LET ME GOOGLE THAT FOR YOU – MEASURING FIRM INTERNATIONALIZATION USING GOOGLE TRENDS

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ABSTRACT

In this research note, we propose Google Trends as a uniquely versatile and overlooked resource for International Business scholarship. Google search measures have been used successfully in other disciplines like epidemiology, finance, and political science. It offers highly reliable and finely grained data that not only provide a market-side complement to accounting based measures of firm internationalization in IB. Additionally, it opens entirely new research questions for IB research. In this research note, we survey the use of Google Trends in academic research, propose Google Trends-based measures of firm internationalization, discuss their empirical and conceptual benefits (and drawbacks) for IB research. We also provide an introduction to the R package globaltrends (Puhr, 2020) that accompanies this research note.

Keywords: Firm Internationalization, Google Trends, Measuring Internationalization, Degree of Internationalization, Volume of Internationalization.

INTRODUCTION

Our research note aims introducing Google Trends as a uniquely versatile and rich source of data for IB research questions in general, and for measuring firm internationalization in particular. We propose several measures for firm internationalization and provide the globaltrends R package (Puhr, 2020) as a toolbox for users. In a previous study resilience of stock prices to the corona pandemic, we showed that these Google Trends measures for internationalization can be used as a supplement for traditional measures and yield similar results as traditional, accounting based measures (Venger, Puhr, & Müllner, 2020).

In this research note, we want to highlight that Google Trends measures proposed in the globaltrends package (Puhr, 2020) are not mere robustness checks for established measures. We argue that they capture another type of firm internationalization that is based on consumer recognition. This different conceptualization offers new insights into additional dimensions of internationalization in IB research. Furthermore and because of the granularity of Google search data, our measures open new research questions and methodologies within IB, which previously have been difficult to study. We first provide an overview of the historical use of Google Trends in science, before presenting our measures and the accompanying R package.

EXISTING APPLICATIONS OF GOOGLE TRENDS IN SCIENCE

Between 2010 and September 2020 Thompson Reuters Web of Science and PubMed jointly recorded 855 papers that used Google Trends or discussed its use in science (as of 21.09.2020). Figures 1 shows the growth of Google Trends as an academic data source.

Insert Figure 1 about here

What is remarkable is the diversity of disciplines Google Trends has been used in. Table 1 breaks down Google Trends-related publications in disciplines. The overwhelming majority of papers and the earliest applications of Google Trends are from the field of *Public Health* and *Epidemiology* in particular (545). There Google search behavior has been used to study patient behavior/symptoms and to track the spread of viral pandemics (e.g. Covid-19, Ebola, and Flu). Shortly after public health professionals recognized the value of Global Trends as a rich data source (Nuti, Wayda, Ranasinghe, Wang, Dreyer, Chen, & Murugiah, 2014), *economists* joined the bandwagon and started to use search volume data to predict macro-economic variables[1] like private consumption (Vosen

[1] For an overview discussion see Choi and Varian (2012) with the most elaborate and most cited discussion of Google Trends predictive qualities.

& Schmidt, 2011), unemployment, inflation, exchange rates. Scholars also use Google Trends to analyze micro-economic aspects, such as stock prices and their volatilities (Vlastakis & Markellos, 2012) and trading behavior (Preis, Moat, & Stanley, 2013). Here, Google Trends has proven particularly valuable as a forward-looking market side measure of expectations with high predictive quality. Other research applied Google Trends to more classic *social science* topics like environmental awareness, religiosity, sexual behavior, suicide, or crime. In tourism, Google Trends is used to predict travel activity (Bangwayo-Skeete & Skeete, 2015, Law, Li, Fong, & Han, 2019, Önder, 2017, Yang, Pan, Evans, & Lv, 2015). In *political science*, scholars use Google Trends for polling (Mavragani & Tsagarakis, 2016), to measure issue salience (Mellon, 2013) and public opinion (Gruszczynski, 2019). In *sports research* (and practice) Google Trends is used to measure player/team performance/value (Fortuna, Maturo, & Di Battista, 2018, Gift, 2018) and in *meteorology* researchers use Google Trends to study extreme weather phenomena (Kam, Stowers, & Kim, 2019, Sherman-Morris, Senkbeil, & Carver, 2011).

Insert Table 1 about here

In Figure 2, we create word clouds of keywords and keyword pairs from the sample of 855 papers across disciplines that emphasize keywords based on their frequencies. From the word clouds several prominent applications and themes of Google Trends, like forecasting, epidemiology, information seeking behavior, or specific diseases emerge. Most strikingly, the word clouds reveal a complete absence of any micro-level or business-related topics.

Insert Figure 2 about here

Only recently in 2015, business scholars picked up on Google Trends borrowing from predictive methods in economics and *financial economics*. Early applications used Google Trends to study technology adoption (Jun, Yeom, & Son, 2014) or advertising (Du, Hu, & Damangir, 2015, Hu, Du, & Damangir, 2014). To date, we are not aware of an application of Google Trends Data in the fields of *strategy* or *international business*[2]. In a 2020 working paper, Venger, Puhr, and Müllner (2020) use the measures from globaltrends for the first time in a study on the moderating effect of internationalization on the sensitivity of stock prices in the Covid-19 pandemic. The results of the

[2] Dorobantu and Mullner (2019) use Google Trends time series to capture country-level financial market uncertainty in a robustness check.

study highlight that Google Trends measures of firm internationalization yield similar results as traditional internationalization measures used in IB.

TRADITIONAL APPROACHES TO MEASURING FIRM INTERNATIONALIZATION

Sullivan (1994) and later Marshall, Brouthers, and Keig (2020) provide an overview of traditional approaches to measuring firm internationalization and categorize them into three groups: performance-related measures, structural measures, and attitudinal measures. The first group focuses on costs and revenues and includes measures like *foreign sales as a percentage of total sales* (*FSTS*), *research and development intensity* (*RDI*), *advertising intensity* (*AI*), *export sales as a percentage of total sales* (*ESTS*), *foreign profits as a percentage of total profit* (*FPTP*). Structural measures are derived from the global configuration of firm resources or assets and include measures like *foreign assets as a percentage of total assets* (*FATA*), *overseas subsidiaries as a percentage of total subsidiaries* (*OSTS*). Finally, attitudinal measures include *top managers' international experience* (*TMIE*) and *psychic dispersion of international operations* (*PDIO*) and focus on companies' mindset.

Despite their merits, these measures have a number of limitations. First, they are country centric, distinguishing only between domestic and foreign. In other words, the measures do not capture in how many and which countries the firm operates, or how diverse this set of countries is. Additionally, the measures are very sensitive to home-country size. More sophisticated measures of internationalization use country-level data and calculate the distribution of sales, assets, and employees across countries using an Herfindahl index Entropy. These indices capture the distribution of total sales across individual country markets.

Most recently, Marshall, Brouthers, and Keig (2020) proposed the RIMS measure of firm internationalization that captures the "*average depth of penetration across the breadth of all the markets for the rest of the world excluding the firm's primary market and then compares this to the depth of penetration within the firm's primary market"*. RIMS is the most sophisticated measure of market penetration and captures *"how successfully a firm has penetrated the markets of the rest of-the-world relative to its most successfully penetrated, primary market"*. Though distribution-based measures and RIMS, in particular, have superior conceptual validity, detailed data on companies' sales in all countries is difficult to obtain. Even if available, such accounting data is commonly only available on a yearly basis.

Applications of Google Trends in other disciplines are used to measure how ideologies, diseases and sentiments have penetrated geographic locations. As such, Google Trends lends itself equally to study firm internationalization. In the following, we propose two distinct measures computed

with the globaltrends package in R (Puhr, 2020). Then, we discuss the conceptual particularities of these measures, compared to existing accounting-based measures.

APPLYING GOOGLE TRENDS TO MEASURE FIRM INTERNATIONALIZATION

We propose two conceptually distinct measures of firm internationalization capturing (a) the *volume of internationalization* (*VOI*, comparable to net FDI for a given period) and (b) the *degree of internationalization* (*DOI*, comparable to distribution-based accounting measures). We do so for two reasons.

First, the absolute search volume for a firm, person or keyword is conceptually different from its international distribution. In Figure 3, we illustrate this differentiation and analyze the internationalization of a product with a very distinctive, fad-like internationalization history, the fidget spinner toy. The fidget spinner was invented and commercialized in late 2016 and became the world's most sold toy within only two months of commercialization (Economist, 2017, Rashid, 2017)[3]. After 2017, interest in the fidget spinner somewhat resided, but – and this is the important aspect here – remained highly globalized. In other words, the fidget spinner internationalized at a very fast pace and interest in the product is still evenly distributed across the globe, but this interest remains at a much lower overall volume. Because firms commonly do not exhibit such extreme internationalization patterns or growth this distinction has not been prominent in IB research. Usually, studies simply control for firm size to capture volume effects.

Second, Google Trends data is extremely fine grained and offers time series for every firm at a country (even district) level. Since small firms do not oblige to the same reporting requirements as large firms, accounting-based measures by default capture internationalization only above a certain threshold. Google Trends has no such reporting limitations and correctly identifies the fidget spinner as a product of global interest, even if the absolute volume is very low. Thus, using internationalization measures obtained from Google Trends may require researchers to empirically control for the volume of internationalization. By creating two separate measures, we can capture both global search volumes for firms as wells as the distribution of search volumes across the globe, allowing for more fine-grained analysis and interactions between these distinguishable concepts of firm internationalization.

