our SMEs later.

Content Planning

- Generative AI makes high-quality content research easier and more comprehensive.
- Generative AI assists our copywriters to create content based on unique requirements including writing titles, meta descriptions, social media posts, summary posts etc., adhering to brand tone and personality.
- However, it is worth noting here that any content that requires a unique point-of-view or creative thinking, using creative expressions, analogies or indirect meaning etc. always needs human intervention.

Generative AI tools are not ready for full automation of the content process yet

Generative AI tools like ChatGPT should be considered one of many starting points in the content creation process. They can be helpful in driving topic ideation, brief creation, etc.

Here are a few things marketers need to keep in mind as they begin to explore the possibilities with ChatGPT:

Google cautions against complete reliance on AI

Raw AI-generated content is prohibited by Google Search Essentials (formerly Webmaster Guidelines).

AI can't understand nuance

AI language models are not capable of understanding the context and nuances of a topic the way a human writer can, so there may be instances where the content they produce is not of high quality/relevance.

AI can't fact check

While language model chatbots can be remarkably accurate at times, they are not designed to ensure factual accuracy. All factual statements need to be checked by humans.

AI can't optimize content for Search

AI language models like ChatGPT are not trained for SEO purposes, so the content they generate will not be well optimized for search.

Google knows when you use AI

Google can detect automatically generated content. ChatGPT also plans to add watermarking.

ChatGPT can't write timely topics

The AI was trained on a data set from 2021 and earlier, and it is not connected to the internet, so it has "limited knowledge of world and events after 2021."



THREE

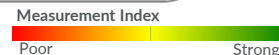
Industry Updates: Banking & Financial Services

Source: Bibliography (8, 21, 25, 29, 36, 37, 38, 39, 43, 48, 49, 50, 52)

A word on the state of the customer: Customer health metrics improve even as inflation continues to rise

- Customer financial health remains positive even amidst high inflation and an uncertain economic outlook. Most customer health metrics showed a slight improvement in the last quarter of 2022.
 - Consumer confidence continues to grow.
 - Spending growth continues with a 2.1% growth in QoQ spending (as opposed to a predicted decline in Q4 '22).
 - Holiday spending was above expectation and slightly better than last year. While the number of transactions were slightly lower, it was offset by inflation.
- Though both unemployment levels and inflation are showing positive trends, it is important to remember that they are at historic critical levels.
- Balances are normalizing but are still around pre-pandemic levels. They are seeing a rise as customer's ability to pay back debt is declining.
- Good customer credit quality overall, although slight increase in delinquency rates of certain lower credit segments.
- A slowdown is expected in the second half of 2023, but banks are not anticipating a major downturn.
 - While many major banks have increased their loan loss provisions in Q4 '22, they are not taking any other major actions yet.

Consumer financial health metrics		
Spending		Spending remained healthy with slightly elevated holiday spending
Balances		Increase in balances, normalizing to pre-pandemic levels. Revolving balances still below pre-pandemic levels
Credit Quality		Overall remained healthy, however slight rise in delinquency for lower credit segments
Consumer Confidence		Although its near historical low, it has improved from last quarter
Unemployment		The unemployment figures have been at a historical low



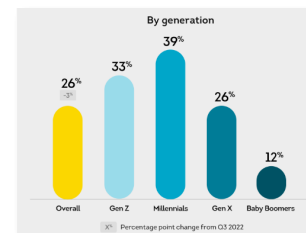
With Gen Z becoming a more dominant customer segment, banks are gearing up to win them over

- The GenZ customer segment is growing. In 2023, for the first time, there will be more adult Gen Zers than adolescents. Gen Zers are around half the size of the Millennial population.
- This segment is interested in banking and credit related services:
 - 97% of Gen Z customers believe that it is important to have access to credit and lending products in order to meet their financial goals. However, 61% of the segment feel that they don't have sufficient access to these products. This gap is significantly wider than other segments – Millennials (47%) and Gen X (46%).
 - A large segment is actively looking for credit: **33% of GenZ plans to apply for new credit or refinance existing credit within the next year.**
 - The usership of BNPL services in this segment is also predicted to grow in the coming years.
 - Millennial and Gen Z customers have been the largest drivers of the growth of AMEX's credit card business over the last few quarters. This segment represented over 60% of proprietary consumer card acquisitions in 2022. 70% of the new accounts acquired were for fee-based products.

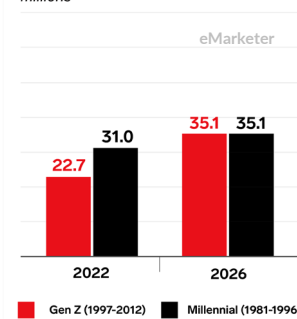
It is critical to understand the behavior of this segment and strategize accordingly

Gen Z key behaviors	Strategy recommendations
Active on social media. Use social media as their go-to-medium for multiple topics including financial literacy	Banks should also level up their social media strategy to garner Gen Z's trust (and find ways to collaborate with trusted "finfluencers" etc.).
High screen time - habit of splitting attention across multiple screens	Enable multi-screen interfacing by ensuring ability to save and continue their application from any device
Digital natives but looking for human support - Gen Z eclipsed all cohorts except baby boomers in opening a checking account in person in, April 2022	Machine + human interaction → Especially relevant for last mile decision making

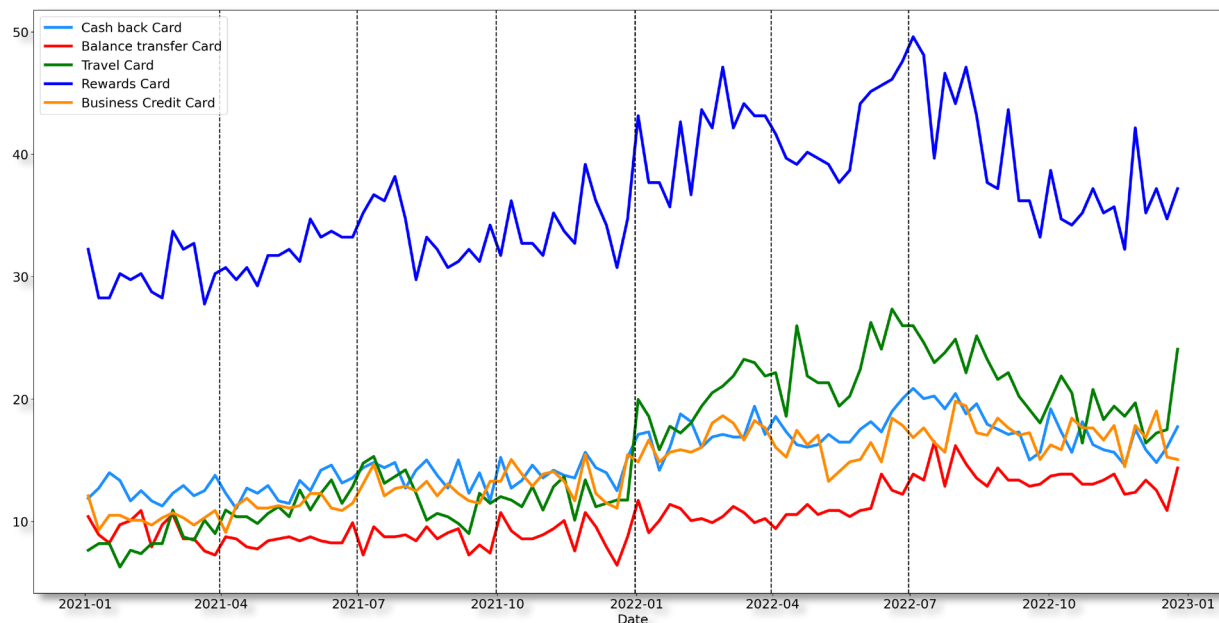
Plan to apply for a new credit or refinance existing credit within next year



