# Counterpoint Global Insights Disruptive Change Research: Past, Present, Future

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### WELCOME TO THE EDGE.

Morgan Stanley Investment Management's Counterpoint Global shares their proprietary views on a big idea that has the potential to trigger far-reaching consequences—ideas such as blockchain, autonomous vehicles, machine learning and gene editing.

Counterpoint Global's long-term ownership mindset emphasizes perspective, insight and thinking across categories, while our investment process focuses on identifying unique companies with sustainable competitive advantages. Through the EDGE, we share our framework for thinking about change and our process for recognizing patterns that may drastically alter the investment landscape over the longer term.

This work complements our team's more traditional, fundamental research to create a framework for long-term investing that is grounded in intellectual curiosity and flexibility, perspective, selfawareness and partnership. Counterpoint Global has had a dedicated research effort focused on disruption for almost two decades. We have been emphasizing disruption long before it became a buzz word. Our decision to build a team dedicated to researching disruptive change was a product of our culture that emphasizes intellectual curiosity, perspective, and partnership. The disruptive change research team investigates new technologies and business models, and works closely with the other investors at Counterpoint Global to integrate our findings into investment ideas across our portfolios. Our goal is to maintain broader perspective and identify the opportunities and risks that disruption can present to long-term enterprise value creation.

What do we mean when we say "disruptive?" We would be remiss if we did not acknowledge the influence of Clayton Christensen, who was a professor at Harvard Business School, and his seminal work, *The Innovator's Dilemma*. That said, we view disruption somewhat differently than Christensen did. Christensen's focus was on bottom-up disruption, when a new technology comes to market that lacks many features and capabilities of existing solutions and uses a novel business model. The new business model allows for a low price point that





EDGE > EVOLUTION | DISRUPTION | GROWTH | EMERGING THEMES



enables potential customers to access the product or service. These customers adopt the solution because it is inexpensive and good enough. The alternative for these customers is non-consumption. Over time, the performance of the disruptive innovation improves, allowing the product to compete with mainstream offerings at a lower cost. This displaces established products or services.

Our approach also encompasses topdown disruption, when a new technology enters at the high end of the market. Here, a subset of customers is willing to pay a higher price for what they judge to be a premium solution. Over time, economies of scale enable the company to offer the good or service at a lower price, expanding the addressable market and displacing established offerings. We did not have a roadmap for studying disruption when we launched disruptive change research in 2004. We were not even sure the effort would be successful. But looking back over the last nineteen years, we have found that our focus on disruption has provided multiple benefits. First, our experience indicates that disruptive change unfolds over years rather than quarters. By investigating how a given technology or business model might disrupt an industry over a three to five year period, disruptive

change research aligns with Counterpoint Global's focus on the long term, where markets are least efficient. Second, a focus on disruption not only helps us mitigate risk but, more importantly, encourages us to take calculated risks. We think of risk not as volatility but rather as the potential for permanent impairment of capital. On a portfolio level, we lean toward owning companies that benefit from disruption while avoiding companies whose competitive advantages are vulnerable to being eroded by disruptive innovations. Companies susceptible to disruption often appear to be safe because of lower valuation multiples. Finally, disruptive change research helps reduce errors of omission. Our disruptive change research team investigates emerging technologies and surfaces potential investment opportunities that we might have missed had we looked at the world through a more traditional lens. In addition, many of these ideas appear earlier on our radar than they might have otherwise had we not focused on disruption.

Here are some examples of past, present, and future disruptions. We hope that these cases demonstrate how disruptive change research has benefited Counterpoint Global historically and how we expect it to add value in the future.

### **Past: Digital Advertising**

Digital advertising was the second project our disruptive change research team tackled. Back in 2004, the market for online advertising was nascent. In 2003, online advertising accounted for only 3% of overall advertising spending. We were trying to understand how ad buyers and brand managers thought about online advertising relative to other forms of advertising, and what would lead them to choose online advertising. In our conversations with ad buyers and brand managers we repeatedly heard that they preferred online advertising because its results were measurable in a way that those for traditional advertising were not. Brands were able to track precisely how many people saw a given advertisement, know how many people interacted with it, and judge how many sales the ad prompted. These data allowed advertisers to calculate an accurate return on ad spending, allowing them to optimize their ad campaigns and hence improve their performance.