Insert Figure 3 about here
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[3] In Figure A1, in the appendix w illustrate the pace at which the fidget spinner toy internationalized across the Atlantic.

We create a tailor-made operationalization of firm internationalization that does not approximate the configuration of the firm's international operations but relies on their global recognition. As a toolbox to construct our Google Trends measures of internationalization, we develop the package globaltrends (Puhr, 2020). Our package allows users to download time series of Google search volumes from 2004 onwards. Because Google Trends organizes its data output as single-country keyword batches, the package uses batched downloads. Within these batches, Google Trends normalizes search volumes to values between 0 and 100. We devise a mapping algorithm to transform Google Trends output to a more general data structure. For each country, we download a set of baseline keywords that captures "standard" search volumes in the country. Since "Gmail", "Maps", "Translate", "Wikipedia", and "Youtube" allow an approximation of "standard" search volumes on Google, we propose them as baseline keywords. We then download batches of company names, including synonyms and alternative spellings, for each country. For these search volumes, we compute season-adjusted and trend-only time series that serve as robustness checks (Bokelmann & Lessmann, 2019). Next, we follow Castelnuovo and Tran (2017) to map search volumes for firms to search volumes for baseline keywords in each country. We then use these time series to compute search scores as the ratio between the search volumes for firm *i* in comparison to search volumes for baseline keywords *b1* to *b5* in each country *c*:

$$search\ score_{i,c} = \frac{search\ volume_{i,c}}{\sum_{b=b1}^{b5} search\ volume_{b,c}}$$

We can interpret search scores as the proportion of search volumes for company *i* compared to search volumes for baseline keywords *b1* to *b5* within country *c*. Search scores therefore allow comparison across companies, dates, and countries and provide insights into the local relevance of companies and the exposure of these companies to the respective countries. For the example of Coca-Cola, Figure A2 in the appendix shows a strong overlap of search scores for all three search volume time series, pointing to the robustness of our measurements.

Volume of Internationalization (VOI)

Country search scores focus on search volumes for companies in single countries. To compute a company's volume of internationalization, we focus on global search volumes instead of country search volumes. Using the same approach as outlined above, we first download global search volumes for each baseline keyword *b1* to *b5* and firm *i*. Next, we map the time series and compute global search scores as the ratio of global search volumes for firm *i* and global baseline search volumes *b1* to *b5*.

Like country search scores, we can interpret global search scores as the proportion of global search volumes for company *i* compared to global search volumes for baseline keywords *b1* to *b5*. This allows researchers to track changes in global interest in companies and highlights phases of fast or receding internationalization. Since the computation of country and global search scores follows the same procedures, the two measures have the same properties. This provides for a direct comparison between country search scores and volume of internationalization in terms of global search scores. Figure A1 in the appendix, compares across and within country search scores for the fidget spinner and highlights differences in its internationalization across the globe.

Degree of Internationalization (DOI)

We measure a firm's degree of internationalization based on the global dispersion of country search scores. The more uniform the distribution of search scores across countries, the higher a firm's degree of internationalization. When the distribution of country search scores is highly skewed, with high search scores in the firm's home country and low search scores in other countries, the firm has a low degree of internationalization. To compute a firm's degree of internationalization, we follow extant literature and compute a firm's degree of internationalization as the inverted Gini coefficient (Fisch, 2011),

$$DOI\ Gini_i = 1 - \frac{\sum_{c=1}^{n}\sum_{d=1}^{n}|search\ score_{i,c} - search\ score_{i,d}|}{2n\sum_{c}^{n} search\ score_{i,c1}},$$

where *search score*$_{i,c}$ and *search score*$_{i,d}$ are the search scores for firm *i* across all country pairs *c* and *d*. In the globaltrends package (Puhr, 2020), we additionally measure degree of internationalization as inverted Herfindahl index (Bühner, 1987) and inverted Entropy (Hitt, Hoskisson, & Kim, 1997) of the search score distribution. These additional measures serve as possible robustness checks to validate the degree of internationalization computation. As shown in Figure A3 in the appendix, for Coca-Cola all three approaches to compute degree of internationalization come to similar results, underlining the robustness of our measures.

In Figure 4, we illustrate the Google-based degree of internationalization for three highly internationalized companies in the S&P 500 and for three counterparts of low degree of internationalization. Among the most internationalized companies are Microsoft, Facebook, and Coca-Cola with inverted Gini coefficients between 0.43 and 0.73. Boxplots show that the limited range of values for companies over time supports the reliability of the measures. For example, the inverted Gini coefficients for Coca-Cola Company ranged from 0.43 to 0.68 between 2010 and 2020. This tight distribution shows that results are largely unaffected by fads in Google search behavior (for both the company and the baseline keywords). On the lower end of the

internationalization scale in S&P 500, we find the companies Alaska Air Group, Illinois Tool Works and J.M. Smucker Company. Alaska Air Group, for example, achieves a degree of internationalization between 0.015 and 0.064. Because we map Google Trends data to the same scale for all observations, the degree of internationalization is comparable across the entire sample. Therefore, we can show that on average, Microsoft is roughly 30 times more international than Alaska Air.

Insert Figure 4 about here

Figure 5 shows the internationalization history of the same six companies between 2010 and 2020. There is no common trend observable, indicating that search volumes for the baseline keywords do not influence time series systematically. Most strikingly, the internationalization timeline of Alaska Air Group shows an increase in internationalization following its acquisition of Virgin America on April 4, 2016. In sum, the company comparisons in Figure 7 as well as the internationalization timelines in Figure 8 underscore the high validity of our degree of internationalization measure.

Insert Figure 5 about here

In Table 2, we provide descriptive statistics for VOI and DOI measures and in Table 3, we show their correlations from the same S&P 500 sample. The descriptives show that DOI measures based on Gini and HHI are scaled between 0 and 1, which makes them comparable. The mean DOI $Gini_{OBS}$ of 0.290 can be interpreted that the mean S&P 500 company achieves about 29% of maximum internationalization, i.e. completely uniform distribution across all countries.

In Figure 6, we illustrate a striking observation from the correlation table: VOI measures are largely uncorrelated with DOI measures, achieving a maximum of 0.174 between DOI $Gini_{OBS}$ and VOI_{TRD}. This supports our argument that volume of internationalization and degree of internationalization are positively correlated but separable constructs. DOI measures using Gini coefficient and Herfindahl indices are highly homogenous achieving a bivariate correlation ranging from 0.583 to 0.997. Entropy-based measures have very low, even negative correlation with other DOI measures indicating that these measures might capture some other patterns of firm internationalization.

Insert Tables 2 & 3 about here

Insert Figure 6 about here

CONCEPTUAL CONSIDERATIONS OF GOOGLE TRENDS MEASURES

The study of Venger, Puhr, and Müllner (2020) on the moderating effect of firm internationalization on firm resilience to Covid-19, shows that our Google-based internationalization measure can be used along traditional measures, as a robustness test or primary measure, yielding identical results. However, it is important to stress that the global distribution of search volumes captures a different, more market-related type of firm internationalization. This approach may be less suitable in some contexts but opens areas where internationalization cannot be captured through traditional accounting measures. The proposed measures, as such, do not neatly fit into the groups proposed by Sullivan (1994), they are neither derived from companies' transactions (performance), location of assets (structural), or mindset (attitudinal). Rather, our measures constitute a fourth set of variables that capture the footprint of the company in the global environment. When should IB researchers use Google Trends measures instead of traditional accounting-based measures? In this section of the research note, we argue that the choice of measure (traditional or Google) needs to be based on the theoretical mechanisms behind the hypothesized effects and we want to showcase some theoretical mechanisms that lend themselves to the use of Google Trends measures.

Traditional accounting-based measures are derived from companies' global operations. As such, they are superior when research questions address operational mechanisms like operational flexibility or real options. In addition, such measures are better at capturing organizational complexity and cost of coordination within a company. Finally, accounting-based measures will likely perform better when arguments relate to the organizational structure of the company (diversification or internal capital markets).

The Google Trends measures proposed in this research note are not based on the global distribution of assets or sales but the companies' recognition in the eyes of customers/investors. As such, they do not capture operational boundaries of firms but the firms' footprint in the global mindset of customers, shareholders, and stakeholders. This makes our measures particularly useful for IB studies that address mechanisms that are theoretically founded in *market-based or market-side mechanism* (as opposed to global market operation). The above-mentioned study by Venger, Puhr,

and Müllner (2020), for example, analyzes the protective effect of firm internationalization on stock prices of S&P 500 companies during the Covid-19 pandemic. Because stock prices are strongly related to investors' perception of and knowledge of the company, our measure is conceptually closer to the stock market sell-off process that is studied.

