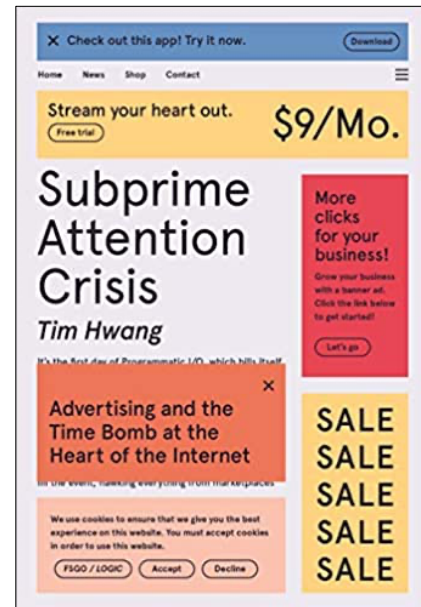


Tim Hwang, **Subprime Attention Crisis: Advertising and the Time Bomb at the Heart of the Internet**, New York, NY: Farrar, Strauss, and Giroux, 2020, 164 pp., \$15.00 (paperback).

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For the past decade, stories of scams, graft, and fraud in the digital advertising industry have surfaced in the national news. In October 2021, *The New York Times* told the story of Ozy, a digital media company that lied about its monthly users to its advertisers and investors and later had an employee impersonate a YouTube executive on a call with Goldman Sachs (Smith, 2021). In 2018, the Justice Department revealed a massive cybercrime operation referred to as “3VE,” which was siphoning millions of dollars out of advertiser and publishers’ profits (Read, 2018). Tales of fraud, arbitrage, inaccurate measurement, and inefficient redundancies are commonplace in public and professional discourses about digital advertising.

And yet, U.S. programmatic display advertising grew over 10% in 2020 and is projected to grow 24.1% in 2021, according to eMarketer (Perrin, 2021). How can this be?



In **Subprime Attention Crisis: Advertising and the Time Bomb at the Heart of the Internet**, author Tim Hwang sets out to make a provocative argument: The programmatic advertising industry has created a subprime attention crisis, a market bubble that—if popped—will have disastrous results for the publishers of content and users on the Internet.

Hwang does an impressive job of demonstrating and critiquing the many failures of the programmatic market. He explains the function and intricacy of the programmatic advertising ecosystem in prose that is lively and accessible to readers with no previous knowledge of the industry. This is truly remarkable for such a dense and Byzantine topic. Moreover, he develops a fascinating argument and compiles compelling evidence for it in a short 137 pages. Hwang’s professional experience and knowledge of the industry brings exceptional detail of major controversies and press coverage that will have readers flipping to the notes and digging into each wild story of corruption, fraud, and graft.

The book is organized around Hwang’s overarching argument that there is a subprime attention crisis. His argument centers on the analogy between today’s programmatic advertising market and the subprime mortgage financial crisis in 2008: We are on the cusp of a bubble, and its collapse must be stopped (or at least its impact must be lessened). Each chapter walks the reader through the next step of the argument. Chapter 1, “The Plumbing,” concisely and clearly describes what programmatic advertising is and how it is like financial markets. Readers will come away understanding the basics of how the programmatic advertising market

functions. Neither of these markets is simple or easily understood, making this explanation an important contribution and a service to readers.

Chapter 2, "Market Convergence," gives a brief overview of the history of the programmatic advertising industry and explains the key concept of commodification. Critical political economy scholars may debate how different the commodification of online attention is from the commodification of any other advertising product, such as ratings. However, for an undergraduate audience, the argument is thought-provoking and remarkably well-presented. It elucidates the problem with markets for derivatives and lays the groundwork for how such markets can become filled with overvalued assets.

Chapter 3, "Opacity" argues that the market for online attention is filled with subprime assets. In other words, advertisers are paying much more than they should be for commodities with much less value than sellers claim. Why are they buying these assets? Because advertisers are unable to determine their true value due to the opacity of the industry itself. Hwang organizes the evidence for the opacity problem into three sections: Algorithmic trading, dark pools, and the new intermediaries. This chapter—and these sections—are a major contribution of the book. Hwang offers a penetrating critique of the industry, accumulating evidence from mainstream news and the industry press to show how the scale of the industry is made possible by algorithmic trading. He explains how the trades happening outside the view of the auction system are problematic, and how platforms such as Facebook and Google effectively hide any problems with the assets being traded. This problem of opacity will speak to researchers studying any aspect of digital platforms.

Chapter 4, "Subprime Attention," continues to skewer the industry by outlining exactly what the problems with the assets are. Hwang questions how many people are really paying *any* attention to ads, the measurements the industry uses, and lays out the extensive digital advertising fraud problem. Chapter 5, "Inflating the Bubble," closes out the argument that we are in a subprime attention crisis. The discussion of the counterproductive incentives of advertising technology companies and advertising agencies is particularly poignant. Hwang looks at how these actors are unlikely to improve the situation—indeed, it is in their best interest to keep the bubble of subprime attention assets expanding.

Unfortunately, these perverse incentives are exactly why the comparison to a financial bubble ultimately fails to be convincing. The book draws parallels to the subprime mortgage crisis that started the 2008 recession. That bubble, however, burst because people holding those mortgages were unable to pay the banks back: They defaulted en masse. The equivalent in the programmatic advertising market is left unclear.

Chapter 6, "Exploding the Bubble," presents possible interventions to help prevent a catastrophic crash of the market. While the larger argument remains unconvincing, this chapter still seeks to solve the many well-documented problems with the industry. The interventions presented are provocative, creative, and exciting.

Hwang is not a traditional career academic, and he writes for more than an academic audience. In addition to researchers, Hwang's work is for regulators and people working in the advertising industry. Because of this, no lengthy explanations of theoretical foundations bog down the reader. Similarly, the explanation of the history of advertising—and what led up to the modern practice of programmatic media buying—are left mostly unexplored in a defensible trade-off for brevity and accessibility.

While advantageous for readability, the lack of theoretical and historical context is at times unfortunate. The argument made in chapter 2 that attention has been commoditized could benefit from the case of television ratings, which can (and has) been conceptualized similarly, with great research that could provide a stronger ground for the chapter to stand on (Meehan, 2005). More broadly, the treatment of programmatic advertising as extremely novel can be misleading. Historical research on computing in advertising (just like that on ratings) adds nuance and complicates the story Hwang lays out (McGuigan, 2019). These historical and theoretical perspectives are part of what undermine the argument for a true subprime attention crisis. How is the market for attention online really different from the attention markets that came before it, and why would we expect a crash here but not in those other markets? Is the bubble truly new, or is it just bigger? While Hwang focuses on the problems in the marketplace from a financial perspective, other critical work attends to more normative concerns, including media pluralism and democracy (Braun, Coakley, & West, 2019; Braun & Eklund, 2019).

All of the points above, however, should not be taken as a reason not to read or assign this book. All said, *Subprime Attention Crisis* is a thought-provoking and informative read that will leave you wanting more. Chapters 2, 3, 4, and 5 can each serve as an accessible, critical explanation of a different part of the programmatic media buying system for graduate or undergraduate students. Overall, this book serves as a good starter to dive deeper into big, thorny problems, and will surely lead readers deeper down the rabbit hole of programmatic media buying.

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