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Via Regulations.gov
Before the Federal Trade Commission (FTC)
Washington, D.C.

Reviews and Endorsements ANPR, P214504

The Commission has sought public comment¹ regarding its Advanced Notice on Proposed Rulemaking (ANPR) related to fake and deceptive reviews. We, the undersigned, are academic researchers in the areas of reputation fraud and manipulation at the University of California, Davis.

In this comment, we provide an analysis of incentivized reviews on online marketplaces and the harms they pose to consumers and businesses derived from our research (*Oak & Shafiq, 2022*) based on a case study on Amazon. Please find our analysis and supporting evidence from our research to answer the questions posed by the Commission in the following sections.

We thank the Commission for this opportunity to submit comments. We would welcome any further questions that will help the Commission in the proposed rulemaking.

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¹<https://www.regulations.gov/document/FTC-2022-0070-0001>

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Overview

Customer reviews play an important role in rankings on ecommerce marketplaces such as Amazon, Walmart, and eBay. Positive customer reviews have been shown to strongly influence a buyer’s decision to buy a product (*Guo et al., 2020*); 82% of customers checked product reviews before buying a product online (*Smith & Anderson, 2016*). Given that there are usually many third-party sellers for any given item, positive customer ratings and reviews play a critical role in the success of a seller on a competitive marketplace.

There exists a thriving ecosystem of incentivized reviews, ratings and comments that allow sellers to solicit guaranteed positive reviews in exchange for free products. The incentivized review ecosystem has three major players:

- **Third-Party Sellers** who manufacture products and often attempt to sell low quality products at a margin on e-commerce platforms such as Amazon. They stand to gain the most from positive reviews.
- **Jennies** who are buyers that will buy a product and leave a positive review for it in exchange for monetary considerations. These are typically regular paying customers of the e-commerce platform.
- **Agents** who are intermediaries between sellers and jennies. They recruit jennies through various social media channels and facilitate the purchase and review process.

At a high level, a jenny (buyer) leaves a five-star positive review for a product and gets the product for free in return. The detailed end-to-end process is shown in Figure 1 below.