In addition to stock returns, many IB phenomena are driven by similar market-side mechanisms. Most evidently, international marketing provides a myriad of applications to test a company's international recognition, brand value etc. Signaling effects from reputation or popularity are also important theoretical components of corporate social responsibility (CSR) research. Other very promising applications in IB research that are related to non-market strategy. There, the global recognition of firms will determine the degree to which it is politically instrumentalized by host-country politicians and thus the firms' exposure to external opportunism and activism. Our measures, we argue, also reflect the diversity of a company's stakeholder audience more accurately than traditional measures of internationalization. In sum, empirical applications where the mechanism under investigation is based on market-side perception of a company (rather than physical operations) our measures, we believe, have higher validity than traditional accounting-based measures.

In addition to the theoretical mechanism studied, researchers should consider the temporal dimension when selecting a Google Trends or accounting-based measure of internationalization. As indicated before, there are conceptual and empirical differences between volume of internationalization and degree of internationalization that are particularly important when researchers study fast and dynamic processes of internationalization. While accounting-based measures make it difficult to dissect these two components, Google Trend measures provide comparable operationalization for them. In addition, accounting based measures have very long time lags as companies' internationalize. Google Trends measures capture the rapid internationalization of true born globals and fads on a daily basis, allowing researchers to better study the *dynamics of the internationalization process*. In the most extreme case Google Trends can be used to measure the internationalization effects of intra-year events like market entries, M&As, or IJVs. Yearly accounting measures, however, inevitably aggregate the effects of all internationalization steps (both in terms of volume and degree) to a yearly cross-section.

Table 2 highlights some of the differences between our measures and traditional measures of internationalization.

Insert Table 4 about here

STRENGTHS & WEAKNESSES OF GOOGLE TRENDS MEASURES

Above, we argue that Google Trends based internationalization measures are not only additions to the existing universe of measures but capture a slightly different concept of firm internationalization. In the following, we discuss some of the advantages, disadvantages, and dangers related to the measures we propose.

Admittedly, Google Trends based measures may have some empirical disadvantages or dangers. The first, and most obvious is *keyword contamination*. Search volumes for Apply Inc., for example, are likely biased from Google queries on the fruit. Thus, individual keywords may be contaminated by double meanings. This problem is less severe when the keywords are names and not generic terms. For this purpose, we recommend prior testing on the Google Trends portal and robustness checks using dummy variables for contaminated keywords or subsample analyses. A related problem can occur when companies are associated with and thus searched under several names (e.g. Google & Alphabet or Volkswagen & VW). Keyword dilution can cause the volume and degree of internationalization for a single company to be under- or overestimated.

Another problem with Google Trends measures results from *language differences* between countries. When using keyword in English, search scores are less reliable in countries where English proficiency is low. It is important to stress that such differences affect the degree of internationalization to a lower extent because it is based on the comparison of search score distributions across countries. In other words, the bias in different countries is the same for ALL companies. The volume of internationalization, on the other hand, can be severely biased, if a company is mostly recognized in a language other than English (e.g. Japanese and Chinese companies). To address such concerns, we recommend prior testing on the Google Trends portal and robustness checks using subsamples of firms' home countries or weigh internationalization measures by each country's English proficiency.

The third and final issue relates to time series normalization by Google Trends. To make search volumes for a larger number of keywords comparable, scholars must choose up to five baseline keywords that serve as reference. In Venger, Puhr, and Müllner (2020), for example, a combination of several, highly internationalized baseline keywords was used (Google, Maps, Translate, Wikipedia, Youtube). Thus, like the use of fixed effects in multivariate regressions, all internationalization measures for the companies in the sample must be interpreted relative to the joint internationalization of these baseline keywords. Ideally, the selection of good baseline

keywords will create unbiased and robust measures. If, however, scholars select baseline keywords that are highly volatile over time, uncommon or biased themselves (see point 1 and 2 before), all measures of internationalization will be biased. Therefore, we recommend prior testing on the Google Trends portal and robustness checks that address the problem using alternative baseline keywords.

Weighing against these weaknesses are striking advantages compared to traditional accounting measures. First, Google Trends offers exponentially higher *data granularity, availability, and accuracy*. Data is collected and published daily and can be downloaded for any company or keyword. As such, Google Trends measures can be applied to samples where data availability is problematic, where intra-year data is required and where existing measures are unreliable. These advantages make Google Trends data extremely versatile and opens new perspectives on firm internationalization, as outlined above, and offers entirely new, IB relevant applications that go beyond the concept of firm internationalization. We discuss some of these opportunities below.

ADDITIONAL APPLICATIONS OF THE GLOBALTRENDS PACKAGE

Google Trends data are also available on a subnational or district level. As such, IB researchers can follow firms' exposure single countries, creating a measure of *firm concentration within a country*. It is, for example, an interesting question for IB to study if firms of varying degrees of concentration within the US are affected differently by changes in in the global policy environment. Also, researchers can track firm internationalization or market entries at the country-level.

A second application of interest to IB researchers usese the granularity of Google Trends data to study *product-level internationalization*. Traditional accounting based data do not allow scholars to distinguish internationalization of individual products within a company. Using Google Trends, scholars can, for example, track the internationalization of automotive models, as opposed to companies. Beyond the applications on products, scholars can study the internationalization of persons (e.g. academics, CEOs), institutions (e.g. universities, sports clubs), ideologies and movements (e.g. CSR, populism), fads & fashions (e.g. the Ice Bucket Challenge). We provide some illustrative examples of these uses in Figures A4 to A10.

The daily granularity of the data could be used to study the *dynamics of internationalization* in much more detail. Though currently not part of the globaltrends package (Puhr, 2020), downloads of daily data would IB allow researchers to create abnormal returns of internationalization and study the effects of varying internationalization strategies (e.g. M&A, IJVs). Focusing on the first derivative of the time series, provides IB researchers with a novel measure for speed of

internationalization. The time series' standard deviation can be interpreted as a volatility measure for internationalization. Comparing the dynamics of time series allows researchers to compute dyadic entropies between firms or countries and develop distance measures. Entropy measures how much joint information two timelines share and can be used to measure how closely (or distantly) two firms or countries are in the global mindset captured by Google Trends. Thus, Google Trends can be an interesting data source to calculate firm and country-level distances.

Finally, the globaltrends package (Puhr, 2020) as of now does not distinguish Google Trends time series in a geographic sense. In other words, countries are treated as categorical buckets without consideration of geographical location or colocation. Including such geographical data, would allow IB researchers to map *firms regional imprints* potentially contributing to the regionalization literature in IB (Rugman & Verbeke, 2004). Similar to the entropy measures, these footprints could be applied to firm dyads, assessing the structural similarity of firms. Studying how many markets different firms share, and how theses primary markets overlap would provide an indication how structurally similar firms are.

DISCUSSION AND CONCLUSION

Our research note accompanies the globaltrends R package (Puhr, 2020) and introduces two novel and uniquely versatile measure of firm internationalization based on Google Trends. More specifically, we propose to use the globaltrends R package (Puhr, 2020) to measure firms' volume of internationalization and degree of internationalization. The measures can be used as more readily available substitutes for traditional, accounting-based measures as illustrated in Venger, Puhr, and Müllner (2020).

However, we also argue that these measures are not mere substitutes but complement the universe of measures available, by capturing a market-side internationalization or exposure of firms. As such, our measures are more suitable to capture theoretical mechanisms of market-side exposure or signaling processes in international business than accounting-based measures which capture the internationalization of companies operations but not necessarily the recognition across the globe. In addition, we argue that the responsive nature of Google Trends time series allows them to capture the dynamics of rapid internationalization and de-internationalization processes more reliably than accounting-based measures.

In addition to introducing and discussing the two measures proposed, we highlight the unique versatility of Google Trends based measures for IB scholarship and beyond. We propose additional potential applications of the globaltrends R package (Puhr, 2020) to measure firms'

concentration within countries. Applying our measures beyond firm internationalization, IB researchers could study the internationalization of products, persons, ideas, events, fads, or scandals, even academic authors and papers. Finally, the data granularity, availability, and accuracy of Google Trends opens entirely new methodologies for IB researchers, such as event study approaches or time series analysis.

REFERENCES

Bangwayo-Skeete, P. F. & Skeete, R. W. 2015. Can Google data improve the forecasting performance of tourist arrivals? Mixed-data sampling approach. *Tourism Management*, 46: 454-64.

Bokelmann, B. & Lessmann, S. 2019. Spurious patterns in Google Trends data - An analysis of the effects on tourism demand forecasting in Germany. *Tourism Management*, 75: 1-12.

Bühner, R. 1987. Assessing international diversification of West German corporations. *Strategic Management Journal*, 8(1): 25-37.

Castelnuovo, E. & Tran, T. D. 2017. Google It Up! A Google Trends-based Uncertainty index for the United States and Australia. *Economics Letters*, 161: 149-53.

Choi, H. Y. & Varian, H. 2012. Predicting the Present with Google Trends. *Economic Record*, 88: 2-9.

Dorobantu, S. & Mullner, J. 2019. Debt-side governance and the geography of project finance syndicates. *Journal of Corporate Finance*, 57: 161-79.

Du, R. Y., Hu, Y., & Damangir, S. 2015. Leveraging Trends in Online Searches for Product Features in Market Response Modeling. *Journal of Marketing*, 79(1): 29-43.

Economist, T. 2017. The lessons of fidget spinner: Fidget revolution, *The Economist*. London.

Fisch, J. H. 2011. Information Cost and Internationalization Performance. *Strategic Management Journal*, forthcoming.

