

Managing Influencer-Brand Collaboration: Empirical Analysis of Social Media Influencers

Keywords: video analytics; computational social science; influencer marketing; reputation; user generated content

Extended Abstract

As social media platforms expand, the influencer marketing industry is growing at a remarkable rate, and brands increasingly seek to work with influencers to promote their products. Influencers are effective marketers because they engage large audiences on social media platforms and appear as experts or trustworthy sources of information to their fans. They build authentic reputations by creating relevant and interesting organic content. Once an influencer is sufficiently popular, they can profit from their reputation by collaborating with brands. According to theoretical works in economics, reputation is an important asset that can be accumulated, consumed, and restored—that is, reputation is cyclical (Liu 2011). Initially, an influencer’s followers are attracted by content that originates from another “ordinary” person who seems intrinsically motivated and noncommercial, and thus, more authentic, and trustworthy than marketing communications. However, collaboration with brands may call this authenticity into question (Audrezet et al. 2020). Past works on celebrity endorsement also find that celebrities who endorse too many brands or products tend to lose credibility with their audiences. Thus, brand sponsorship may indeed hurt the influencer’s reputation—a *reputation-burning* effect.

On the other hand, brand sponsorship might help an influencer’s reputation—a *reputation-strengthening* effect—by providing an opportunity to prove their worth and ability (Vamp 2020). In fact, in our influencer video posting dataset (from YouTube), influencers received more likes and fewer dislikes on average for sponsored content than for organic content. Furthermore, influencers intend to be honest by clearly labeling sponsored posts as “sponsored.” The disclosure of sponsorship may help safeguard the authentic experience that is central to an influencer’s relationship with their audience.

Our paper intends to answer the following research questions: 1) What is the impact (main effect) of posting a sponsored video, relative to posting an equivalent organic video, on the influencer’s reputation? 2) Does the impact of brand sponsorship vary with the influencer’s audience size? If so, what might be the possible reason? 3) Does the impact of brand sponsorship vary with a) the fit between the influencer and the sponsored video and b) the popularity of the brand?

We explored a unique dataset of user-generated YouTube videos created by active English-speaking influencers in the beauty and lifestyle category. For each influencer, we collect the daily number of subscribers (as a proxy for the influencer’s dynamic reputation) and daily content-posting behavior from August 2019 to August 2020. For each video, we collect the audience engagement information (*likes* and *comments*), whether it is sponsored or organic, and use machine learning models to extract four categories of video features: basic video properties, the influencer’s emotions and appearance, the influencer’s voice, and visual aesthetics.

The identification of the causal impact of posting a sponsored video on the influencer’s reputation is challenging for several reasons. First, for each influencer, brand sponsorship (i.e., the treatment) is sequential and irregular—an influencer may post multiple sponsored videos during the observation window, and the time interval between posts may vary within- and between- influencers. Second, we face a repeated treatment issue: a

sponsored video might have an enduring effect, affecting both the influencer’s immediate reputation and the audience’s reaction to subsequent videos. Third, due to the observational nature of the data, our analysis is prone to selection bias such as influencer-brand selection (e.g., only certain types of influencers were selected by brands) and reverse causality (e.g., an influencer whose reputation is declining may be more inclined to take a sponsorship offer before they lose the opportunity to do so).

We address these challenges with a matching procedure and the difference-in-differences (DiD) model. The first and second challenges are addressed through construction of a control group following prior research that faced similar challenges (Azoulay et al. 2010). Then, we adopt DiNardo-Fortin-Lemieux reweighting (DFL), a semiparametric sample balancing strategy that can preserve differences in sample sizes, to match influencer-video pairs in the control group with those in the treatment group based on similar influencer and video characteristics on a monthly basis. Finally, we conduct DiD analyses on the matched sample to address the third challenge.

We report three main findings. First, we find a reputation-burning effect: posting a sponsored video, relative to posting an organic video with equivalent video features, costs the influencer 0.17% of their subscribers on average, which translates to an average loss of roughly 382,500 subscribers per year. The results are robust to the model specification and hypothetical unobserved confounders (see the Rosenbaum bounds test).

Second, we explore heterogeneity in the treatment effect based on the influencer’s audience size, and we find that the effect is larger for influencers with larger audiences. Analyzing audience engagement (operationalized as the number of “likes” and comments) and audience trust (measured in comment text), we find a larger gap in engagement and trust between sponsored and organic videos among influencers with larger (vs. smaller) audiences. We reason that influencers with smaller audiences often form stronger ties, so their audiences are more receptive to sponsored content (Avery and Israeli 2020).

Third, we explore heterogeneity based on the influencer-video fit and brand popularity. We find that the reputation-burning effect is effectively mitigated when the sponsored content is more similar to the influencer’s “usual” content. We reason that followers are accustomed to certain posting behaviors, and a sponsored post seems more credible if it is consistent with the influencer’s usual behavior. The reputation-burning effect is also mitigated when the promoted brand is less well-known (e.g., a niche or new brand). The result contradicts the literature on traditional celebrity endorsements, but we reason that followers may be more receptive to sponsored posts for new/niche brands because the influencer can provide followers with brand information that otherwise is not easily accessible, consistent with the unique role that audiences expect influencers to play (Casaló et al. 2018).

Our study empirically tests an assumption of several theoretical works, contributes to the literature on influencer marketing and celebrity endorsements, and provides managerial implications for influencers, brands, and social media platforms.

References

- Avery J, Israeli A (2020) Influencer marketing. Technical Note N9-520-075, Harvard Business School.
- Audrezet A, de Kerviler G, Moulard JG (2020) Authenticity under threat: When social media influencers need to go beyond self-presentation. *J. Bus. Res.* 117: 557–569.
- Azoulay P, Zivin JG, Wang J (2010) Superstar extinction. *Quart. J. Econom.* 125(2):549–589.
- Casaló Ariño L, Flavian C, Ibáñez Sánchez S (2018) Influencers on Instagram: Antecedents and consequences of opinion leadership. *J. Bus. Res.* 117(July).
- Liu Q (2011) Information acquisition and reputation dynamics. *Rev. Econom. Stud.* 78(4):1400–1425.
- Vamp (2020) How can creators benefit from branded content ads? Accessed August 9, 2021. <https://vamp-brands.com/blog/2020/03/23/how-can-creators-benefit-from-branded-content-ads/>