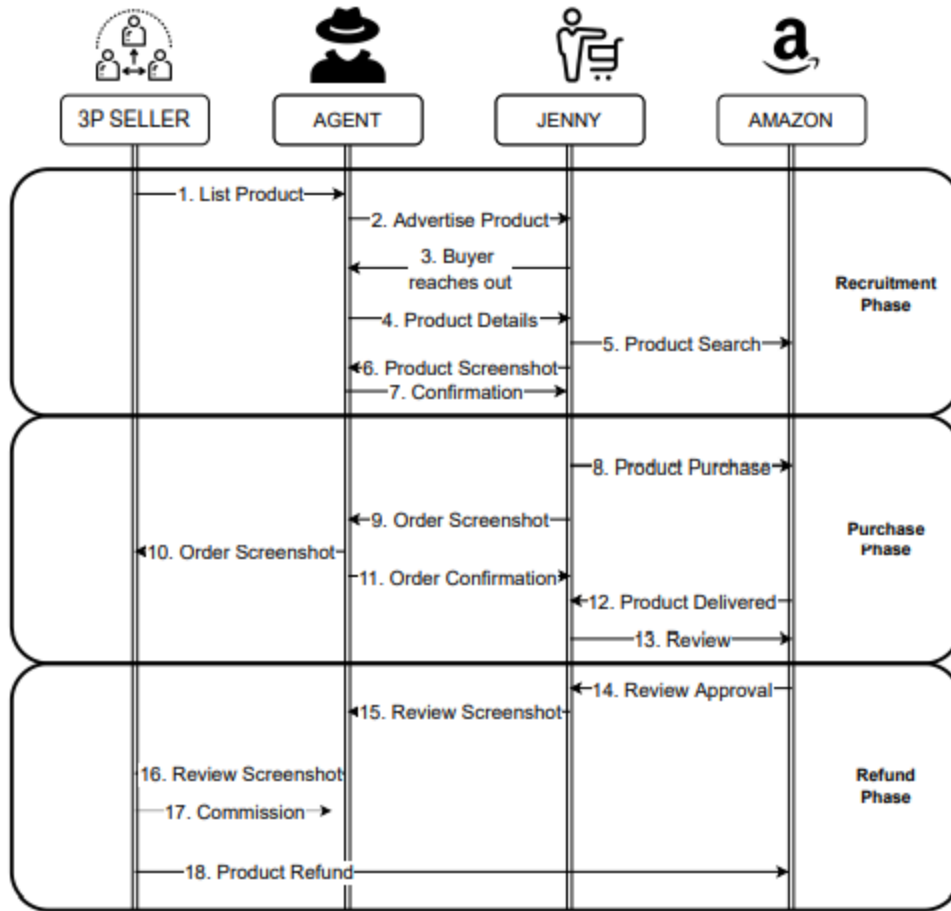


Figure 1: End-to-End Functioning of the Reviews Ecosystem

As part of our research, we conducted a quantitative and qualitative study of the incentivized review ecosystem by infiltrating one such underground incentivized review service that is geared towards Amazon.com. We first characterized 1600 products soliciting incentivized reviews by analyzing their meta-data on Amazon, including if and when Amazon removed any of the product reviews. We then surveyed more than 70 participants in this underground incentivized review service to uncover their recruitment, execution, and reporting mechanisms with an emphasis on their evasion tactics to resist takeout attempts.

In the following section, we will respond to the questions posed by the Commission based on our findings from this research.

Comment

Prevalence of Incentivized Reviews

This section answers the question **1(d)** posed by the Commission: **How widespread is the marketing of products or services using paid or incentivized consumer reviews that were required to be positive or required to be negative (if of a competitor's product)?**

Prevalence of Products Seeking Incentivized Reviews. As part of our research, we obtained product lists which agents were seeking incentivized reviews for. The number of products an agent had listed with them ranged from 5,000 -- 113,000. Upon aggregating the products and removing duplicates, we discovered a total of 242,000 products that solicited incentivized five-star reviews.

Prevalence of Marketing. The market for fraudulent review operates through various social media channels. The primary medium of communication is private Facebook groups. As part of our research, we were able to find over 250 groups on Facebook where reviews were brokered, the largest of which had around 550,000 members. On these groups, agents post information about the products which they have. Reviewers can also ask for any products they want. Agents are aware that their activities are potentially illegal, and hence, always operate with an alias. They also use minor perturbations on the keywords so that they may not be flagged by Facebook (see Figure 2). Through our user study, we were able to find evidence of other marketing channels such as slack channels, discord servers, and private groups on WhatsApp, Telegram, Messenger and Signal. Buyers were part of at least one private group on Facebook, and one buyer reported being part of seven groups on WhatsApp and Telegram.

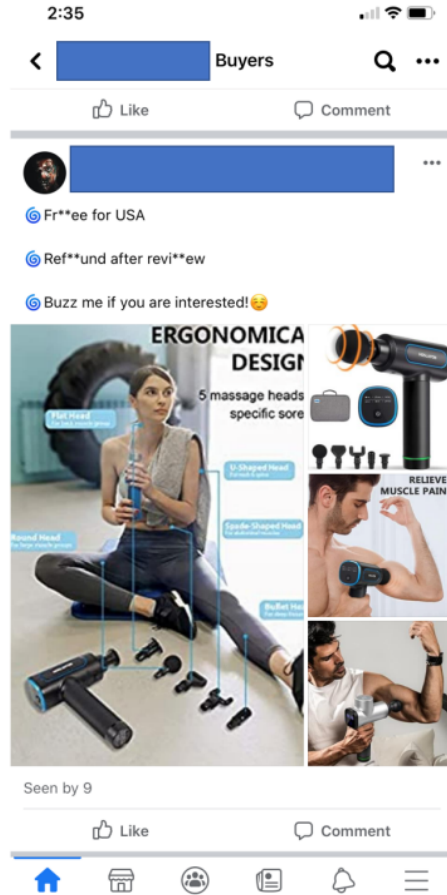


Figure 2: Agent advertising a massage gun in a Facebook Group and manipulating words (Fr*ee, Ref**und, Revi**ew in place of free, refund and review respectively)

Prevalence Across Geographies. The underground reviews market is spread across multiple countries. In our study, sellers were located in China, agents were located in Pakistan and Bangladesh, and buyers were located in the United States, U.K., Canada, Germany, and France.

Prevalence Across Platforms. Our study further showed that incentivized reviews are a prevalent issue on several e-commerce marketplaces. Agents who participated in our study reported that sellers listed products on Amazon, Walmart, Target, and Wayfair and sought incentivized reviews for their listings on each of these platforms.