Fortuna, F., Maturo, F., & Di Battista, T. 2018. Clustering functional data streams: Unsupervised classification of soccer top players based on Google trends. *Quality and Reliability Engineering International*, 34(7): 1448-60.

Gift, P. 2018. Moving the needle in MMA: On the marginal revenue product of UFC fighters. *Forthcoming, Journal of Sports Economics*.

Gruszczynski, M. 2019. Evidence of partisan agenda fragmentation in the American public, 1959–2015. *Public Opinion Quarterly*, 83(4): 749-81.

Hitt, M. A., Hoskisson, R. E., & Kim, H. 1997. International Diversification: effects on innovation and firm performance in product-diversified firms. *Academy of Management Journal*, 40(4): 767-98.

Hu, Y., Du, R. Y., & Damangir, S. 2014. Decomposing the Impact of Advertising: Augmenting Sales with Online Search Data. *Journal of Marketing Research*, 51(3): 300-19.

Jun, S.-P., Yeom, J., & Son, J.-K. 2014. A study of the method using search traffic to analyze new technology adoption. *Technological Forecasting and Social Change*, 81: 82-95.

Kam, J., Stowers, K., & Kim, S. 2019. Monitoring of Drought Awareness from Google Trends: A Case Study of the 2011–17 California Drought. *Weather, Climate, and Society*, 11(2): 419-29.

Law, R., Li, G., Fong, D. K. C., & Han, X. 2019. Tourism demand forecasting: A deep learning approach. *Annals of Tourism Research*, 75: 410-23.

Marshall, V. B., Brouthers, L. E., & Keig, D. L. 2020. RIMS: A new approach to measuring firm internationalization. *Journal of International Business Studies*, 51(7): 1133-41.

Mavragani, A. & Tsagarakis, K. P. 2016. YES or NO: Predicting the 2015 GReferendum results using Google Trends. *Technological Forecasting and Social Change*, 109: 1-5.

Mellon, J. 2013. Where and when can we use Google Trends to measure issue salience? *PS: Political Science & Politics*, 46(2): 280-90.

Nuti, S. V., Wayda, B., Ranasinghe, I., Wang, S. S., Dreyer, R. P., Chen, S. I., & Murugiah, K. 2014. The Use of Google Trends in Health Care Research: A Systematic Review. *Plos One*, 9(10).

Önder, I. 2017. Forecasting tourism demand with Google trends: Accuracy comparison of countries versus cities. *International Journal of Tourism Research*, 19(6): 648-60.

Preis, T., Moat, H. S., & Stanley, H. E. 2013. Quantifying Trading Behavior in Financial Markets Using Google Trends. *Scientific Reports*, 3.

Puhr, H. 2020. globaltrends v.0.0.4- Measure global trends with Google Trends In https://github.com/ha-pu/globaltrends, R Package -, (Ed.).

Rashid, B. 2017. How these two 17-year-olds are cashing in on the fidget spinners everyone is talking about, *Forbes Magazine*. New York.
Rugman, A. M. & Verbeke, A. 2004. A perspective on regional and global strategies of multinational enterprises. *Journal of International Business Studies*, 35(1): 3-18.
Sherman-Morris, K., Senkbeil, J., & Carver, R. 2011. Who's Googling What? What Internet Searches Reveal about Hurricane Information Seeking. *Bulletin of the American Meteorological Society*, 92(8): 975-85.
Sullivan, D. 1994. Measuring the degree of internationalization of a firm. *Journal of International Business Studies*, 25(2): 325-42.
Venger, O., Puhr, H., & Müllner, J. 2020. MNE Internationalization and Resilience to the Covid-19 Pandemic, *Working Paper*. Vienna: Vienna University of Economics and Business.
Vlastakis, N. & Markellos, R. N. 2012. Information demand and stock market volatility. *Journal of Banking & Finance*, 36(6): 1808-21.
Vosen, S. & Schmidt, T. 2011. Forecasting private consumption: survey-based indicators vs. Google trends. *Journal of forecasting*, 30(6): 565-78.
Yang, X., Pan, B., Evans, J. A., & Lv, B. F. 2015. Forecasting Chinese tourist volume with search engine data. *Tourism Management*, 46: 386-97.

Table 1: Overview of disciplines using Google Trends

Discipline	Nr. Papers
Health	545
Economics	108
Social Science	63
Business	41
Tourism	32
Political Science	20
Education	12
Psychology	8
Ecology	7
Computer Science	5
Sports	5
Meteorology	3
Biology	3
Geography	3
Grand Total	**855**

Table 2: Descriptive statistics for VOI and DOI measures for S&P 500

Parameter	Adjustment	Mean	SD	Min	Max
VOI	Observed-values	0.005	0.059	0.00001	1.314
VOI	Season-adjusted	0.005	0.059	0.00003	1.313
VOI	Trend-only	0.005	0.058	0.00004	1.291
DOI Gini	Observed-values	0.290	0.190	0.002	0.779
DOI Gini	Season-adjusted	0.319	0.185	0.008	0.781
DOI Gini	Trend-only	0.353	0.198	0.008	0.805
DOI HHI	Observed-values	0.793	0.231	0	0.979
DOI HHI	Season-adjusted	0.845	0.183	0	0.979
DOI HHI	Trend-only	0.857	0.182	0	0.980
DOI Entropy	Observed-values	-0.375	0.309	-1.638	0
DOI Entropy	Season-adjusted	-0.567	0.288	-1.908	0
DOI Entropy	Trend-only	-0.467	0.305	-1.919	0

Table 3: Correlation table for VOI and DOI measures for S&P 500

	Parameter	12	11	10	9	8	7	6	5	4	3	2	1
1	VOI_{OBS}	0.063	0.089	0.036	0.047	0.051	0.058	0.151	0.167	0.173	1.000	1.000	1
2	VOI_{SAD}	0.063	0.089	0.035	0.047	0.051	0.058	0.151	0.167	0.173	1.000	1	
3	VOI_{TRD}	0.063	0.089	0.035	0.047	0.051	0.058	0.152	0.168	0.174	1		
4	DOI $Gini_{OBS}$	0.065	0.075	-0.329	0.583	0.603	0.690	0.974	0.985	1			
5	DOI $Gini_{SAD}$	0.021	0.033	-0.319	0.632	0.655	0.679	0.993	1				
6	DOI $Gini_{TRD}$	0.041	0.024	-0.333	0.659	0.677	0.717	1					
7	DOI HHI_{OBS}	0.027	-0.116	-0.373	0.875	0.863	1						
8	DOI HHI_{SAD}	-0.114	-0.193	-0.257	0.997	1							
9	DOI HHI_{TRD}	-0.076	-0.171	-0.235	1								
10	DOI $Entropy_{OBS}$	0.767	0.819	1									
11	DOI $Entropy_{SAD}$	0.960	1										
12	DOI $Entropy_{TRD}$	1											

Table 4: Areas of application of accounting –based and Google Trends-based measures of internationalization

Accounting-based measures	Google Trends-based measures
Primary theoretical mechanisms	
Operational flexibility (e.g. real options, internal capital markets)	Market-based mechanisms(e.g. stock-price reactions)
Operational complexity (e.g. costs of coordination)	Signalling-based mechanisms (e.g. brand, reputation, popularity))
Organizational structure (e.g. subsidiary network)	Stakeholder diversity (e.g. stakeholder network)
International diversification (e.g. political risk diversification)	Global exposure (e.g. visibility, recognition, political risk salience)
Temporal orientation	
Static internationalization status (e.g. operational footprint)	Internationalization dynamics (e.g. rapid internationalization, de-internationalization)

Figure 1: Google Trends-related publications (Web of Science + PubMed)