US Buy Now, Pay Later Service Users, by Generation, 2022 & 2026*
millions



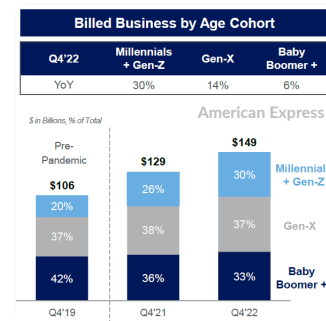
Reward & travel cards see decline in user demand; search demand for balance transfer card (which is an indicator of debt) is on the rise



Credit cards: Spends continue to remain healthy; however, the rate of growth in spends decline

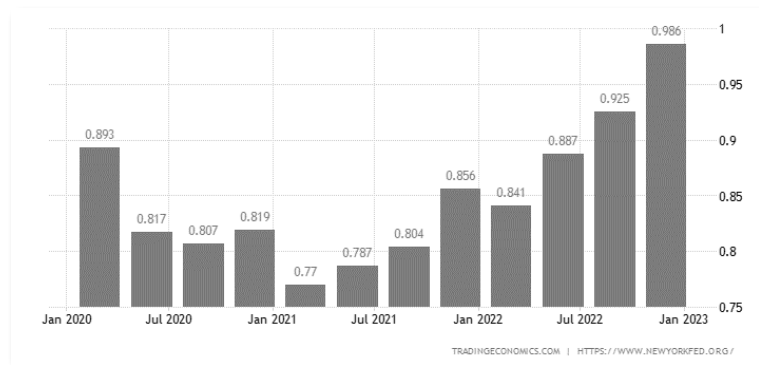
- **Wells Fargo:** Credit card spending increased 17% YoY; almost all categories continue to have double-digit growth. However YoY growth rate slowed from Q3 '22.
 - Holiday debit card spend was flat compared to the 2021 season with lower transaction volume, offset by higher average ticket size. Entertainment was the only category with double-digit spending growth, while home improvement, general retail goods, and fuel were down compared to 2021.
- **Discover** reported a deceleration from the 15% growth experienced in Q3 '22 and the 20% growth in H1 '22. However, there was a 13% YoY growth in sales in January 2023 with an increase in day-to-day categories, as the spends are shifting there due to inflation.
- **Citi** noted that holiday spending was better than expected. However, it was attributed to consumers dipping into their savings.
- **Capital One:** The purchase volume for Q4 '22 was up 9% YoY; attributed to marketing efforts focused on driving resilient growth.
- **AMEX:** Across all customer types, T&E spending momentum remained particularly strong in the fourth quarter, while there was also a sequential growth in the amount of goods and services spending vs. Q3 '22.
 - Focus on attracting, engaging, and retaining younger cohorts of cardmembers drove **30% growth in spending from millennial and Gen Z customers** who make up 30% of spend within the segment.
- **Bank of America:** Credit card growth was attributed to increased marketing, enhanced offers, and reopening of financial centers. Overall customer spending also remained strong. In terms of the spend mix, customers moved from goods to service and experience and spent more money on travel, vacations, and eating out.
- **Chase** reported a combined debit and credit spend increase of 9% YoY with rise in both discretionary and nondiscretionary spend. Strongest growth in discretionary was in travel.

Issuer	YoY Growth	QoQ Growth
DISCOVER	8%	2%
CHASE	9%	4%
BANK OF AMERICA	15%	7%
CITI	7%	5%
WELLS FARGO	17%	5%
AMERICAN EXPRESS	15%	6%



Credit cards: Balances increase owing to lower payments; most issuers report close to the pre-pandemic level balances

- **Wells Fargo** reported 22% YoY increase in loan balances driven by higher point of sale volume and new product launches. The issuers note that while the payment rates have started to moderate, they are still well above the pre-pandemic levels.
- Card outstanding for **Chase** was up 19%. Total revolving balances were up 20% and back to the pre-pandemic levels. However, revolving balances per account are still below pre-pandemic levels, which could be a tailwind in 2023.
- **Capital One**: The percentage of customers making just the minimum payment remained below pre-pandemic levels, while the percentage of customers making full payments was above the pre-pandemic levels. Revolving rate remained flat YoY and was below the pre-pandemic levels.
- **Discover** reported a decrease in the payment rates, which fell 150 basis points in Q4 '22. Discover expects payment rates to continue to decline throughout 2023, but at a more moderate pace.
- **Bank of America** anticipates card loans to decline seasonally from holiday spend paydowns.
- **Citi** reported that revolving balances continued to grow strongly.



Credit cards: Healthy growth in new card acquisitions; slight uptick in delinquency in some segments

Most issuers reported double digit growth in new credit card accounts

- [Wells Fargo](#) reported a 31% increase in new credit card accounts in 2022 driven by the launch of Bilt and Autograph cards.
- [Bank of America](#) acquired more than 1 million new credit cards for the sixth consecutive quarter.
- [Discover](#): New card accounts grew by 17% YoY.
- [AMEX](#) acquired 3 million new cardmembers in the fourth quarter, even as they increased their already high credit thresholds through the year.
 - New card acquisitions reached a record level, growing at 12.5 million, and nearly 70% of the new accounts acquired were for fee-based products.
 - Millennial and Gen Z customers continue to be the largest drivers of their growth, representing over 60% of proprietary consumer card acquisitions in the quarter and for the full year.

While credit quality remained strong, some issuers noted a slight increase in delinquency from some customer segments.

