

Sources of Fraudulent Impressions in the Programmatic RTB Market

A Study By

**fraudlogix**™

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Objectives & Methodology

Advertising (ad) fraud is often reported as affecting a flat percentage of ad traffic within the real-time bidding (RTB) programmatic marketplace, but little has been reported about how the fraudulent impressions are distributed. Fraudlogix's objective in this study is to analyze the root entry points, or sources, of fraudulent impressions in the programmatic RTB markets (i.e., publishers) to determine the distribution of ad fraud in the market.

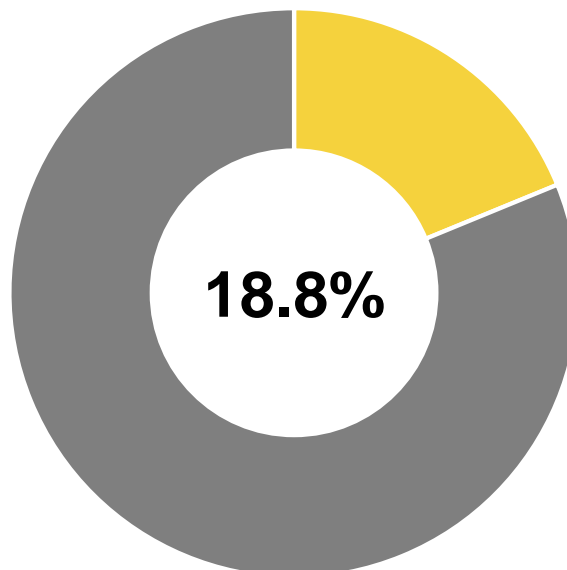
Methodology

- Impressions are considered “fake” or “fraudulent” if we detected a combination of digital and behavior characteristics synonymous with ad traffic generated through fraudulent means such as bots, scripts, hijacked devices, and click farms. We regularly use machine learning and analyze over 40 web traffic anomalies and weigh them based on type and severity. Anomalies include forged user agents, geo mismatches, bad device reputations, proxy usage, data center IPs, etc.
- Fraudlogix regularly monitors ad impressions from over 8.2 million websites and 1.2 billion unique devices monthly. The impressions for this study were extracted randomly over a 30-day period ending April 28, 2017.
- 1,269,711,833 total impressions were examined
- Impressions came from 59,465 sources.
- Impressions came from multiple environments, including desktop, mobile, video, and display.
- Sources were sorted into the following categories depending on the percent of fraudulent impressions they were generating: Less than 10% fraudulent impressions, 10-30% fraudulent impressions, 30-50% fraudulent impressions, 50-70% fraudulent impressions, 70-90% fraudulent impressions, and over 90% fraudulent impressions.

Key Findings

- **Of the 1.3 billion impressions sampled from the RTB programmatic market, 18.8% of them were found to be fraudulent (fake).**