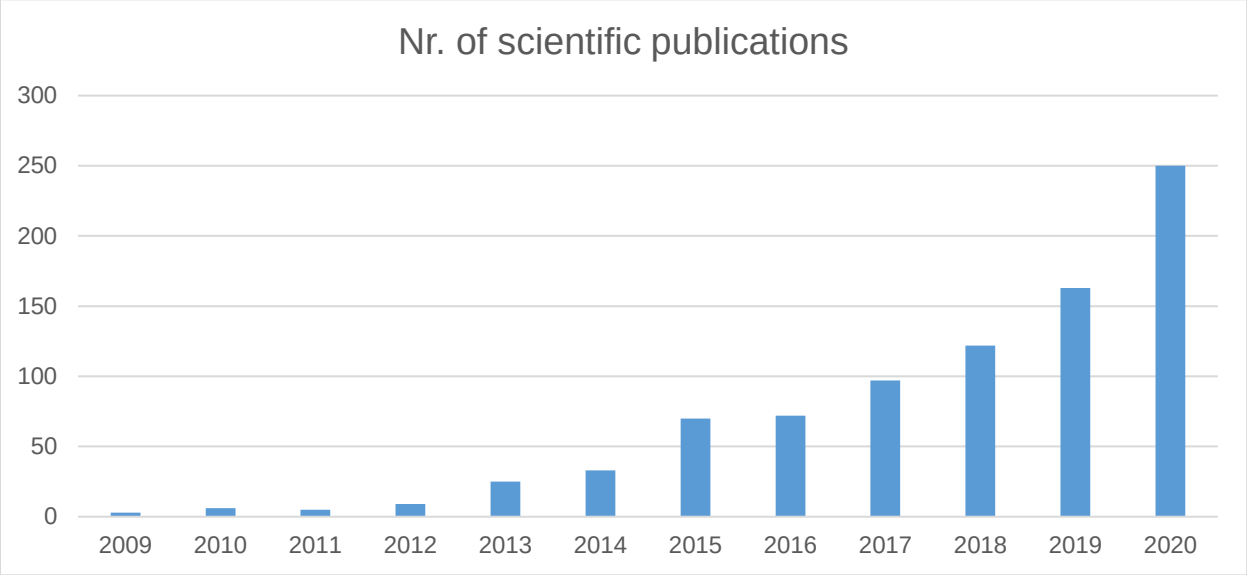


Figure 2: Web of science & Pub Med word bigram

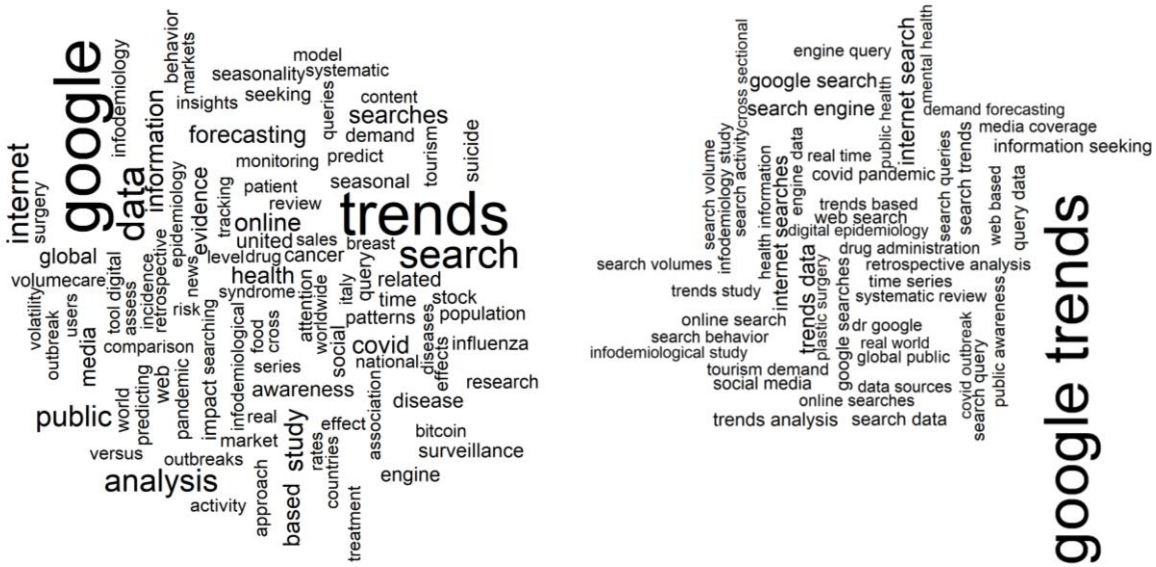


Figure 3: VOI and DOI of the Fidget Spinner

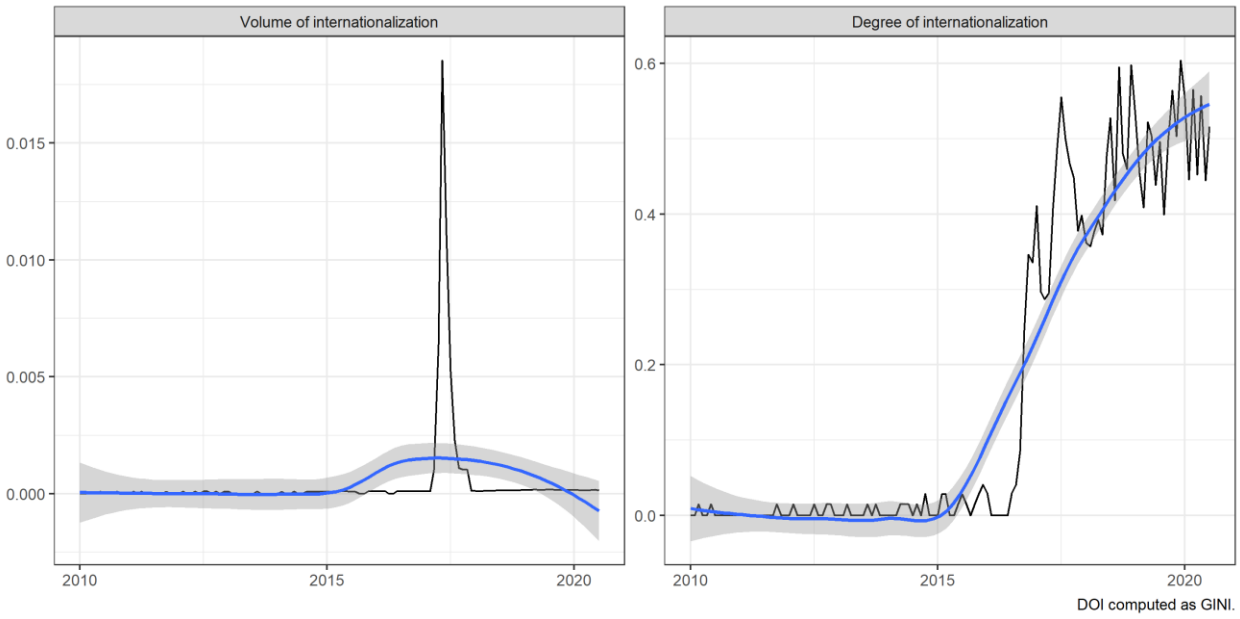


Figure 4: Exemplary distributions of DOI

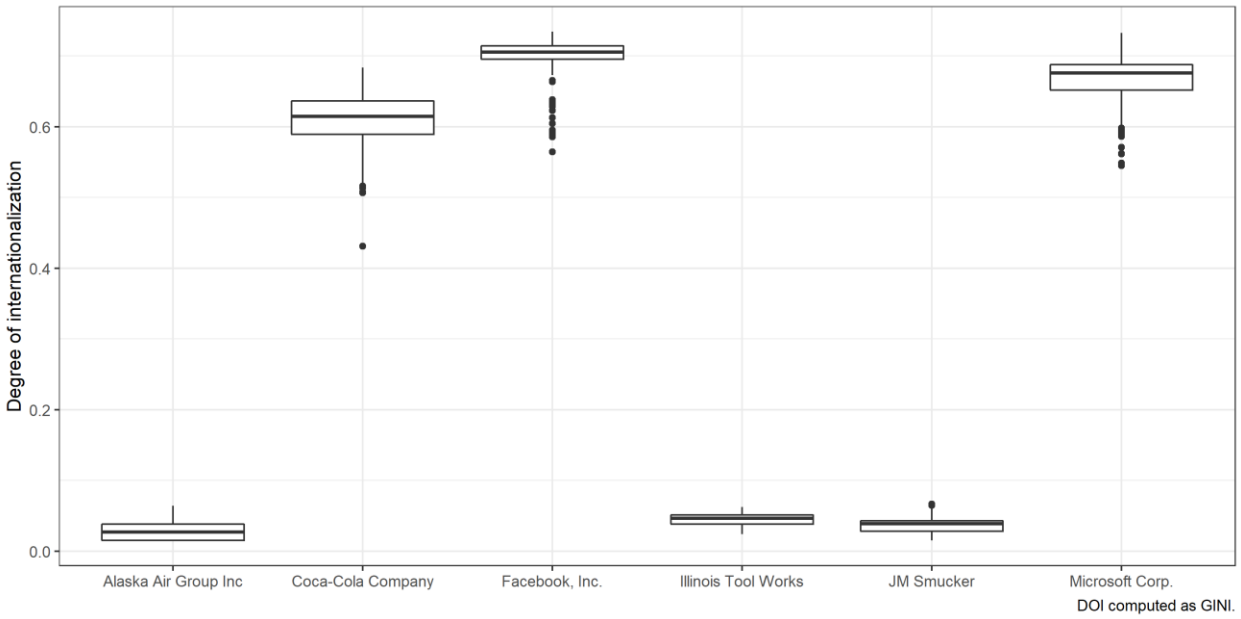


Figure 5: Exemplary time series of DOI

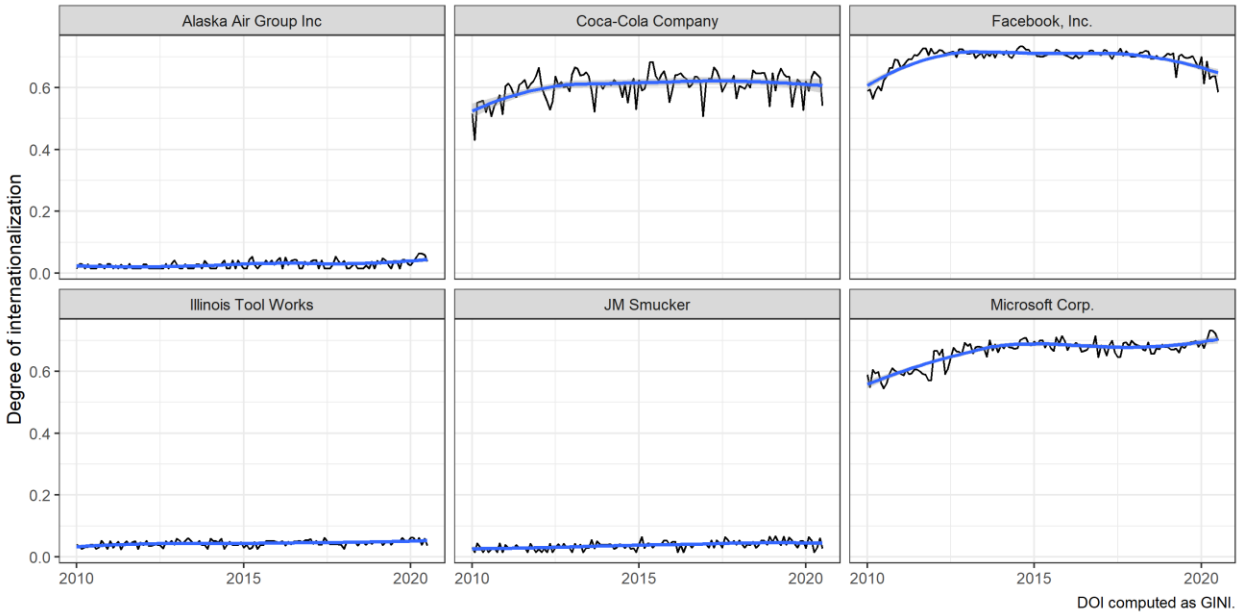
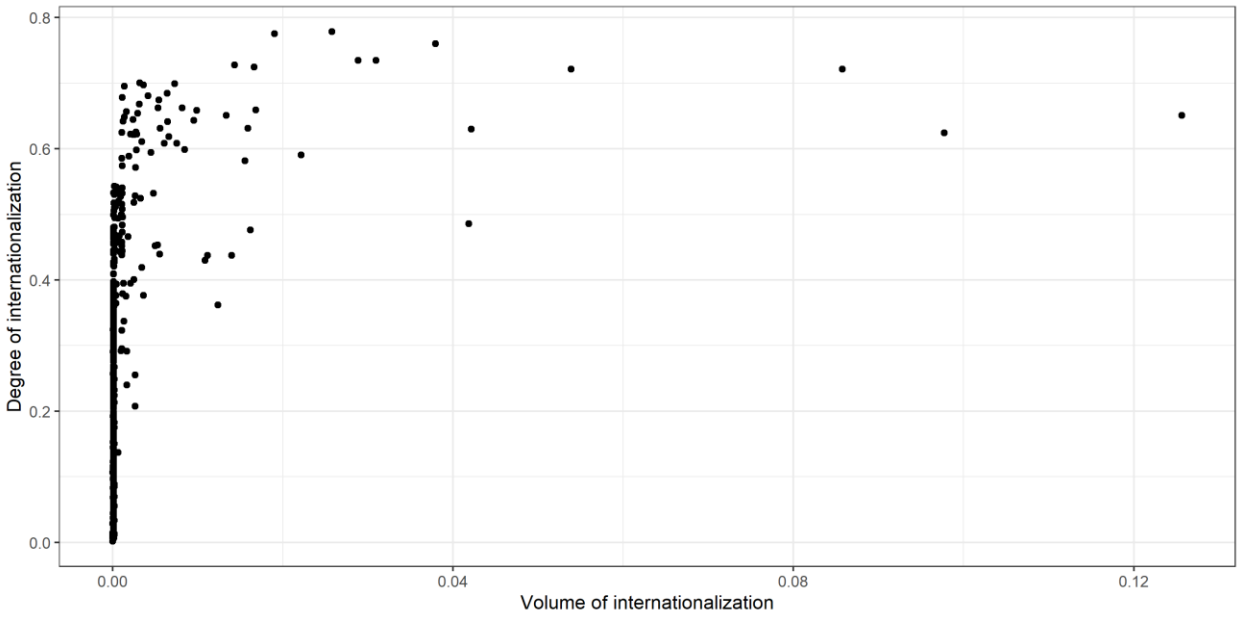