Injury to Competition

This section answers the question 5 posed by the Commission: **For each of the practices described in Questions 1 through 3, above, does the practice cause injury to competition? If so, what evidence demonstrates such practices cause injury to competition?**

Manipulated Search Results and Rankings. Incentivized reviews artificially inflate product ratings, which affects product rankings and recommendation systems. Recent work (*He et al., 2022*) has shown that the purchase of incentivized reviews on social media is associated with a significant increase in average rating and number of reviews, and has a large causal effect on sales. Another prior work (*Luca & Zervas, 2016*) showed that manipulated reviews provide a competitive advantage to boost rankings in the restaurant business.

Fake Negative Reviews. Our research (*Oak & Shafiq, 2022*) uncovered several evasion tactics used by buyers to prevent their fraudulent reviews from being detected by Amazon. One such evasion tactic was to have a “well-balanced” distribution of reviews on the buyer profile. In order to not skew their reviews towards five-star ratings, buyers intentionally write negative reviews for genuine products (which do not engage in incentivized reviews). 11 out of the 34 participants in our user study reported that for the products which they purchased by themselves, or were not incentivized, they left a negative review *even if the product was good* so that they would have some 1-star and 2-star reviews on their reviewer profile. This shows that incentivized reviews cause harm to competing products by reducing ratings for legitimate products.

Competitive Review Fraud. Our research (*Oak & Shafiq, 2022*) discovered three novel kinds of *fraud within fraud* in the reviews ecosystem. One such novel fraud is competitive review fraud, where a fraudulent seller poses as a competitor and solicits reviews for the competition products. Upon receiving the reviews, the seller disappears and never provides the promised refund. In retaliation, buyers return the product and downgrade the review to a one-star rating. Both of these negatively affect ratings and statistics of competitor products, enabling the seller to drive down their rankings.

Consumer Perception & Experiences

This section answers the question 7 posed by the Commission: **Please provide any evidence concerning consumer perception of, or experience with, consumer reviews or other endorsements relevant to the practices described in Questions 1 through 3, above.**

Our study involved surveying Amazon customers from the U.S. and Canada who are jennies and understand their perspectives and experiences with the incentivized reviews ecosystem.

Qualifications. Our demographic analysis revealed that all of the buyers perpetrating fraud held at least a bachelor's degree, with 15 holding a masters degree and 5 holding a doctorate. This level of education is significantly higher from that observed among fraudulent actors in prior work (*Padgett, 2014*). With their unusually high educational qualifications, it is likely that these buyers intricately understand the nature of fraud they are perpetrating, the safeguards that might be in place to detect it, and purposely manipulate their activities to evade them. Two buyers state that they work in the technology sector, understand machine learning modeling,

theorize what features Amazon uses to flag reviews, and then purposely attempt to circumvent detection by manipulating those signals. One buyer tells us:

"I work in tech so I am aware that machine learning models can catch suspicious activity, so I try to simulate a real search as much as possible. I browse several products, read reviews and mark as helpful. Sometimes I keep things in my cart for days. I also randomly search for products and not buy anything. Also, for some products I ordered genuinely (no refund) I write 1 reviews even if they are good, so I am not an 'easy' reviewer. "*

Motivations & Incentives. Major motivations for buyers were the opportunity to get products for free, and not having to pay for some expensive products (such as robot vacuum cleaners, treadmills and blenders. Some buyers go a step ahead. They get their products for free by writing reviews, and then sell them online. buyers reported selling products on sites like eBay, Facebook Marketplace and Offerup. When asked if they were aware that writing incentivized reviews is against Amazon's terms of service, 32 buyers (> 86%) responded Yes. 4 responded as *Maybe* and only 1 said *No*.

Purposeful Manipulation. Our research showed that buyers who engage in fraudulent reviews also engage in purposeful manipulation. In particular, there are specific evasion tactics employed so as to avoid the review from being flagged by Amazon. Some of these evasion tactics are:

- *Manipulating Engagement* – Buyers simulate an organic search for products by entering related keywords, browsing through various products and spending time on each product. This is done in order to convey the impression of a genuine, organic search.
- *Manipulating Review Content* – Buyers make sure that their reviews are long, and have media (images or videos) attached. This adds authenticity to the review and can be interpreted as a sign that the reviewer actually used the product.
- *Manipulating Amazon Profile* – Buyers add bogus negative reviews to non-incentivized products so as to have a distribution of reviews not skewed towards five-star, which would be the case if they wrote only incentivized reviews.