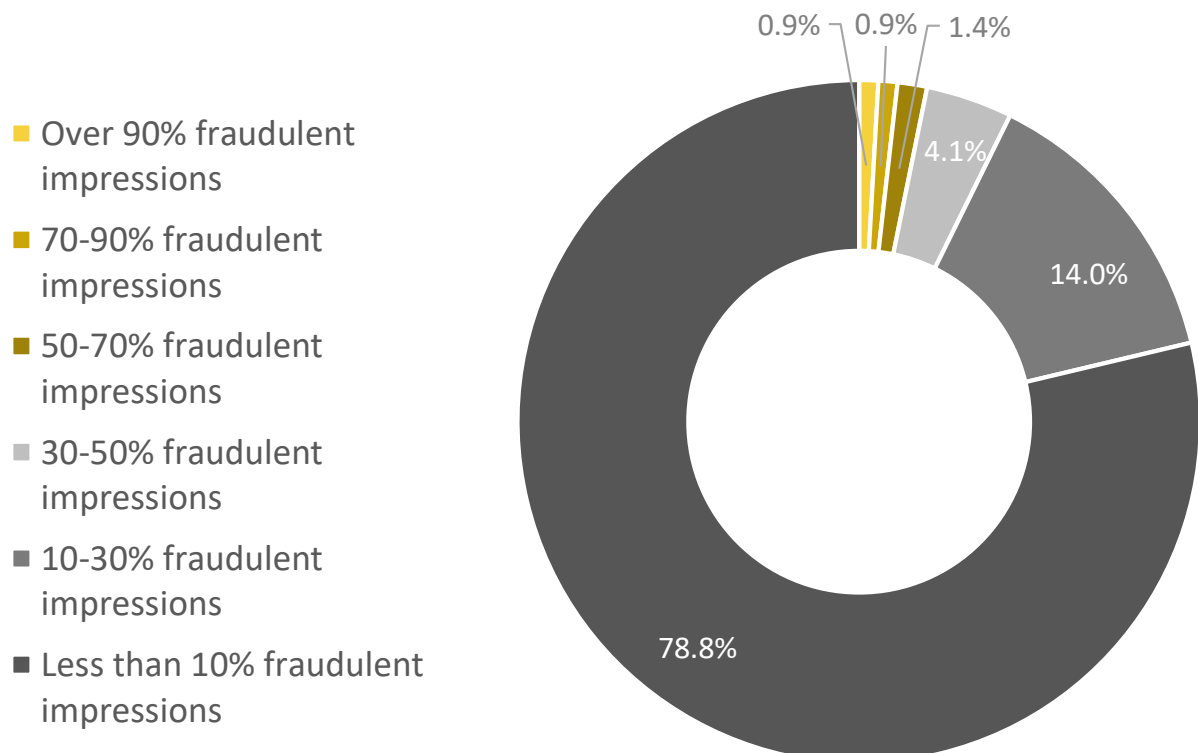
Fraudulent Impressions Detected



Key Findings

Of the sources:

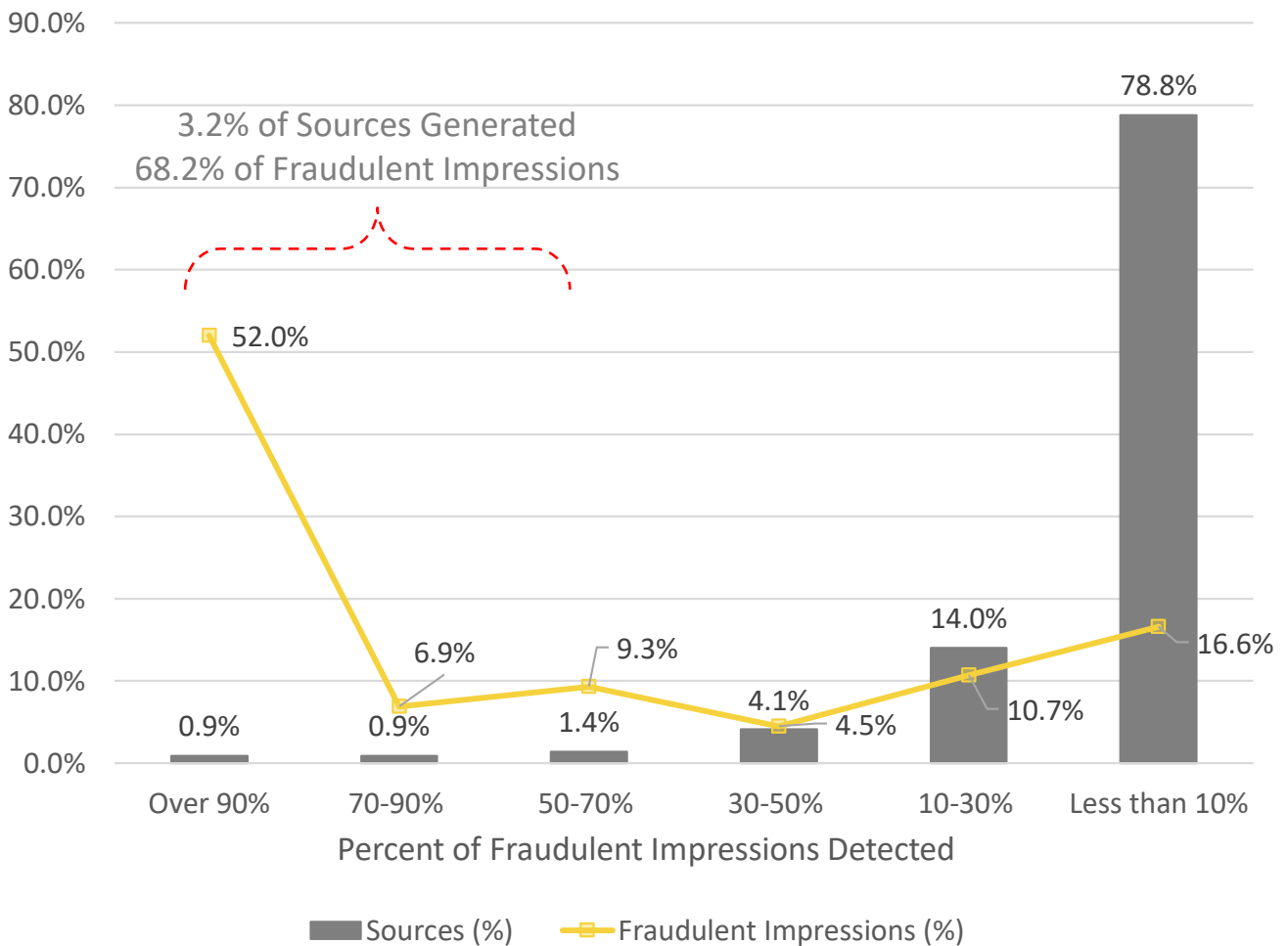
- **0.9%** had over 90% fraudulent impressions
- **0.9%** had 70-90% fraudulent impressions
- **1.4%** had 50-70% fraudulent impressions
- **4.1%** had 30-50% fraudulent impressions
- **14.0%** had 10-30% fraudulent impressions
- **78.8%** had less than 10% fraudulent impressions



