

# DISSERTATION PROPOSAL

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## “Introduction of AI-Powered Virtual Influencers: How AI Disrupts Social Media Marketing and Human Labor Market”

Thursday, December 3, 2020

4:00pm EST

Zoom: <https://cmu.zoom.us/j/4126282953>

With the emergence of AI, computer-generated image (CGI) influencers, so-called *Virtual influencers*, have appeared in 2016. Since their debuts, these virtual influencers grow rapidly on social media by posting their photos and videos, just like how *human influencers* share their daily life. Prior literature has widely examined the effectiveness of human influencers to raise brand awareness, enhance brand equity, and eventually achieve the brand’s target revenue. Meanwhile, the literature has also warned that influencer marketing may fail if influencers become less trustworthy, leaving influencers to face an “authenticity crisis.” To avoid the crisis, brands want to control the negative popularity risk, so they are testing the possibility of taking humans out of the influencer marketing business. While the industry is doing such experiments for their favor, there is sparse literature on (1) the strategic behaviors of human online influencers, (2) the impact of AI-powered influencers on social media marketing, and more importantly, (3) the impact on the labor market of human online influencers.

To fill this gap, this dissertation seeks to: (1) characterize the human influencers’ strategic vocal content delivery to avoid authenticity crises (consumer backfire), (2) examine which brand is more likely to adopt AI-powered influencers between high and low-ends and whether it is more successful to resemble or differentiate them from human influencers in content characteristics, and (3) propose the optimal influencer marketing strategies to account for the tradeoffs of choosing between human and AI-powered influencers. These considerations are important for understanding how AI and marketing strategies can adapt to a world influenced by social media practices.

In the first chapter, we examine the strategic responses of beauty influencers who carefully produce and fit into their online persona. We ask whether influencers strategically deliver their content not to lose their trustworthiness from followers. We found that influencers become strategic in branded (sponsored) videos, by adjusting their vocal loudness in their favor. In branded videos, the reduced loudness mitigates consumers’ negative sentiments towards the sponsorship disclosure, making the voice less dominant (amenable) and so helping the beauty influencers regain followers’ minds. We answer our questions using voice analytics, affective computing, and automated speech recognition (ASR).

In the second chapter, we assess AI-powered influencers’ current marketing practices using their social media posts. Our findings confirm that AI-powered virtual influencers have collaborated more with high-end brands (e.g., Dior, Versace) than low-end brands. Interestingly, while the virtual influencers could be a cost-effective option for brands than “human” influencers, low-end brands are still reluctant to collaborate with them, by paying more dollars to human influencers. Also, using the Natural Language Processing (NLP) and ML image recognition methodologies, we show whether it is more successful for the virtual influencers to mimic the content of human online influencers.

In the third chapter, we optimize the influencer marketing strategies for brands and human labors to understand how the AI-powered influencers will disrupt the labor market of influencer marketing. We will answer one of the traditional and long-been unanswered big questions: Whether AI will replace human labor in the foreseeable future. We study this question in the context of the influencer marketing industry. Specifically, we ask three questions. First, given that each brand has a fixed budget for influencer marketing, do brands need to hire (1) more familiar but expensive and risky human influencers or (2) more affordable and less risky but less familiar virtual influencers? Second, would the evolution of AI-powered virtual influencers create new job opportunities to create and act on behalf of virtual influencers? Third and last, how does the social welfare change by introducing AI-powered virtual influencers to the influencer marketing market?