Figure 6: Scatter plot of average VOI and DOI for S&P 500



Appendix

Figure A1: Across and within country search scores of the Fidget Spinner

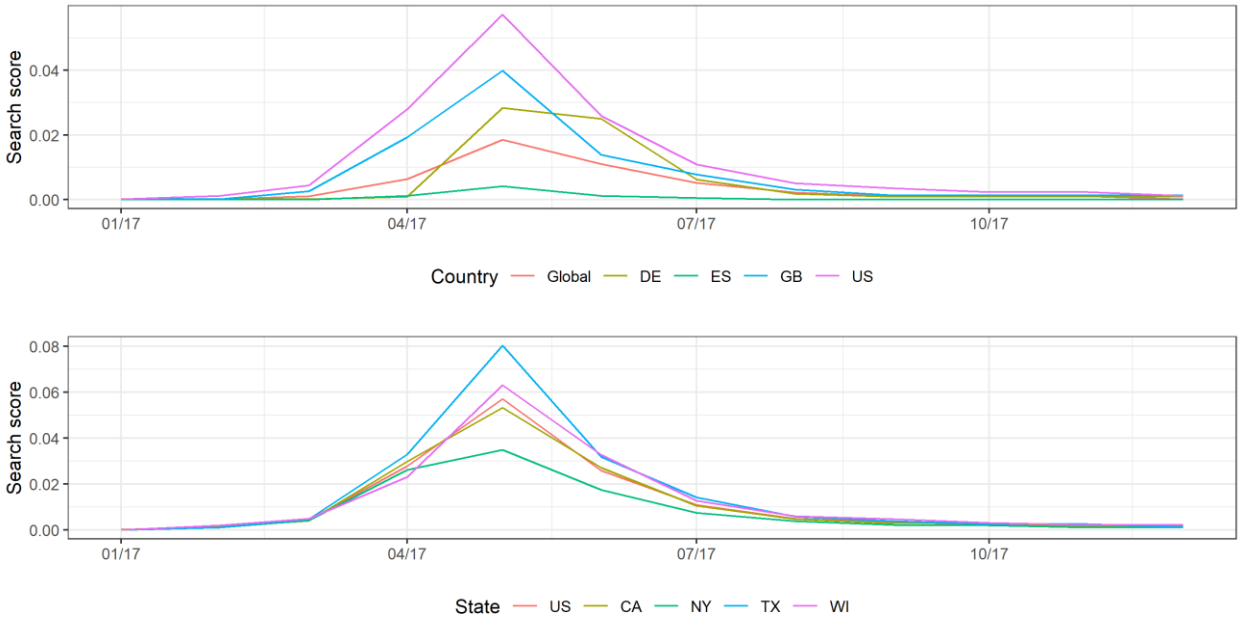


Figure A2: Observed, season-adjusted, and trend-only search scores of Coca-Cola

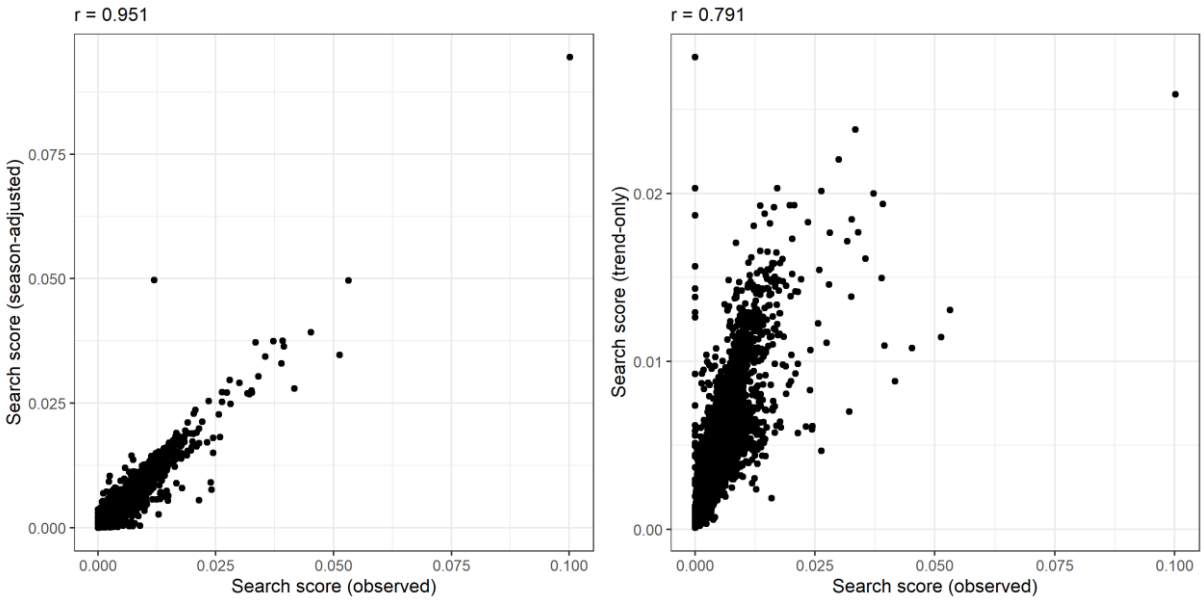


Figure A3: DOI of Coca-Cola based on Gini coefficient, HHI, and entropy

