Google Trends data for analyzing startups

Startups and high growth technology-based new ventures (TBNVs) do not have time, interest, or obligation to share much data about what they achieved, when, and how. Thus, for outside observers, startups are "black boxes" for which it is almost impossible to get enough objective information to assess their progress. In the recently published [work](), a new metric: Google Trends (GT) search-query big data is proposed and explored as a powerful source of high-quality data for analyzing growth trajectories of high potential technology-based new ventures emerged from startups. The results suggest that proposed approach may become what X-ray chamber is for studying the human body – cheap, easy, and non-invasive way to understand what is going on inside a technology-based new venture.

These findings open many research questions and opportunities. For instance, TBNVs' GT data may be valuable for a better understanding of marketing strategies, business models, and intellectual property management practices used in technology-based new ventures and their results. That especially may be the case in understanding, in practice frequently used term, like product-market fit or business model validation, which still lacks appropriate tools for a fuller explanation. In another example, the methodology of using GT data for analyzing the growth dynamics of a particular venture can be slightly modified and applied for growth prediction purposes. Since GT data is very comprehensive (time series can be presented even in the minutes scale) and since we demonstrated its correlation with companies' valuation dynamics, we expect that it can serve as a basis for building company-related mathematical models of evolution and future growth.

For more info and the full overview of the topic, please see:

- Malyy, M., Tekic, Z., & Podladchikova, T. (2021). The value of big data for analyzing growth dynamics of technology-based new ventures. Technological Forecasting and Social Change, 169, 120794.
- Jun, S. P., Yoo, H. S., & Choi, S. (2018). Ten years of research change using Google Trends: From the perspective of big data utilizations and applications. Technological forecasting and social change, 130, 69-87.

Supervisor: Associate Professor Zeljko Tekic

Candidates are expected to have interest in innovation management and strong mathematical and analytical backgrounds. Ideally, candidates are fluent in Python and/or R. Besides the theoretical contribution, commercially attractive solutions may be developed that lay the basis for successful business.

Organization and Set-Up:

Expected duration: 3 years including coursework.

Expected outcome: at least 3 publications, of which at least 2 in Q1/Q2 journals, and at least one in the leading role, all covering topic of the PhD research

Place of work is Graduate School of Business, HSE University, Moscow.

In all cases students will work as a part of a team, within specific project.

Those accepted into HSE's PhD program will conduct research in challenging environment, under the supervision of international faculty in brand new facility at Shabolovka.

Next to available state and competitive stipends (from the HSE Graduate School of Business), **students are eligible for (additional) project stipend up to 30k RUB per month, subject to performance and results**.

Working language is English.

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For all questions mail to Associate Professor Zeljko Tekic, ztekic@hse.ru (it is highly recommended to contact the project leader **BEFORE** applying for the position).