Key Findings

- **Fraudulent impressions are not evenly distributed among sources.**

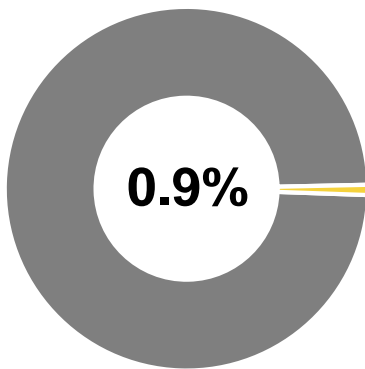
Percent of Sources and Fraudulent Impressions



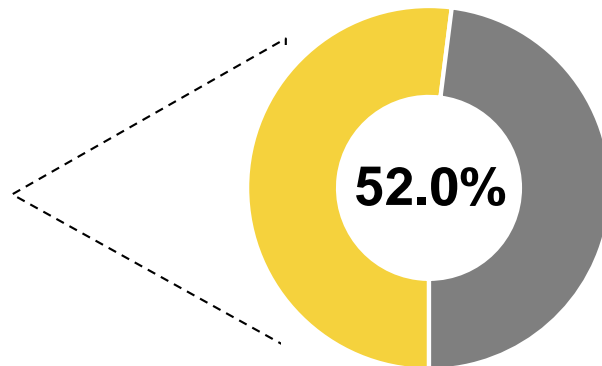
Key Findings

- **0.9% of sources generated 52.0% of all fraudulent impressions.**

All Ad Traffic Sources

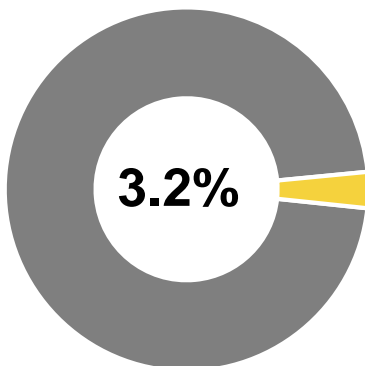


All Fraudulent Impressions

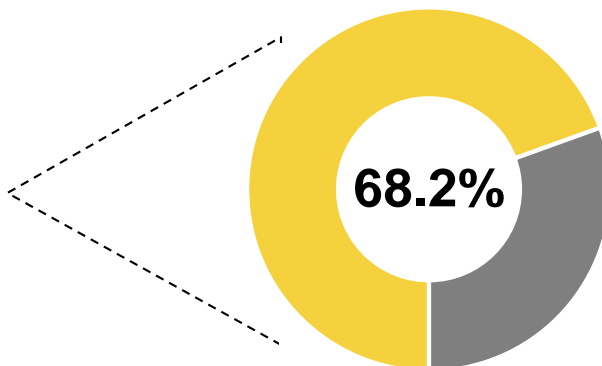


- **3.2% of sources generated 68.2% percent of all fraudulent impressions.**

All Ad Traffic Sources



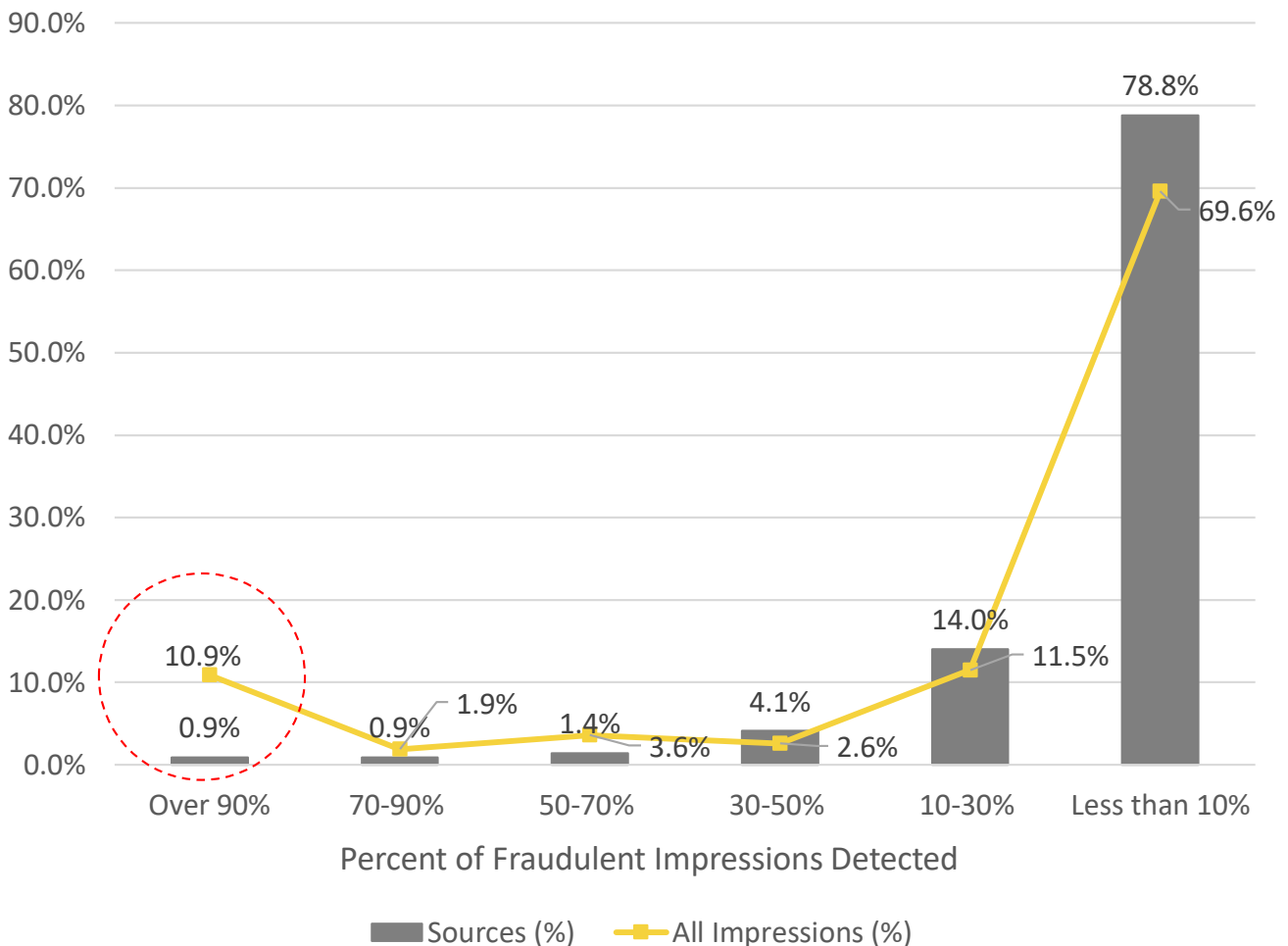
All Fraudulent Impressions



Key Findings

- Sources with the highest percentages of fraud generated a disproportionate amount of impressions (e.g., sources with more than 90% fraudulent impressions accounted for 0.9% of sources, but generated 10.9% of all impressions).**

Percent of Sources and Impressions Generated



Conclusions

- A large percentage of fraudulent impressions (68.2%) in the RTB programmatic market are generated by a small percentage (3.2%) of sources.
- Fraudulent impressions are not evenly distributed within the RTB programmatic market; a majority of fraudulent impressions are concentrated among relatively few sources.
- Sources with the highest percentage of fraudulent impressions generated a disproportionately large number of impressions, quickly raising the overall percentage of ad fraud in the RTB markets. This can be attributed to how quickly fake traffic can be fraudulently generated by bots, malware, etc., outpacing real website traffic.
- Fraudulent sources and their publishers, although relatively few, are having a significant impact on overall quality of ad impressions within the programmatic RTB markets.

About Fraudlogix

Fraudlogix is an online advertising fraud detection company founded in 2010 by industry veterans with a deep understanding of the digital ad ecosystem. It is the first of its kind to cater to the unique challenges faced by the supply side (ad networks, ad exchanges, and SSPs) and DSPs within the online advertising marketplace, providing them with pre-bid ad fraud solutions for desktop, mobile, in-app and video environments. Today, Fraudlogix monitors data from over 490 million unique users, 8.2 million websites and 1.2 billion unique devices monthly.

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