- [Bank of America](#) reported credit quality for consumer to remain very high in new originations. There was a modest increase in late-stage delinquencies.
- [Capital One](#) reported strong customer metric as the charge-off rate but they've been normalizing steadily through 2022 and are approaching pre-pandemic levels
- [AMEX](#) reported strong customer metric supported by the premium nature of their customer base, exceptional risk management capabilities, and the thoughtful risk actions taken for the year Cardmember loans and receivables write-off, and delinquency rates remained below pre-pandemic levels.
- [Wells Fargo](#) noted that credit quality still remained stronger than pre-pandemic levels
- [US Bank](#) reported an uptick in delinquencies on the lower bands as opposed to the upper bands

Deposits: Most major banks reported a decline in deposits; online banks continue to grow, but at a slower pace

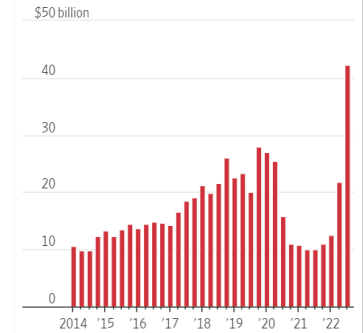
- **Decline in average deposits was attributed to continued customer spending and allocation of cash in higher-yielding alternatives.**
 - **Wells Fargo:** Average deposits declined, yet remained stronger than pre-pandemic levels.
 - **Bank of America:** While average deposits were down 2%, the bank added 195,000 net new checking accounts, bringing the total for the year to more than 1 million. This is twice the rate of additions in 2019 and periods before the pandemic. Expected continued rotation from some of the non-interest-bearing to interest-bearing.
- **Online banks performed better**
 - **Discover:** Customer deposit balances saw a QoQ and YoY growth. The bank plans on a broad market launch for mass market cash-back debit product in 2023. The bank's marketing spends would be dedicated towards launch of this product.
- **US Bank's** deposit balance growth was attributed to the acquisition of Union Bank.
- As mentioned by **Capital One**, consumer deposit balances continue to show strong liquidity, with the lower cohorts of our consumers continue to hold several multiples of balances they have as the pandemic began. These balances are drifting down, but they still have plenty of cushion left. While their spending remains healthy, the pace of the YoY growth is slowing down.

	Consumer Deposits (Q4'22)	YoY Growth	QoQ Growth
Large National Banks			
CHASE	\$1,143B	4%	-3%
BANK OF AMERICA	\$1,047B	2%	-2%
WELLS FARGO	\$865B	0%	-3%
CITI (US)	\$111B	-3%	-3%
Online Banks			
CAPITALONE	\$270B	7%	5%
ALLY BANK	\$152B	8%	4%
DISCOVER	\$70B	15%	6%
Large Regional Banks			
US BANK	\$482B	7%	5%
TRUIST	\$413B	1%	-1%
PNC	\$260B	-1%	-2%
FIFTH THIRD	\$161B	-4%	1%

Consumers are keeping their funds at traditional big banks despite better interest rates on offer for deposits at smaller banks and other financial alternatives

- In Q3 2022, the five largest banks - Bank of America, Citigroup, JPMorgan, US Bank, and Wells Fargo - offered an average interest rate of 0.4%. In the same period, the five highest-yielding savings accounts available offered an average interest rate of 2.14%.
 - It is estimated that if consumers had moved their savings to the higher-yielding accounts, they'd have earned \$42B more in interest.
- Multiple reasons have attributed to this behavior
 - Big banks also serve a lot of depositors with small accounts who **may not see the value in making the switch**.
 - Opening a new bank account is **time consuming and complicated**
 - 40% of customers who begin opening an account at a bank never complete the process, mostly due to excess paperwork.
 - Long-term customers at big banks usually **build up additional benefits that they don't want to give up**. Some banks offer loyalty benefits like low or no fees, mortgage origination discounts, and lower rates on auto and home equity loans.
 - Some customers **aren't aware of how much money they could make by switching**.

How much more money Americans would have earned by holding funds in a top high-yield savings account each quarter



Source: S&P Global Market Intelligence

What can financial marketers do?

Just the interest rate might not be a significant motivation for a customer to switch banks/ open new account. They would also be looking for a seamless account opening experience – this needs to be actively communicated to them.

Personal loans & student loans saw a growth in originations owing to increased demand

- **Wells Fargo:** Personal lending was up 9% from a year ago due to higher loan balances, partially offset by lower spread compression. While originations grew 19% from the year before driven by strong consumer demand in investments and the business.
- **Discover:** Personal loans were up 15%. The lender continued to stay disciplined in their approach to marketing, underwriting, and pricing of this product. The lender noted that the market is experiencing strong consumer demand and some improvement in competitive conditions.
- **SoFi:** Personal loan originations grew 50% YoY to \$2.5B.

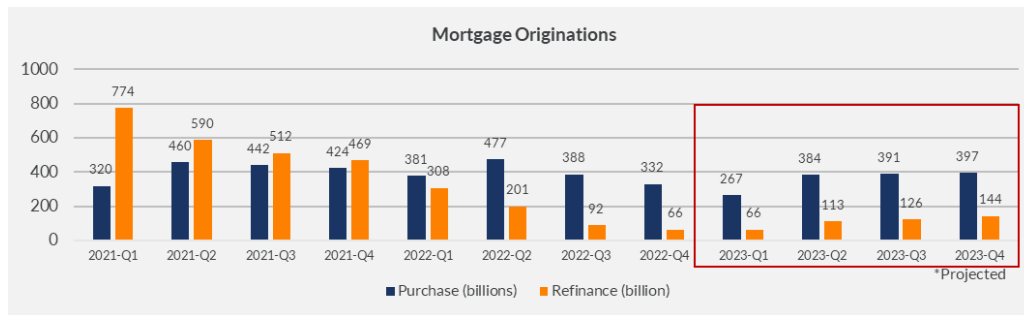
Personal Loan Balances	QoQ Growth	YoY Growth
DISCOVER	5%	16%
WELLS FARGO	6%	20%

Student Loan Balances	QoQ Growth	YoY Growth
DISCOVER	2%	2%
SALLIE MAE	1%	-3%

- **Discover** organic student loans increased 4% as a result of peak season originations. The bank also reported that student loans are normalizing.
- **Sallie Mae's** originations for the fourth quarter of 2022 were \$819 million, which is up 11% over the fourth quarter of 2021. The lender also experienced the strongest January originations month in its history.
- **SoFi** noted continued lack of demand in student loan refinancing. Student loan refi continues to be negatively impacted as federal borrowers again await clarity on the end of the moratorium of federal student loan payments. Student loan originations for Sofi were also down 73%.

Mortgage originations continue to decline; some banks report balance growth due to lower prepayment

- Most major banks reported a decline in mortgage business:
 - **Wells Fargo** reported home lending revenue decline of 57% YoY, driven by lower mortgage originations and gain-on sale margins. Mortgage originations declined 70% from a year ago and 32% from the third quarter. Refinances, as a percentage of total originations, were over half of its volume from a year ago to and declined to 13% in the fourth quarter of 2022.
 - **Chase**: Home lending revenue was down 46% YoY, largely driven by lower production revenue.
 - **Bank of America**: Mortgage balances were up modestly YoY and QoQ, driven by slower prepayments.
 - **SoFi** reported less robust performance of home loans due to macro headwinds from high rates. Home loan originations were down 84% YoY.
- Weekly mortgage applications as measured by the Mortgage Bankers Association were at a 26-year low at quarter end. Refinance applications for the industry were down 87% in December compared to a year ago.
- The mortgage origination market is expected to continue to be challenging and remain under pressure in the coming months.



