J. STERN & CO. The Value of Song-Term Investing

Investment Insight

So let us not despair, but strive instead, To use this tool with care and wiser head:

THE FUTURE OF DIGITAL ADVERTISING

The future of digital advertising has been an important topic for investors over the last two years. Five of the top ten largest companies in the world, Apple, Microsoft, Amazon, Alphabet and Meta, all have exposure to this important industry. The share prices of some of these companies declined precipitously in 2022 but have had a significant recovery this year. After years of robust health, digital advertising has been hit by a number of short-term factors but reports of its death are an exaggeration...

Boom and bust

At the start of the Covid pandemic, there were concerns that advertising demand would decline significantly because strict stay-at-home regulations meant that companies could not sell anything and would have no need to advertise. This concern quickly reversed as e-commerce became the primary retail outlet and advertising dollars shifted online.

Digital advertising soared because it allowed companies to reach their customers at different points in their consideration of purchase decisions. In addition, unlike analogue advertising, where the saying goes that 'half is wasted but advertisers do not know which half', digital advertising offered unprecedented quantitative attribution measurement to measure the impacts and returns on the investment. The two largest companies Alphabet (the parent company of Google) and Meta (the parent company of Facebook and Instagram) reported revenue growth of 39% and 36%, respectively, in 2021. From a lower base and providing access to the customer not when they are searching on Google or engaging with social media on Facebook or Instagram but at the actual point of sale, Amazon also reported very strong advertising growth of 58% in 2021.

These companies, along with the broader technology sector, rapidly expanded their hiring during the pandemic to capitalise on this sudden growth and invest in their businesses. However, at the same time, a confluence of factors came together to hit digital advertising. Apple's IDFA changes affected the ability to track and measure advert performance and reach on iOS. Caution about the health of the economy led companies to pull back their advertising. Difficult comparisons because of the lapping of strong growth led to a decline in reported growth numbers. The shift towards short-form video and lower monetization formats and further growth of TikTok and other advertising outlets such as Netflix and Walmart created extra inventory.

These factors all contributed to a slowdown in revenue growth for some of the large digital advertising companies. Meta actually experienced negative growth. Additional headcounts and investments into their business reduced profitability. The impact of these fundamental factors was exacerbated by the US Federal Reserve's rapid interest rate increases, which caused a devaluation of assets with higher growth and longer duration. The communication services sector, only just created in 2018 to include most of the digital advertising-related technology companies, dropped sharply with the index declining -40% during 2022.

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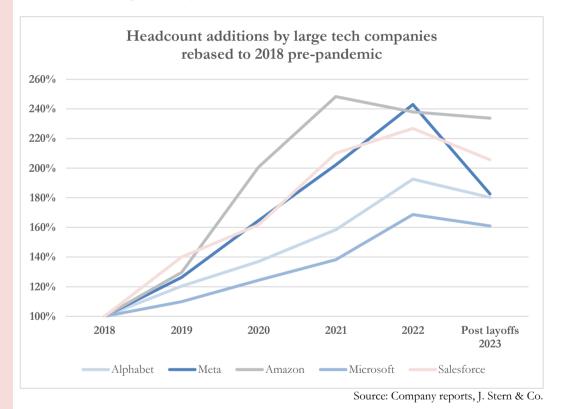
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Sentiment towards digital advertising and more broadly technology and communication services hit an all-time low and companies traded at deep discounts to their prior valuations.

Rapid response

Companies have responded with decisive action over the past several months. In November 2022, Meta was the first to announce a cost-cutting and headcount reduction plan, with over 10,000 people affected. Alphabet and other large tech companies followed suit. It is unusual for growth companies to cut headcount in such a manner. On the most recent earnings call for Meta, management said that 2023 was going to be the "year of efficiency" and used the word efficiency over 25 times during the call. The market reaction has been decisive as well. Over the four months since Meta's first announcement, its shares have more than doubled. While the slowdown in digital advertising took the technology sector by surprise, we think that the cost cuts are a signal that the technology sector can act when necessary to rein in costs and focus on profitability.