There were several "aha" moments during this project. First, it struck us that online advertising should be a premium type of advertising given its measurability and targetability. Online advertising had characteristics that advertisers valued and could not get elsewhere. This uniqueness meant that advertisers would seek it out. While online advertising was only 3% of overall ad spending at the time, consumers were spending about 20% of their media time online. We believed that the share of advertising dollars online should at a minimum equal the share of time people spent consuming media. Second, in 2004, penetration of broadband among households in the United States crossed the 50% threshold. Faster internet speeds enabled websites with rich media and a more fulfilling online experience for consumers. This drove higher usage. We concluded that the amount of time people would spend online, relative to other forms of media, was likely to grow. We did not know how big online could be ultimately, but we did anticipate that it could be significantly larger than it was in 2004. Finally, we looked back over the last 100 years trying to understand the relationship between advertising and gross domestic product (GDP). We found that despite the advent of many new forms of media over the years, including radio and television, the share of GDP devoted to advertising remained remarkably constant. That led us to believe that online advertising would not grow the advertising pie. Rather, online advertising was likely to gain share, just as radio and television had done when they were introduced.

This project helped us to create significant value from digital ad investments, increasing our conviction that the online companies our investors had identified indeed had sustainable competitive advantages and unique business models. In addition, we sold our investments in radio companies. We thought that they would lose share to online advertising over time, and hence were likely to see declining revenue.

Here we are almost two decades later, and digital advertising accounted for 72% of advertising dollars spent in 2022. Digital advertising includes both the online advertising segment that we explored back in 2004 as well as mobile advertising, a category of which we did not conceive back then. Digital advertising today is effectively the market for advertising, and no longer benefits from a secular share shift of ad dollars out of traditional advertising. We have scaled back our aggregate investments in companies significantly exposed to digital advertising to reflect this reality.

### **Present: Cloud Computing**

We began our research on cloud computing in 2005. Global information technology (IT) spending was slowly recovering from its crash following the dot-com bust. Our goal was to understand this new computing architecture, which relied on outsourcing commodity infrastructure rather than owning it, and to assess whether it could reinvigorate IT spending. We spoke with various technology vendors, industry consultants, and end users. Our two simple objectives were to figure out what applications might adopt cloud computing and to identify potential winners and losers if there was a shift in architecture. Understanding what the drivers of technology spending was core to this process. We sought to understand what mattered most to end users when they considered adopting a new tool.

We found that companies were much more measured with their IT spending after the dot-com crash. They became less focused on spending to support growth and more focused on deploying existing resources more efficiently. Cloud computing significantly reduced costs by the provisioning IT resources, both hardware and software, over the internet. This was a lot cheaper for companies than maintaining their own servers, datacenters, and software, as well as the people to oversee the infrastructure. With cloud computing, customers typically pay only for what they use. Self-managed solutions that are on premises are expensive not just because of the staff required to maintain them, but also because the infrastructure must have the capacity to meet peak, not just average, demand. In 2005, the average enterprise central processing unit utilization was 5-15%. Cloud computing reduced costs for each organization by increasing utilization through resources sharing between organizations.

The argument against cloud computing was that it was too risky for enterprises to maintain their data with a third party. This led to numerous questions: Would the third party protect and govern the data? Would the data always be available for the enterprise to access? We came to believe that the efficiency and cost reduction offered by the cloud would more than offset these risks.

Over the last 15 years, we invested in companies that benefit from the transition to cloud computing. This has taken multiple forms, including the cloud computing providers themselves and software-as-a-Service (SaaS) companies that deliver their applications over the internet. For instance, a key component of our analysis of a SaaS company is the tailwind that we anticipate from the transition to cloud. At the same time, we have shied away from investing in legacy technology typified by the "Four Horsemen" of the 1990's technology boom, IBM, Intel, Cisco, and Dell. Our work suggested that much of the growth in technology spending would come in software, not hardware, given that most of the value from cloud architecture is from increasing utilization and reducing the amount of hardware necessary.

### Future: Artificial Intelligence (AI)

We believe that AI has the potential to be the most disruptive technology, posing both large opportunities and risks for investors, over the next 5 to 10 years. The breadth of potential applications and use cases is what makes AI so interesting from an investment perspective. They run the gamut from autonomous driving to coding assistants to drug discovery. AI has the potential to touch almost every aspect of our lives.

Our thinking has evolved since we first began digging into AI in 2016. We were initially struck by how AI was enabled by advancements in computer hardware, algorithms, and access to data. AI is unlike traditional software in that it is trained, not programmed. What we have seen over time is that the AI model typically performs better as it gets more data. For example, the performance of large language models has improved markedly as the number of parameters in the model has increased.