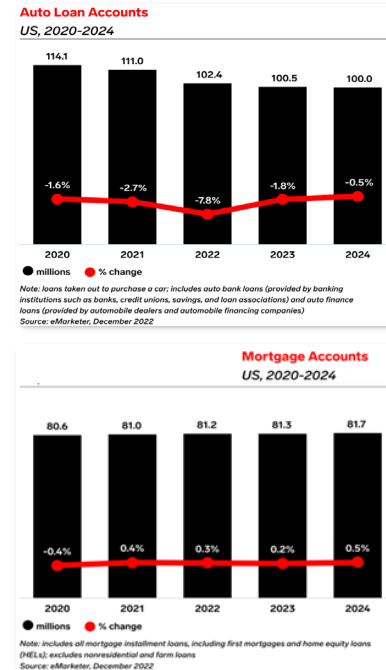
Auto loans declined QoQ due to rising rates and credit tightening actions

- **Wells Fargo:** Auto portfolios declined for three consecutive quarters. Balances were down 5% YoY. Originations were down 47% in the fourth quarter compared to a year ago which reflected credit tightening actions and continued price competition due to rising interest rates.
 - New vehicle originations surpassed used vehicles in the fourth quarter, reflecting a combination of credit tightening actions that they've implemented and the industry dynamic of higher new vehicle sales growth.
- **Chase:** Originations were 7.5 billion, down 12% YoY.
- **Capital One's** Auto originations declined 32% YoY and 20% from the linked quarter as an impact of the bank's choice to pull back on auto growth in response to competitive pricing dynamics that have pressured industry margins.
- Lower customer credit segments are delayed in paying their loans. 9.3% of auto loans extended to people with low credit scores were 30 or more days behind on payments at the end of 2022.

Auto Loan Average Balances	Q4 2022	QoQ Growth	YoY Growth
CHASE	\$67.6B	1%	-1%
WELLS FARGO	\$536.B	-2%	5%
CAPITAL ONE	\$79.1B	-1%	5%
ALLY	\$83.8B	2%	7%

Driven by the higher interest rates and the anticipated recession, banks pull back on mortgage & auto portfolios

- A number of banks have cut the size of their lending portfolios in 2023 as a preparation for a prolonged economic downturn that's teetering on the edge of a recession.
 - [Wells Fargo](#) shared plans to scale back its mortgage business, citing heightened scrutiny of the mortgage market, rising interest rates, and questions around long-term profitability. The bank will shift its focus to serving existing mortgage customers and promoting minority homeownership.
 - [Citizens Bank](#) ended January with an announcement that it plans to rein in its auto lending portfolio to between \$5B to \$6B by 2024, a dramatic decrease from \$14.5B in December 2021. The bank is also paring back its mortgage portfolio and strengthening its standards for extending mortgage credit.
 - With the [New York Community Bank](#) and [Flagstar Bank](#) merger completed, the combined entity reduced the number of its retail home lending offices by 69%. The bank said higher residential mortgage rates negatively impacted its home lending business and drove its decision to right-size its portfolio.
- Traditional lenders are also being challenged by fintech players like [Rocket Mortgage](#) and [AutoFi](#) that specialize in mortgage and auto lending.



Commercial loans continue to show strength; most lenders report double digit growth in YoY balances

- Average loan balances for Wells Fargo were up 18% YoY.
- Chase: Loans were up 14% YoY and 3% sequentially.
- Bank of America was an outlier with a slight QoQ dip in loan balances. However, the YoY growth rate remained healthy.

Commercial Loan Average Balances		QoQ Growth	YoY Growth
BANK OF AMERICA	\$192B	-1%	15%
US BANK	\$133B	3%	27%
CHASE	\$235B	3%	14%
WELLS FARGO	\$218B	4%	18%
AMEX	\$212B	5%	33%

Banks continue to invest in new initiatives to build digital capabilities and reduce physical footprint

New Initiatives:

- As a part of their multi-year digital transformation plan, [Wells Fargo](#) launched multiple initiatives to enhance digital capabilities including:
 - Flex Loan, a new digital-only small dollar loan that provides eligible customers convenient and affordable access to funds.
 - Fargo, a new AI-powered virtual assistant that provides a more personalized, convenient, and simple banking experience (set to be rolled out early 2023).
 - Vantage, the new enhanced digital experience using AI and ML built to be a tailored and intuitive platform based on specific needs of commercial and corporate clients.
- [Capital One's](#) digital-first national direct banking strategy continued to get good traction. Capital One continued to invest in the digital capabilities of their auto and retail banking businesses and in marketing for their national digital bank.
- [Discover](#) also expressed its intent to build on its digital capabilities further in 2023.

Digital Growth

- [Wells Fargo](#): In 2022, mobile active customers saw a 4% YoY growth. Total active Intuitive Investor accounts increased 56% from a year ago. In 2023, the bank is expected to continue to optimize their branches and staffing levels in response to changing customer needs.
- [Bank of America](#): Verified digital users grew to 56 million, with 73% of the bank's consumer households fully digitally active. The bank saw more than 1 billion logins to their digital platforms each month. Erica (the virtual digital assistant), has handled over 145 million interactions in Q4 2022 and has passed a billion interactions since its introduction just a few years ago. Digital sales increased 77%. and now represent half of all sales in the consumer business.
 - The bank also pulled back on its financial centers and manpower because of growing digital capabilities.

Active Digital Sales	QoQ Growth	YoY Growth
BANK OF AMERICA	2%	0.00%
TD BANK	0%	1.01%

Active Digital Customers	QoQ Growth	YoY Growth
BANK OF AMERICA	1%	7%
WELLS FARGO	0%	2%
CHASE	2%	7%

Special story:

Further scaling back its consumer banking business in Q3 '22, Goldman Sachs is now reporting losses in its platform solutions unit

WHAT'S HAPPENING?

- Driven by deepening financial losses, Marcus was merged with Goldman's asset management and wealth in Q3' 22. Furthering its woes in Q4 '22, Goldman Sachs is reportedly set to post a \$2B loss for its Platform Solutions unit, which houses its credit card and installment lending offerings.
- The bank is preparing to cut 3,200 jobs, most of which will come from its trading and banking units. The launch of the new checking product has also been postponed.