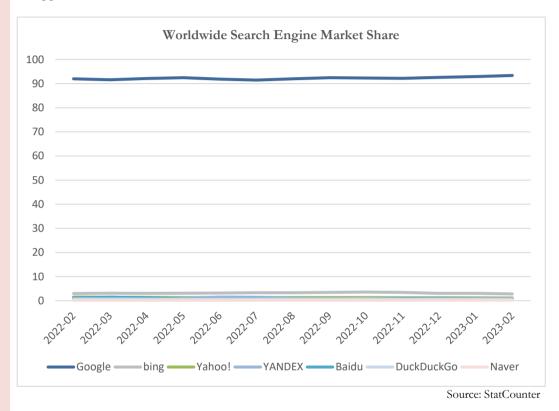




Digital advertising is also in a period of rapid disruptive technological innovation. Artificial intelligence (AI) is both an opportunity and a risk. ChatGPT, the generative artificial intelligence (AI) application built by OpenAI, has attracted more than 100 million users in the first two months since its launch. It is the first widely available consumer-facing generative application that is capable of using large language models to create viable, compelling and in most cases appropriate content. Earlier AI applications have been recommender systems ("if a then b") that allow advertisers to predict what ad or content to show next. ChatGPT's ability to create content gives it the potential to take away usage from

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Google Search by producing answers that could have been 'googled'. Microsoft has taken a USD 10 billion stake in OpenAI and is working to incorporate ChatGPT into its Bing search engine. Most of the big tech companies are working on similar applications, with varying degrees of success. Whether it is ChatGPT or one of the other applications, generative AI raises the possibility of disruption of Google's strong search business and other parts of digital advertising. It could also have implications for the influencer ecosystem because generative AI applications could become neutral influencers themselves.



The future of digital advertising: For whom the bell tolls?

Is it time to bid goodbye to digital advertising? We asked ChatGPT itself for ten bullet points on what it thought about the future of digital advertising:

- 1. Increased personalization: Digital advertising will continue to become more personalized and tailored to individual users' preferences and behaviours. This will be achieved through the use of data analysis, machine learning, and artificial intelligence.
- 2. Greater emphasis on privacy: With growing concerns over data privacy, digital advertising will increasingly prioritize transparency and consent, and be subject to more stringent regulations and policies.
- 3. Advancements in augmented and virtual reality: Augmented and virtual reality technologies will offer new opportunities for immersive advertising experiences, with more interactive and engaging campaigns.
- 4. The rise of voice search: As voice assistants become more ubiquitous, digital advertising will shift towards voice search optimization, with an emphasis on conversational and natural language content.

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- 5. More emphasis on video: Video advertising will continue to grow, with a particular focus on short-form content optimized for mobile devices and social media platforms.
- 6. Greater use of chatbots and messaging apps: Messaging apps and chatbots will be increasingly used for advertising purposes, offering a more personalized and conversational approach to marketing.
- 7. Increased use of influencer marketing: Influencer marketing will continue to be a popular strategy, with brands partnering with social media influencers to reach highly engaged audiences.
- 8. The importance of mobile optimization: With more users accessing the internet through mobile devices, digital advertising will need to be optimized for mobile platforms, with responsive designs and mobile-friendly content.
- 9. Greater use of artificial intelligence: Artificial intelligence will be increasingly used to automate and optimize digital advertising campaigns, from ad targeting to ad creation.
- 10. More focus on brand purpose and social responsibility: Consumers are increasingly seeking out brands that prioritize social responsibility and sustainability, and digital advertising will reflect this trend by emphasizing brand purpose and values.

We thought that this was a remarkably good summary of the key issues. However, ChatGPT gave us a general answer and we would probably need to use ChatGPT for some time for it to realise our investment focus. Or it may be that we need to change the way we ask questions to ChatGPT, similar to how we have evolved how to seek information from Google search by use of keywords. Alphabet has been investing significantly into its own AI and although its generative AI app Bard has had a shaky start it is already using AI effectively in YouTube as well as more broadly in Lens, Maps and Translate. We think that this could in time be an advantage for Google as it could offer users more personalisation based on its user data and history.