There have been a lot of recent developments in AI which means that many issues are still up in the air. As we look at the landscape today, it is hard to know how to invest in AI. There is still no consensus on basic questions such as what the business models will look like. It is not clear whether small companies with domain-specific knowledge have an advantage over large companies that are developing the foundational large language models. That said, we have more conviction on some hypotheses than others. First, AI infrastructure appears to be becoming an extension of the cloud. This makes sense given the need for massive computation and

high investment capital expenditures to support building large foundational models. Second, proprietary data seem to be an important part of building a competitive advantage. We believe that some enterprises will be able to establish a "data moat" by integrating AI into their operating model in a way that improves their business and competitive position. At the same time, we are starting to see how AI can be a disruptive force in other contexts. For example, naturallanguage AI is capable of writing software code, even complete programs, from instructions written in plain English. This may prove to be disruptive to nocode software tools, which mainly rely on graphical user interfaces as the link between human intent and machine action. Another area for classic disruption is drug discovery, where advances

like Google DeepMind's AlphaFold have forged a path for AI-based drug discovery. Many of these advances may provide significant boosts to productivity that have the potential to be deflationary.

We want to ensure that we stay abreast of all the latest developments in AI so that we can deploy capital as opportunities present themselves. In the meantime, we continue to scan our portfolios for upside and downside risks associated with AI. At the end of 2022, the disruptive change research team analyzed our portfolios and estimated that 68% of our assets under management (AUM) benefit from potential AI tailwinds, including data moats, owned cloud infrastructure, or competency utilizing machine learning. By contrast, based on our present understanding our AUM at risk from AI tailwinds is minimal.

### Conclusion

Counterpoint Global has realized many benefits over almost two decades of dedicated research focusing on disruption. Our disruptive change research team reinforces our long-term mindset, helps us manage risk, and reduces our errors of omission. We continue to apply the same curiosity and verve to researching new technologies and business models as we did to the projects we tackled nearly twenty years ago. We expect disruptive change research to remain additive to our research process overall.

## Counterpoint Global

INVESTORS	RESEARCH RESPONSIBILITIES	YEARS OF	YEARS WITH FIRM	YEARS WITH TEAM
DENNIS LYNCH	Lead Investor, Head of Counterpoint Global	30	26	26
SAM CHAINANI	Head of Counterpoint Global ~ New York, Technology	28	28	24
JASON YEUNG	Health Care	27	22	20
ARMISTEAD NASH	Business Services, Software	24	22	20
DAVID COHEN	Consumer	36	31	25
ALEX NORTON	Consumer, Industrials, Technology (ex Software)	29	24	24
MANAS GAUTAM	Head of Global Endurance, Generalist	12	9	9
ANNE EDELSTEIN	Co-Head of Vitality, Health Care	13	6	6
JENNY LEEDS	Co-Head of Vitality, Health Care	8	5	5
ABHIK KUMAR	Software, Media	15	5	5
JOSHUA JARRETT	Director of Research, Generalist	19	4	4
RUOBING CHANG	Internet	12	8	4
ALEKS SAMETS	Payments	4	4	4
BETH FIFER	Health Care	12	3	3
MUHAMMADRAZA PANJU	Internet	5	3	3
PETE STOVELL	Generalist	30	3	3
MICHAEL MORITZ	Generalist	6	2	2
GINO GRAZIADIO	Generalist	<1	<1	<1
ONSILIENT RESEARCH				
MICHAEL MAUBOUSSIN	Head of Consilient Research	38	4	4
DAN CALLAHAN	Consilient Research	19	4	4
ISRUPTIVE CHANGE RESEAI	RCH			
STAN DELANEY	Big Ideas, Emerging Themes	23	23	20
SASHA COHEN	Big Ideas, Emerging Themes	7	7	7
JUSTIN AMEZQUITA	Big Ideas, Emerging Themes	4	4	4
USTAINABILITY RESEARCH				
THOMAS KAMEI	Head of Sustainability Research, Tailwinds	12	12	12
DERRICK MAYO	Sustainability Research	19	10	3
LIENT RELATIONSHIP AND E	BUSINESS MANAGEMENT			
MARK TODTFELD	Chief Operating Officer	29	19	5
KERRY ANN JAMES	Head of Client Relations, Portfolio Specialist	27	7	3
PRAJAKTA NADKARNI	Portfolio Specialist	20	17	13
MICK MORAN	Portfolio Specialist	10	10	2
MCKENZIE BURKHARDT	Portfolio Specialist	21	21	21
XAVIER SALAZAR	Portfolio Analyst	6	6	2
KATHRYNE DOWNS	, Portfolio Specialist ~ Global Endurance	12	12	2
EARL PRYCE	Portfolio Administrator	24	24	17
CHAYSE MORGAN	Portfolio Administrator	4	4	4
ERICA CASARENO	Portfolio Administrator	2	2	2
	Business Management	14	2	2

"Investor" refers to an analyst or portfolio manager of Counterpoint Global.

Team members may change without notice from time to time. Years of Experience listed above refers to Industry Experience.

Years of Experience, Years with Firm and Years with Team are as of June 2024.

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### DEFINITIONS

**Gross Domestic Product (GDP)** is the monetary value of all the finished goods and services produced within a country's borders in a specific time period. It includes all private and public consumption, government outlays, investments and net exports.

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