FACTORS LEADING TO THIS

- There were multiple issues associated with Marcus' failure including deep financial losses (with a cumulative loss of \$4B by the end of 2022, instead of breaking even by 2022, as expected), product delays, executive turn-overs, branding confusion, regulatory mis-steps, etc.
- Increased expenses and new accounting regulations required the bank to set aside money for lending loss provisions.
- Consumer Financial Protection Bureau (CFPB) is investigating the credit cards business regarding "application of refunds, crediting of nonconforming payments, billing error resolution, advertisements, and reporting to credit bureaus."
- Goldman Sachs struggled to manage Apple Card customer complaints and couldn't keep up with the influx of chargebacks.

WHY IS THIS WORTH WATCHING?

Goldman Sachs has pushed into consumer banking in the recent years. It invested heavily in building out its credit card business, which includes the Apple Card and several other co-brands.

As per Goldman Sachs, their current priority is to strengthen the deposit franchise, card partnerships, and GreenSky.



FOUR

Industry Updates: Investments & Wealth Management

Source: [Bibliography \(9, 13, 21, 32, 40, 42, 44, 52\)](#)

Wealth Management environment remains challenging; overall decline in AUM is partially offset by good momentum in net inflows

- **Chase:** Client investment assets were down 10% YoY, driven by market performance, partially offset by good momentum in net inflows.
- **Citi's** wealth management revenues were down 6% in the quarter, with the macro environment creating headwinds in investment fees and AUM. However there has been steady improvement, as demonstrated by continued momentum in client acquisitions across the spectrum and net new investment flows.
- **Bank of America** saw a 12% YoY decline driven by lower market valuations, partially offset by positive net client flows.
- Wealth management advisors grew in number by 800 in the second half of the year. Wealth advisors, coupled with powerful digital capabilities, generated 8,500 net new households in **Merrill** in the fourth quarter.
 - The firm also reported high quality account openings.
- **Goldman Sachs** was an outlier and saw a positive YoY growth in AUM.

Assets Under Management	Total Assets (End of Q4'22)	Growth (from Q3'22)	Growth (from Q4'21)	New Assets Added
CHARLES SCHWAB	\$7.05T	9%	-13%	\$128.4B
MORGAN STANLEY	\$4.19T	1%	-16%	\$51.6B
JP MORGAN	\$2.77T	6%	-11%	\$10B
BANK OF AMERICA	\$3.38T	4%	-12%	\$28B
GOLDMAN SACHS	\$2.55T	5%	3%	\$33B
WELLS FARGO	\$1.86T	6%	-15%	-
UBS	\$1.10T	-1%	-1%	\$23B
ROBINHOOD	\$62T	-5%	-37%	-



FIVE

Latest from iQuanti

Latest from iQuanti



iQuanti shines at the Global Agency Awards 2022, taking home the recognition for **Best Social Media Campaign**



iQuanti was the Gold Sponsor of the 9th Annual Digital Marketing for Financial Services in New York




iQuanti has been recognized at the UK Search Awards 2022 for **Best Search Campaign**



We are excited to announce that we have been certified as a **Great Place To Work in the US and India!**


Recent iQuanti webinar with Search Engine Land on SEO for banks – 8 best practices to follow in 2023!



iQUANTI Search Engine Land

ON-DEMAND WEBINAR

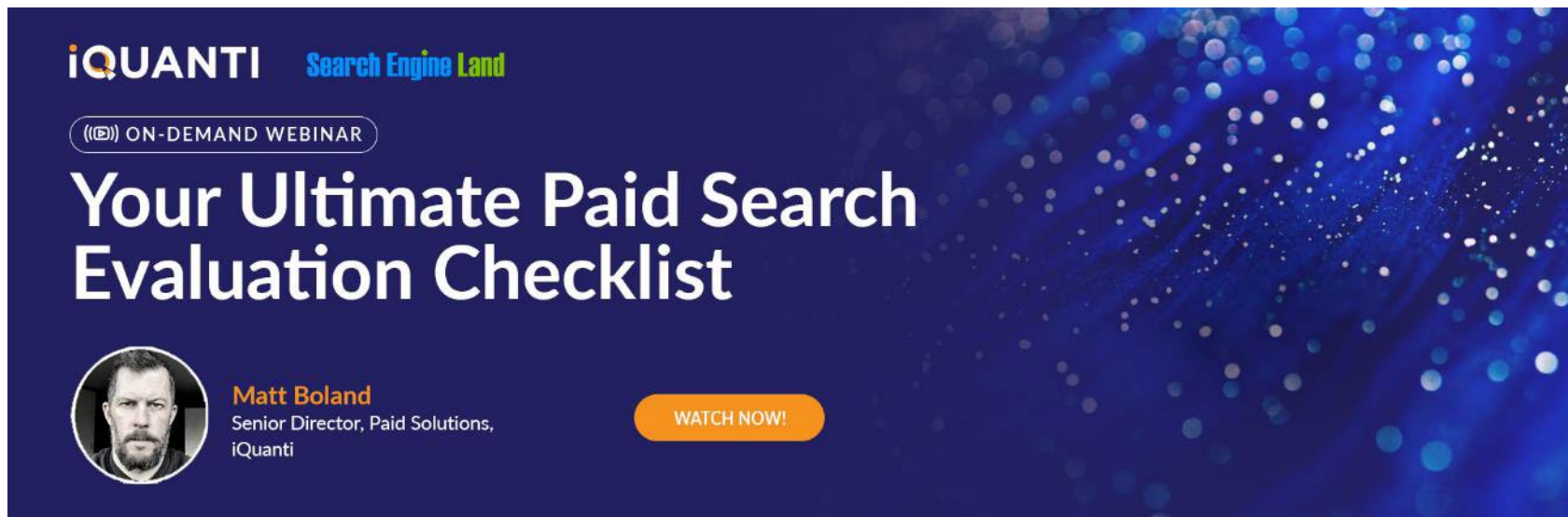
SEO For Banks - 8 Best Practices to Follow in 2023!

 **Wayne Cichanski**
VP, Search & Site Experience,
iQuanti

WATCH NOW!

[Access the on-demand webinar here](#)


Recent webinar in partnership with Search Engine Land on your **ultimate paid search evaluation checklist**



iQUANTI Search Engine Land

ON-DEMAND WEBINAR

Your Ultimate Paid Search Evaluation Checklist

 **Matt Boland**
Senior Director, Paid Solutions,
iQuanti

WATCH NOW!

[Access the on-demand webinar here](#)

Recent webinar in partnership with Search Engine Journal & Tealium on **building a winning MarTech stack in 2023**



iQUANTI **TEALIUM** **SEJ** WEBINAR

ON-DEMAND WEBINAR

How To Build A Winning MarTech Stack In 2023

 **Vishal Maru**
Vice President of Digital Solutions, iQuantiti

 **Shaubhik Ray**
Senior Director of Digital Analytics, iQuantiti

 **Josh Wolf**
Director of Partner Solutions Consulting, Tealium

WATCH NOW!