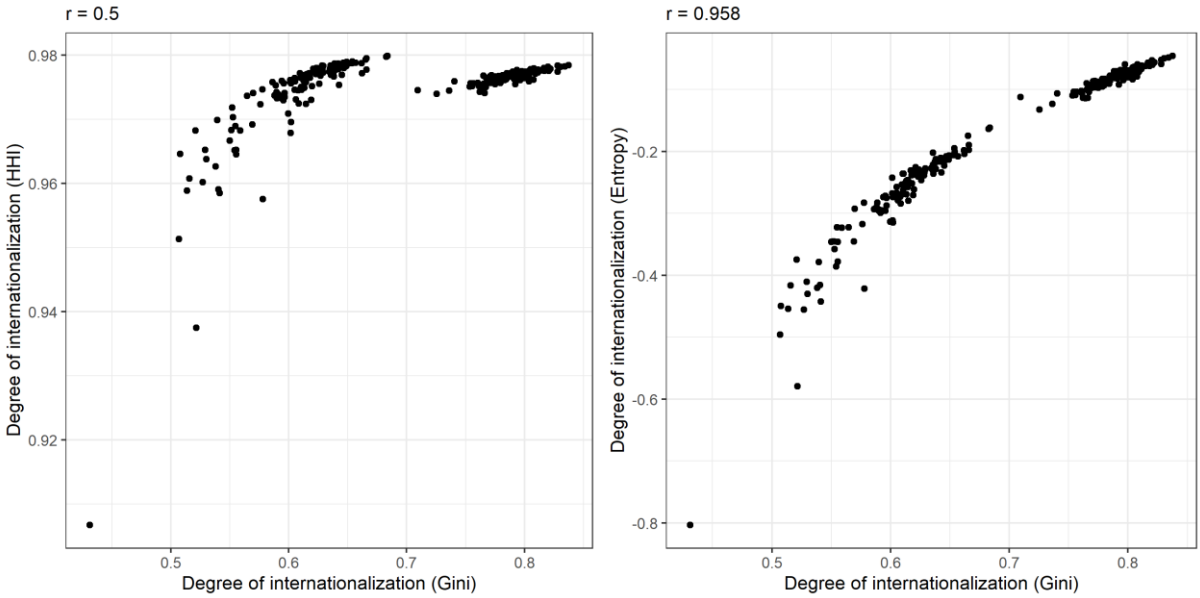


Figure A4: DOI on a product level using car models

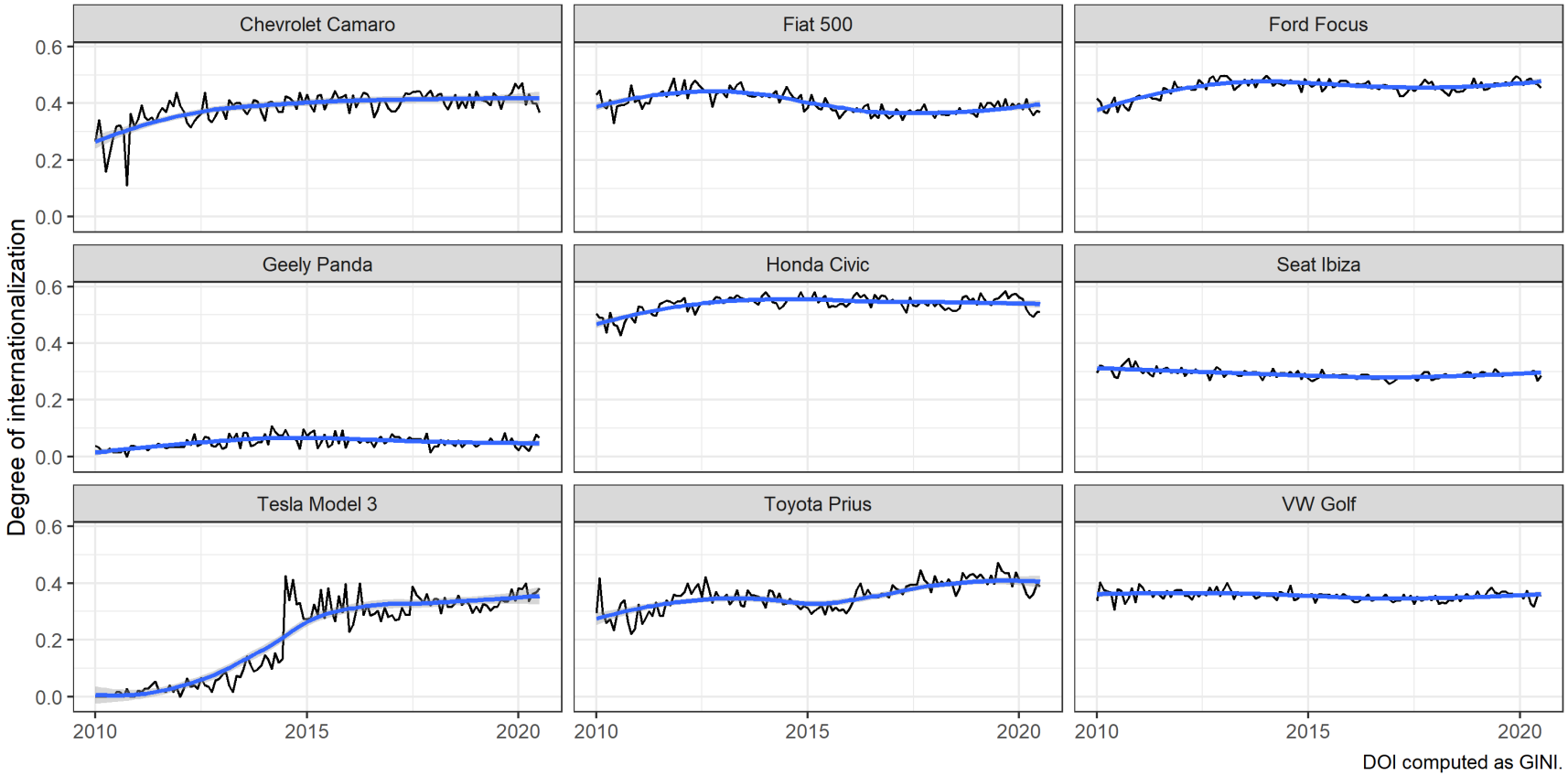


Figure A5: DOI on a product level using electronic gadgets

Figure A6: DOI for non-traditional economic actors with the example of soccer clubs

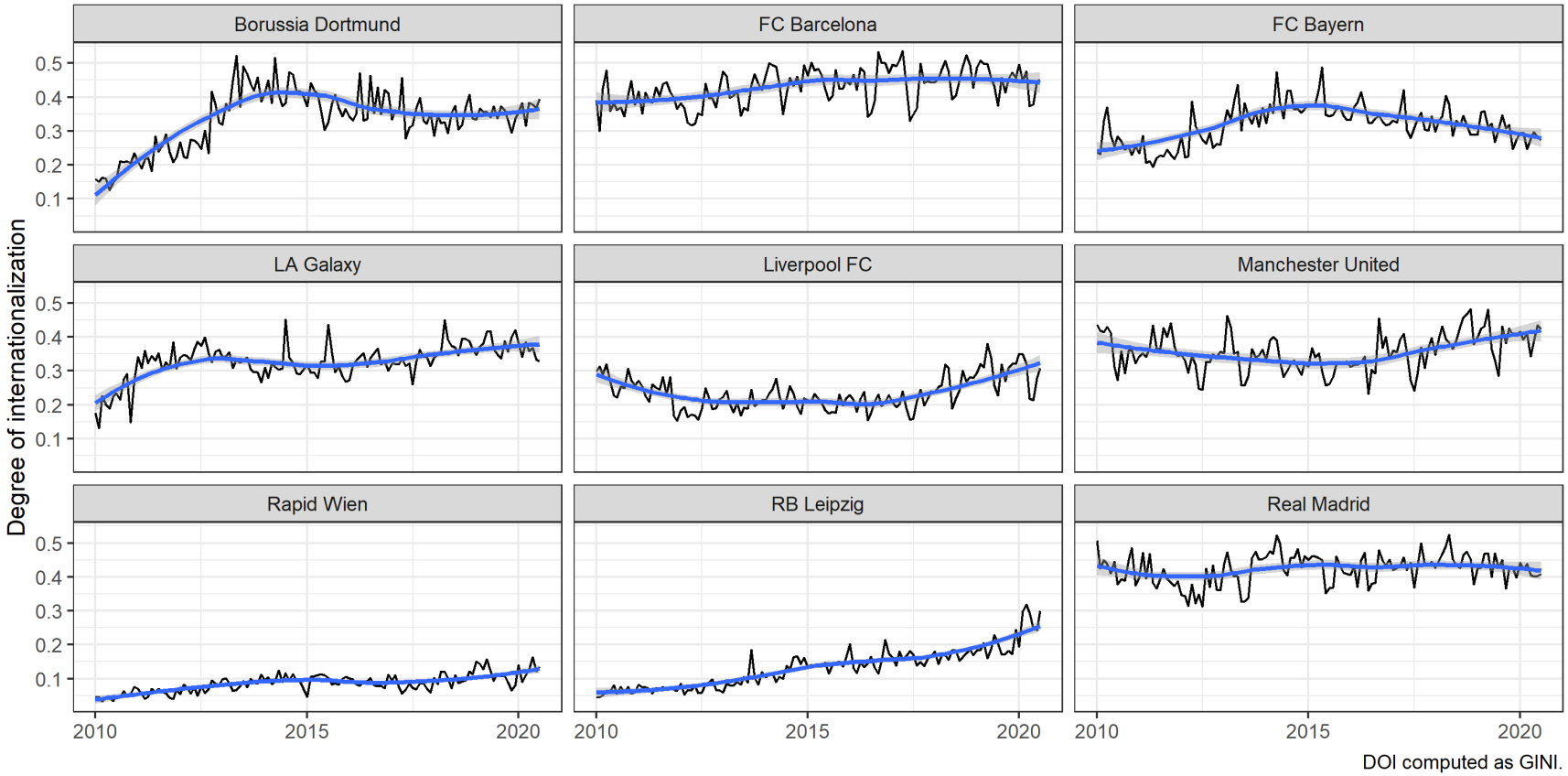


Figure A7: DOI for non-traditional economic actors with the example of universities