So we tried asking ChatGPT about the outlook for digital advertising from an investment perspective:

- 1. Digital advertising spending is expected to continue growing rapidly, with a projected compound annual growth rate (CAGR) of 10.6% from 2021 to 2028.
- 2. Programmatic advertising is expected to account for a growing share of digital ad spending, as it offers increased efficiency and targeting capabilities.
- 3. Mobile advertising is expected to continue growing as more people use mobile devices for online activities, such as social media and shopping.
- 4. The rise of 5G technology is expected to enable more immersive and interactive ad experiences, which could drive greater engagement and higher ad prices.
- 5. The use of artificial intelligence (AI) and machine learning (ML) in ad targeting and optimization is expected to become more widespread, leading to more effective and efficient ad campaigns.
- 6. Advertisers are increasingly demanding transparency and accountability from digital advertising platforms, which could put pressure on companies to provide more data and metrics to advertisers.
- 7. Privacy concerns are expected to continue to impact the digital advertising industry, with new regulations and consumer preferences leading to changes in data collection and targeting practices.
- 8. The consolidation of digital advertising platforms is expected to continue, as larger companies acquire smaller ones to expand their offerings and market share.

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- 9. The pandemic has accelerated the shift to e-commerce and digital advertising, which could benefit companies that operate in these areas.
- 10. The digital advertising industry is highly competitive, and companies will need to continue innovating and investing in new technologies to remain relevant and grow in the long term.

ChatGPT was able to offer a different analysis and generate new answers to questions rather than adapt the prior response. However, its response had significant limitations. The most obvious issue is that it did not offer predictions or recommendations. While it clearly limits the use of the application, we would not expect it to do so for liability and other reasons and it's a sign that its content moderation works.

ChatGPT's response also offered many more positives than negatives. While we share its general optimism, we think it missed two of the most important issues: over-saturation and over-penetration. Have we passed peak digital advertising because people are over-exposed to ads and because effectiveness has improved so much that advertisers do not need to spend as much on ads because they know which half of them reach their customers?

We think this view underestimates the total addressable market. It is not just the current levels of advertising driven by GDP growth, pricing and digital penetration, but also about business transformation. As Meta noted in a recent blog post, it has been able to increase conversion rates by over 20% for advertisers over the last year thanks to its investment into AI and machine learning. If their digital advertising is more effective they may not just be able to sell more despite advertising less, but also lower costs and increase profitability by closing stores and distribution centres. The potential for this kind of business transformation remains enormous.

Of course, the other issue that ChatGPT would not address no matter how we asked the question is at the core of any investment approach: The ability to make investment judgments based on the quality and value of the companies. With fundamentals improving and sentiment recovering from the overwhelming negativity towards the companies we think there continue to be great opportunities. Alas, ChatGPT might not be able to replace our roles just yet.



"The smarter we make the A.I., the less it wants to do our jobs." Source: The New Yorker, Paul Noth

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Brave new world

However, one use case for ChatGPT that goes far beyond our abilities and that we have found most entertaining is its ability to write poems and songs. To conclude we asked it about the future of digital advertising, as a Shakespearean sonnet:

> Oh, digital world! Where advertising lies, A thousand brands competing for our eyes. Each platform boasts its targeted campaigns, But are we really moved by all their strains?

Alas, ad blindness plagues our every scroll, And fraud and fake news take their heavy toll. Can we trust these ads that follow us round, Or do they lead us where we should not be bound?

Yet still, there's hope in this chaotic space, For brands that stand for purpose and grace. Their messages cut through the ad-filled noise, And speak to us with passion and poise.

So let us not despair, but strive instead, To use this tool with care and wiser head.

We could not have said it better ourselves...

Giles Tulloch March 2023

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