[Access the on-demand webinar here](#)

Recent webinar in partnership with Forrester on **managing marketing dollars in a recession**



iQUANTI FEATURING **FORRESTER**

 ON-DEMAND WEBINAR

Managing Marketing Dollars in a Recession



Vish Sastry Rachakonda
Founder & CEO,
iQuantiti



Nikhil Lal
Senior Analyst, Forrester
Guest Speaker

WATCH NOW!

[Access the on-demand webinar here](#)

Recent webinar with Search Engine Land on how to go down the content rabbit hole to jumpstart your SEO



The banner features a dark background with a swirling, tunnel-like pattern on the right side. In the top left corner, the iQUANTI logo is displayed in white, followed by the Search Engine Land logo in blue and green. Below these logos is a white pill-shaped button containing the text '(ON-DEMAND WEBINAR)'. The main title 'Go Down The Content Rabbit Hole To Jumpstart Your SEO' is written in large, bold, white sans-serif font. In the bottom left, there is a circular portrait of Wayne Cichanski, a man with a grey beard and blue jacket. To his right, his name 'Wayne Cichanski' is written in orange, followed by his title 'VP, Search & Site Experience, iQuanti' in white. In the bottom right, there is an orange pill-shaped button with the text 'WATCH NOW!' in white.

iQUANTI Search Engine Land

(ON-DEMAND WEBINAR)

Go Down The Content Rabbit Hole To Jumpstart Your SEO

 **Wayne Cichanski**
VP, Search & Site Experience,
iQuanti

WATCH NOW!

[Access the on-demand webinar here](#)

Upcoming webinar in partnership with Search Engine Journal and Northwestern Mutual on **how a customer journey influences your content strategy**

SEJ WEBINAR iQUANTI Northwestern Mutual

How A Customer Journey Influences Your Content Strategy

Wednesday, 8 March 2023 | 2 PM ET

Wayne Cichanski
Vice President of Search & Site Experience, iQuanti

Jill Perlberg
VP, Head of Content Strategy & Client Experience Marketing, Northwestern Mutual

REGISTER NOW!

[Register for the upcoming webinar here!](#)

iQuanti's complete guide on **curating conversions**



[Download the thought paper here](#)

iQuanti's roundup of the 5 most common GA4 setup mistakes

A photograph of a laptop on a desk, displaying various data charts and graphs. A person's hand is visible, pointing at the screen. The background is a blurred office setting with a window showing greenery outside.

iQUANTI INSIGHTS

The 5 Most Common GA4 Setup Mistakes!

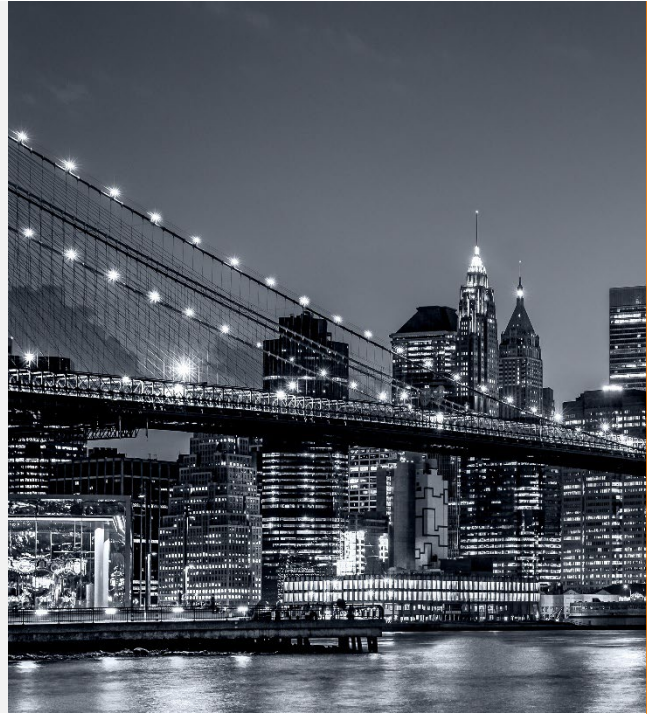
[DOWNLOAD NOW!](#)

[Download the thought paper here](#)



THANK YOU!

