The Impact of Social Media on Ventures’ Success

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Abstract

Prior researches have examined the impact of social media in various settings, there has been yet any research that investigates the effect of social media on small startup companies’ success in various stages. Drawing on the signaling and information asymmetry theory, this research-in-progress proposes to study the effect of social media on small IT start-ups’ success in VC fundraising and exits. We argue that IT start-ups’ social media activities provide signals to potential investors to reduce their uncertainty on product quality, which could have the positive impact on small IT start-ups’ success.

We obtain our data on startups from a proprietary database called National Establishment Time-Series (NETS), which covers about 75% of the U.S. economy, public and private, at the establishment level. It provides an annual record that includes establishment job creation and destruction, sales growth performance, etc. We merge them with startups’ social media data (if available) collected from the most well-known and used platform – Facebook, where not only individuals, but also businesses create profiles or public pages to advertise their company info and engage their customers and investors. We use Facebook API to collect detailed information on all activities at startups’ Facebook pages such as post id, post time, post type, Firm Generated Content (FGC), User Generated Content (UGC) post content, post link, and engagement data (e.g., “Like”, “Comment”, and “Share”) related to each individual post. Going forward, we will apply topic modeling for each post to extract the hidden topics embedded on those posts. Topic modeling is a machine learning technique to discover abstract topics from a collection of documents. We could discover hidden topics embedded on FGC and UGC. Based on the output of topic modeling, we could test the relationship between mentioning certain topic in social media and its likelihood of getting VC funding and/or other performance measure. Our preliminary topic modeling analysis shows heterogenous patterns of the firms’ post on Facebook and we will use this as additional independent variables.

Our main dependent variable of interest is VC success. To measure that, we collect the data on VC rounds and amount received by each startup firm from the VentureXpert database by Thomson - source for comprehensive information covering venture, buyouts, funds, private equity, firms, executives, portfolio companies and limited partners. Data on ventures’ exits such as IPOs and merger and acquisitions are obtained from Thomson One database (previously referred as SDC Platinum U.S. M&A Database).

We employ an econometric identification strategy called Difference-in-Differences (DiD) to build the causal relationship between Facebook appearance and activity, and the outcome of VC fundraising and ultimately, startups’ successful exits. We use propensity score matching technique to construct a “control” group (without Facebook appearance) that are comparable to the treatment group (with Facebook appearance and activity) in terms of year, industry and some firm characteristics. Then, DiD compares the dependent variable not only across the treatment/control group, but also over time (before and after). We will also use machine learning technique such as topic modeling to disaggregate the user and firm generated contents on social media and test their differential effects on outcomes.

Keywords

Social media, startups, venture capital, user-generated contents, firm-generated contents, topic modeling.