Despite the public’s familiarity with search engines, little existing research empirically investigates the impact of such a search-cost-reduction tool on online market structure. Knowledge scarcity of this question can mainly be attributed to the challenge of accessing detailed data and the lack of a cross-website search engine. Using data from the largest online illegal transaction platform, the Darknet market, we manage to empirically evaluate the influence of a cross-website search engine (i.e., GRAMS) on the market structure at the vendor and product category levels. The results show that while the search engine’s entry enhances the overall market performance, the benefit is more significant among leading vendors and popular products, leading to a more concentrated market. Additional analyses provide empirical evidence that the trustworthiness and the scale-up ability of the leading vendors can be the underlying mechanism for the increased market concentration. Our study yields both theoretical and practical implications.

Dr. Shu He’s research is focused on the economics of information systems (IS), particularly on the impact of emerging technologies on firms and society using econometric analysis, machine learning techniques, and randomized field experiment tools. Her current research interests revolve around digital platforms, social media, and the societal implications of IT. Her research has been published in prestigious academic journals such as Information Systems Research (ISR), MIS Quarterly (MISQ), and Production and Operations Management (POM). She has been the recipient of research grants from the National Science Foundation Award on Secure & Trustworthy Cyberspace and the NET Institute. Additionally, she received the ISS Gordon B. Davis Young Scholar Award in October 2022.

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