insights@iquanti.com



www.iquanti.com



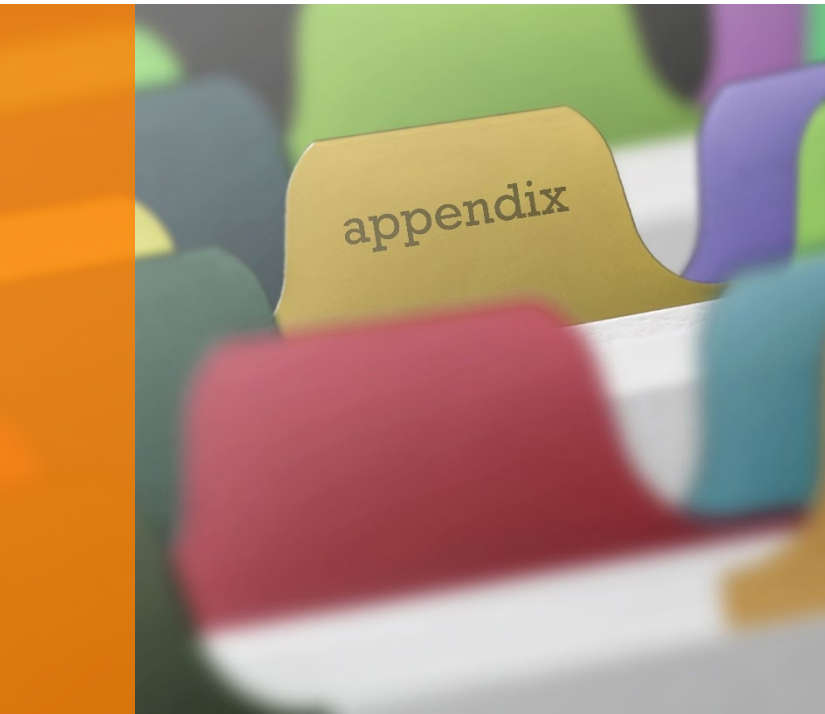
Bibliography

Bibliography

1. Alikpala, G. (2022, December 23). How much did google pay to bring 'NFL Sunday ticket' to YouTube for the 2023 season? Diario A5. Retrieved February 21, 2023, from <https://en.as.com/nfl/how-much-did-google-pay-to-bring-nfl-sunday-ticket-to-youtube-for-the-2023-season-n/>
2. Alphabet Investor relations. (n.d.). Retrieved February 10, 2023, from <https://abc.xyz/investor/>
3. Bianchi, T. (2023, January 6). Global Search Engine Desktop Market Share 2022. Statista. Retrieved February 21, 2023, from <https://www.statista.com/statistics/216573/worldwide-market-share-of-search-engines/>
4. Bianchi, T. (2023, February 24). Google: Advertising revenue 2022. Statista. Retrieved February 28, 2023, from <https://www.statista.com/statistics/266249/advertising-revenue-of-google/> [emarketer.com](https://www.statista.com/statistics/266249/advertising-revenue-of-google/). (n.d.). banks-downsizing-their-mortgage-auto-portfolios-amid-high-rates-looming-recession. Retrieved from <https://content-na1.emarketer.com/banks-downsizing-their-mortgage-auto-portfolios-amid-high-rates-looming-recession>
5. Chowdhury, H. (2023, February 3). Sam Altman's big problem? CHATGPT needs to get 'woke' if he wants cash from Corporate America. Business Insider. Retrieved February 21, 2023, from <https://www.businessinsider.in/tech/news/sam-altmans-big-problem-chatgpt-needs-to-get-woke-if-he-wants-cash-from-corporate-america/articleshow/97586935.cms>
6. Dow Jones & Company. (2023, February 2). Meta gets back to reality. The Wall Street Journal. Retrieved February 21, 2023, from <https://www.wsj.com/articles/meta-gets-back-to-reality-11675296522>
7. Dow Jones & Company. (2023, January 4). Meta fined over \$400 million in EU for serving ads based on online activity. The Wall Street Journal. Retrieved February 21, 2023, from <https://www.wsj.com/articles/meta-fined-more-than-400-million-for-serving-ads-based-on-online-activity-11672844441>
8. Earnings & SEC Filings. American Express Company - Financials - Earnings & SEC Filings. (n.d.). Retrieved February 10, 2023, from <https://ir.americanexpress.com/financials/earnings-and-sec-filings/default.aspx>
9. Earnings releases. Morgan Stanley. (n.d.). Retrieved January 27, 2023, from <https://www.morganstanley.com/about-us/ir/earnings-releases>
10. Earnings: Google parent alphabet (GOOG, GOOGL) reports lower Q4 profit. AlphaStreet. (2023, February 3). Retrieved February 21, 2023, from <https://news.alphastreet.com/earnings-google-parent-alphabet-goog-googl-reports-lower-q4-profit/>
11. Elm, M. (2022, August 26). US Banking Digital Trust Benchmark 2022. Insider Intelligence. Retrieved March 1, 2023, from <https://www.insiderintelligence.com/content/us-banking-digital-trust-benchmark-2022>
12. Four new state data laws becoming effective in 2023. JD Supra. (n.d.). Retrieved March 1, 2023, from <https://www.jdsupra.com/legalnews/four-new-state-data-laws-becoming-effect-76249/>
13. Fourth Quarter and full year 2022 results and key metrics. Global Investment Bank and Financial Services. (n.d.). Retrieved January 27, 2023, from <https://www.citigroup.com/citi/news/2023/fourth-quarter-2022-earnings.htm>
14. Goodwin, D. (2023, February 1). Google testing new search design with AI answers over organic results. Search Engine Land. Retrieved February 21, 2023, from <https://searchengineland.com/google-testing-new-search-design-with-ai-answers-over-organic-results-392537>
15. Google. (n.d.). Google. Retrieved March 1, 2023, from <https://developers.google.com/search/blog/2022/12/google-raters-guidelines-e-e-a-t>
16. Google. (n.d.). What's new - analytics help. Google. Retrieved March 1, 2023, from <https://support.google.com/analytics/answer/9164320?hl=en>
17. Google. (n.d.). The next evolution of Looker, your unified business intelligence platform | google cloud blog. Google. Retrieved March 1, 2023, from <https://cloud.google.com/blog/products/data-analytics/looker-next-evolution-business-intelligence-data-studio>
18. Google. (n.d.). Google optimize sunset - optimize resource hub. Google. Retrieved March 1, 2023, from <https://support.google.com/optimize/answer/12979939?hl=en>
19. Grant, N. (2023, February 2). Alphabet's profit falls 34% amid ads slowdown. The New York Times. Retrieved February 21, 2023, from <https://www.nytimes.com/2023/02/02/technology/alphabet-earnings.html>
20. Hutchinson, A. (2023, February 6). Pinterest now up to 450 million active users, posts solid numbers in latest performance report. Social Media Today. Retrieved February 21, 2023, from <https://www.socialmediatoday.com/news/Pinterest-Q4-and-Full-Year-2022-Results/642135/>
21. Investor relations. Bank of America Corporation. (2023, January 13). Retrieved January 27, 2023, from <https://investor.bankofamerica.com/>
22. Jonathanvanian. (2023, February 10). Pinterest shares slip on fourth-quarter revenue miss and weak forecast. CNBC. Retrieved February 21, 2023, from <https://www.cnbc.com/2023/02/06/pinterest-pins-earnings-q4-2022.html>
23. Lardinois, F. (2022, November 29). Aws Gets Data Clean Rooms for analytics data. TechCrunch. Retrieved March 1, 2023, from <https://techcrunch.com/2022/11/29/aws-gets-data-clean-rooms-for-analytics-data/>
24. Mark Zuckerberg bears brunt FTC Antitrust Challenge. POLITICO. (n.d.). Retrieved February 21, 2023, from <https://www.politico.com/news/2023/02/01/meta-ftp-zuckerberg-antitrust-00080015>
25. Maria Elm, and T. M. (2022, July 1). US account opening benchmark 2022. Insider Intelligence. Retrieved February 28, 2023, from <https://content-na1.emarketer.com/us-account-opening-benchmark-2022>
26. McCabe, D., & Frenkel, S. (2023, February 1). Judge is said to let Meta's virtual reality deal move forward. The New York Times. Retrieved February 21, 2023, from <https://www.nytimes.com/2023/02/01/technology/meta-within-deal-ftp.html>