Countermeasures and Effectiveness

This section answers the question 9 posed by the Commission: **What actions, if any, have platforms taken to address the practices described in Questions 1 through 3, above? Have those actions been effective in reducing consumer harm associated with the practices described in Questions 1 through 3, above? Why or why not?**

Review and Product Deletion. We found that Amazon implements two countermeasures to address the issue of review manipulation. First, they attempt to remove reviews that they suspect are fraudulent or incentivized. To examine the effectiveness of this removal, we periodically scrape product reviews for all products in our incentivized products dataset every

week over a 6-week period as a part of our research. Figure 3 shows how reviews are deleted over the 6-week period. We consider all of the reviews in our original crawl as a baseline, and compute the proportion of reviews removed relative to this baseline. We then plot an empirical cumulative distribution function over products for every week. We found that *nearly 50% of the products seeking incentivized reviews have none of their reviews removed.*

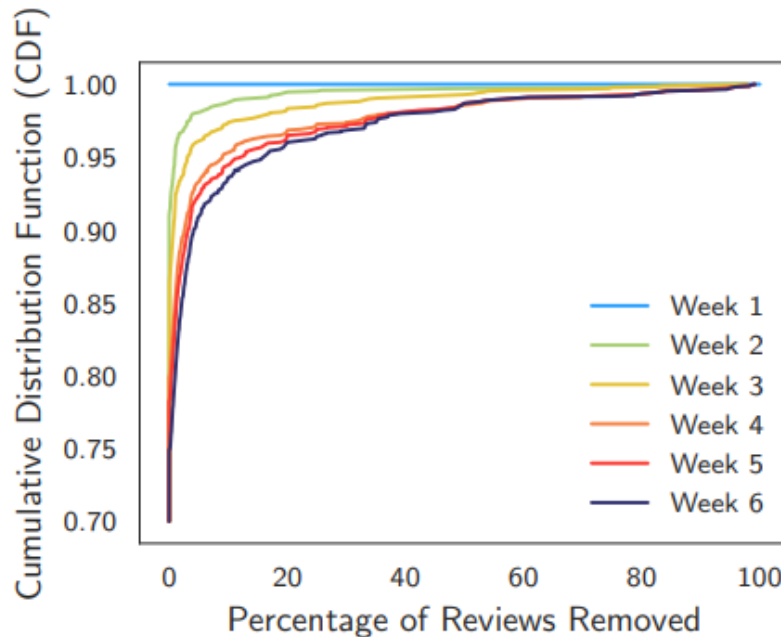


Figure 3: Week-over-Week Deletion of Reviews in Incentivized Products

Additionally, Amazon also delists products from the marketplace if suspected of violating the Terms of Service by engaging in seeking incentivized reviews. However, *out of the 1600 products we were tracking, only 25 were removed by Amazon at the end of the six-week period.*

Legal Countermeasures. Amazon has also attempted to solve the problem of fraudulent reviews via legal actions³. Their recent lawsuit⁴ aims to hold Facebook group moderators accountable. After the lawsuit, we observed that most of the Facebook groups they named have now been shut down. In the groups which they did not name, activity has reduced significantly. There has also been a surge in people (buyers) exiting group chats, as observed through the ones we infiltrated. However, this does not amount to a successful resolution to the problem. In response to the lawsuit, group administrators and agents created alternate communication channels on media such as Signal/Telegram groups (moderating which would be much more challenging) and began circulating details of these (along with alternate email addresses and contact numbers).

³<https://www.fashionnetwork.com/news/Uk-s-high-court-shuts-down-fake-amazon-reviews-ring,1373879.html>

⁴<https://www.aboutamazon.com/news/policy-news-views/amazon-targets-fake-review-fraudsters-on-social-media>

Role of Other Services

This section answers the question **10** posed by the Commission: **What actions have others taken to facilitate or enable the practices described in Questions 1 through 3, above? For example, what types of services specifically allow marketers to engage in these practices, and who is providing these services?**

Our research showed that targeted advertisements on social media platforms strongly facilitate the market for incentivized reviews. Most buyers (75%) reported that they were introduced to the incentivized reviews economy via advertisements on Facebook. Facebook facilitates the delivery of advertisements to a targeted audience; therefore agents are able to leverage search history, marketplace activity and other data available to Facebook to identify users who might be interested in writing such incentivized reviews. Jennies reported that once they interacted with a few advertisements on Facebook, they started getting exposed to similar ads (advertising free products in exchange for reviews) on Instagram as well (see Figure 4).



(a) Advertisement on Facebook



(b) Advertisement on Instagram

Figure 4: A targeted advertisement on Facebook, and the same advertisement delivered moments later to the same account via Instagram.

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