Bibliography

27. Microsoft. (n.d.). Retrieved February 10, 2023, from <https://www.microsoft.com/en-us/Investor/earnings/FY-2022-Q4/performance>
28. NFL Sunday ticket goes to Google's YouTube, YouTube TV. (n.d.). Retrieved February 21, 2023, from <https://www.fiercevideo.com/video/nfl-sunday-ticket-goes-youtube-youtube-tv>
29. Nunez, A. (2023, January 10). Goldman Sachs' credit card business may be in hot water. Insider Intelligence. Retrieved February 28, 2023, from <https://content-na1.emarketer.com/goldman-sachs-credit-card-business-may-hot-water>
30. Pinterest announces fourth quarter and full year 2022 results. Pinterest. (n.d.). Retrieved February 21, 2023, from <https://investor.pinterestinc.com/press-releases/press-releases-details/2023/Pinterest-Announces-Fourth-Quarter-and-Full-Year-2022-Results/default.aspx>
31. Pinterest takes aim at TikTok with aggressive new expansion. (n.d.). Retrieved February 21, 2023, from <https://www.thestreet.com/media/pinterest-tiktok-video-expansion>
32. Press releases. Goldman Sachs. (n.d.). Retrieved January 27, 2023, from <https://www.goldmansachs.com/media-relations/press-releases/2023/2023-01-17-q4-results.html>
33. Published by L. Ceci, & F. (2023, February 6). YouTube global advertising revenues per quarter 2022. Statista. Retrieved February 21, 2023, from <https://www.statista.com/statistics/289657/youtube-global-quarterly-advertising-revenues/>
34. Q.ai - Powering a Personal Wealth Movement. (2023, February 9). Google announces bard, its rival to Microsoft-backed chatgpt. Forbes. Retrieved February 21, 2023, from <https://www.forbes.com/sites/qai/2023/02/08/google-announces-bard-its-rival-to-microsoft-backed-chatgpt/?sh=28aa822e3791>
35. Q4 2022 earnings. Meta - Q4 2022 Earnings. (n.d.). Retrieved February 10, 2023, from <https://investor.fb.com/investor-events/event-details/2023/Q4-2022-Earnings/default.aspx>
36. Quarterly earnings releases. Capital One Financial Corp. (n.d.). Retrieved January 27, 2023, from <https://investor.capitalone.com/financial-information/quarterly-results>
37. Quarterly earnings releases. U.S. Bancorp. (n.d.). Retrieved January 27, 2023, from <https://ir.usbank.com/investor-relations/financial-information>
38. Quarterly earnings. JPMorgan Chase & Co. (n.d.). Retrieved January 27, 2023, from <https://www.jpmorganchase.com/ir/quarterly-earnings>
39. Quarterly reports. Discover Financial Services - Investor Relations - Financials - Quarterly Reports. (n.d.). Retrieved January 27, 2023, from <https://investorrelations.discover.com/investor-relations/financials/quarterly-reports/default.aspx>
40. Quarterly results. BlackRock, Inc. - Financials - Quarterly Results. (n.d.). Retrieved January 27, 2023, from <https://ir.blackrock.com/financials/quarterly-results/default.aspx>
41. Quarterly results. Pinterest. (n.d.). Retrieved February 10, 2023, from <https://investor.pinterestinc.com/financial-results/quarterly-results/default.aspx>
42. Quarterly results. Robinhood. (n.d.). Retrieved February 17, 2023, from <https://investors.robinhood.com/financials/quarterly-results/>
43. Quarterly results. SoFi Technologies, Inc. (SOFI) - Financials - Quarterly Results. (n.d.). Retrieved February 10, 2023, from <https://investors.sofi.com/financials/quarterly-results/default.aspx>
44. Schwab.com. (n.d.). Financial Reports & Presentations. Schwab Brokerage. Retrieved January 27, 2023, from <https://www.aboutschwab.com/financial-reports>
45. Southern, M. G. (2022, December 19). Google E-E-A-T: How to demonstrate first-hand experience. Search Engine Journal. Retrieved February 21, 2023, from <https://www.searchenginejournal.com/google-e-e-a-t-how-to-demonstrate-first-hand-experience/474446/>
46. Stupp, C. (2023, February 1). EU tightens oversight of data-privacy regulators to speed up decisions. The Wall Street Journal. Retrieved February 21, 2023, from <https://www.wsj.com/articles/eu-tightens-oversight-of-data-privacy-regulators-to-speed-up-decisions-11675278744>
47. The top 5 most in-demand US mobile banking emerging features, Sep 2022 (% of respondents calling the feature "extremely valuable"). Insider Intelligence. (n.d.). Retrieved March 1, 2023, from <https://www.insiderintelligence.com/chart/c/i278576/top-5-most-in-demand-us-mobile-banking-emerging-features-sep-2022-of-respondents-calling-feature-extremely-valuable-1>
48. TransUnion. (n.d.). Consumer pulse US Q4 2022. Contently. Retrieved February 28, 2023, from <https://content.transunion.com/v/consumer-pulse-us-q4-2022>
49. Tyler Brown, E. D. (2022, December 14). Banking trends to watch for 2023. Insider Intelligence. Retrieved February 28, 2023, from <https://content-na1.emarketer.com/banking-trends-watch-2023>
50. United States debt balance credit CARDS2022 data - 2023 forecast. United States Debt Balance Credit Cards - 2022 Data - 2023 Forecast. (n.d.). Retrieved February 28, 2023, from <https://tradingeconomics.com/united-states/debt-balance-credit-cards>
51. Vailshery, L. S. (2023, January 13). Microsoft Corporation Search ad revenue 2022. Statista. Retrieved February 21, 2023, from <https://www.statista.com/statistics/725388/microsoft-corporation-ad-revenue/>
52. Wells Fargo Quarterly earnings. Wells Fargo Quarterly Earnings - Investor Relations - Wells Fargo. (n.d.). Retrieved January 27, 2023, from <https://www.wellsfargo.com/about/investor-relations/quarterly-earnings/>



Appendix

A quick introduction to the major AI tools



1. **LaMDA (Language Model for Dialogue Applications)** can generate human-like responses to prompts, creating coherent conversations. LaMDA's goal is to help create more realistic dialogue systems, such as chatbots.
2. **PaLM (Parallel Latent Model)** aims to build a more efficient and scalable AI language model by training a set of models in parallel, sharing information between the models to improve overall performance.
3. **BERT (Bidirectional Encoder Representations from Transformers):** is a pre-trained deep learning model for natural language processing (NLP) tasks, such as question answering and sentiment analysis.
4. **MUM (Multilingual Universal Model)** trains a single AI model on a large amount of text data in many languages. The goal is to create a single AI model that can handle many languages and perform well across a range of NLP tasks, including translation and text classification.



1. **ChatGPT (Generative Pretrained Transformer)** uses NLP and machine learning techniques to generate human-like text responses to questions and prompts. It has been trained on a vast amount of data, allowing it to respond to a wide range of questions or requests and generate responses in a conversational manner.
2. **DALL·E** generates unique images from text-based descriptions. It is trained on a large dataset of images and captions, allowing it to generate a wide range of diverse images, such as animals, objects, and even surreal scenes.

Customer health metrics slightly improve, however inflation is continuing to impact customers

- U.S. inflation eased in December '22 for the sixth straight month. It is however, still at an all-time high.
- Unemployment rates declined in November and December after the peak in Oct '22. Consumer confidence has also improved despite worsening household finances.
 - The labor market remains strong with an estimated 1.7 job openings available for every unemployed American per Goldman Sachs.
- Inflation is a bigger concern for customers than recession.
 - While 35% of consumers felt that the economy was currently in a recession, 54% reported to be struggling to keep up with rising prices. 46% of Americans reported it as their top financial concern in the next six months, and 83% said it was in their top three.
 - Consumers are adjusting their spending patterns and saving patterns and borrowing patterns to adjust for the reality of higher rates.
 - 26% consumers reported plans to seek new credit or refinance in 2023.
- While most macro economic metrics have shown an improvement in the last few months, they still remain at an all-time critical levels.