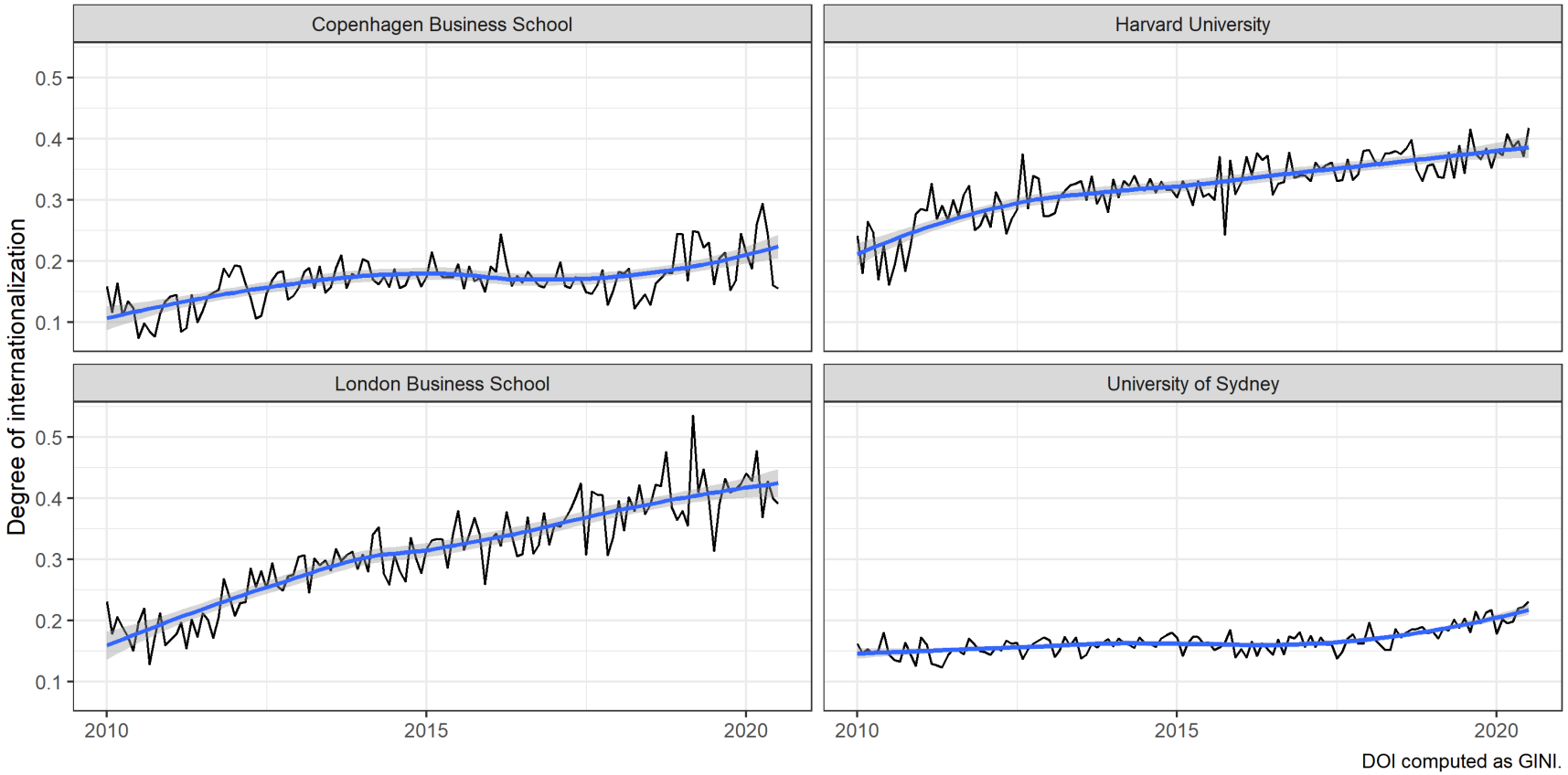


Figure A8: DOI for persons using soccer players

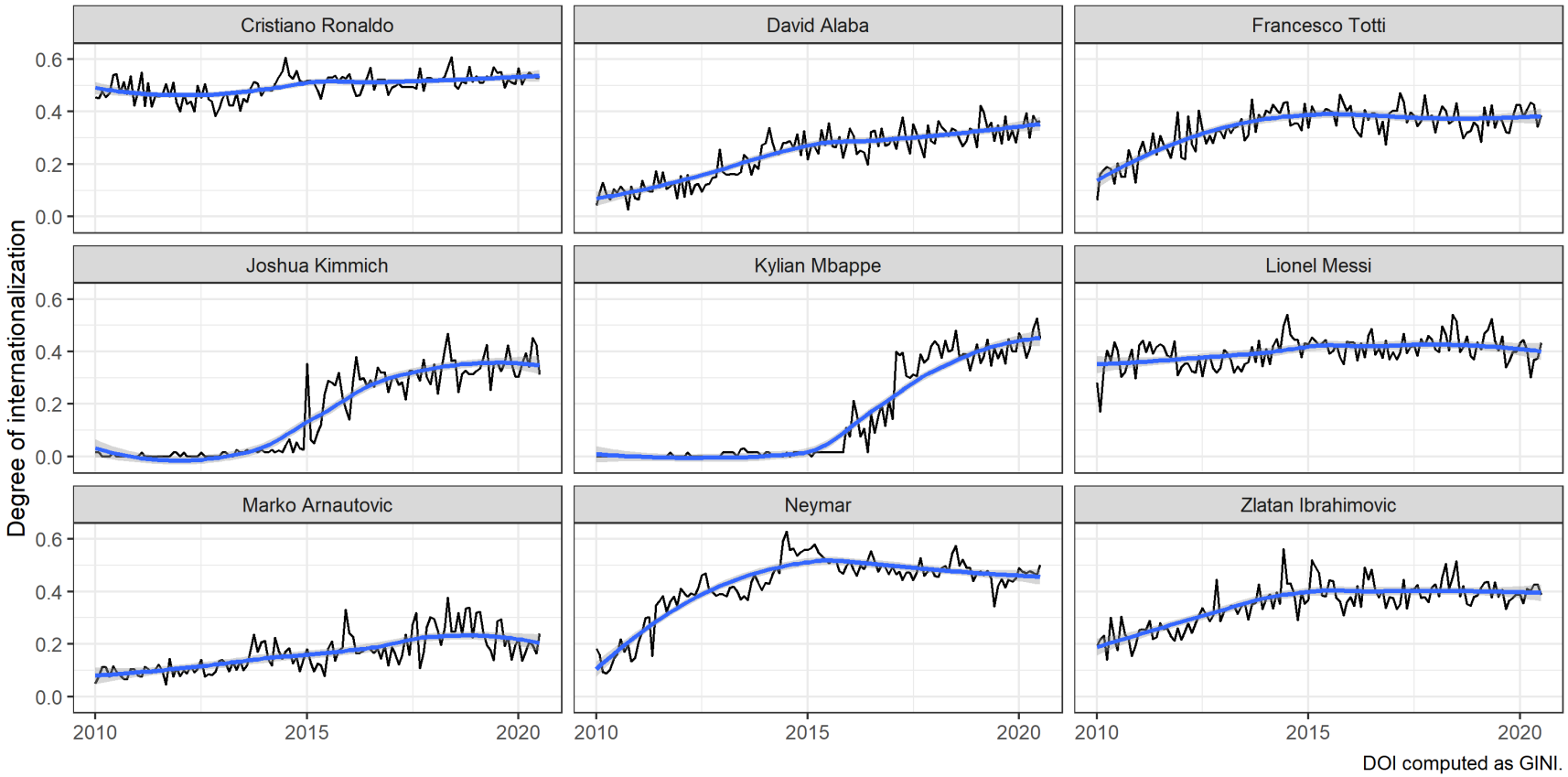


Figure A9: DOI for persons using academic researchers

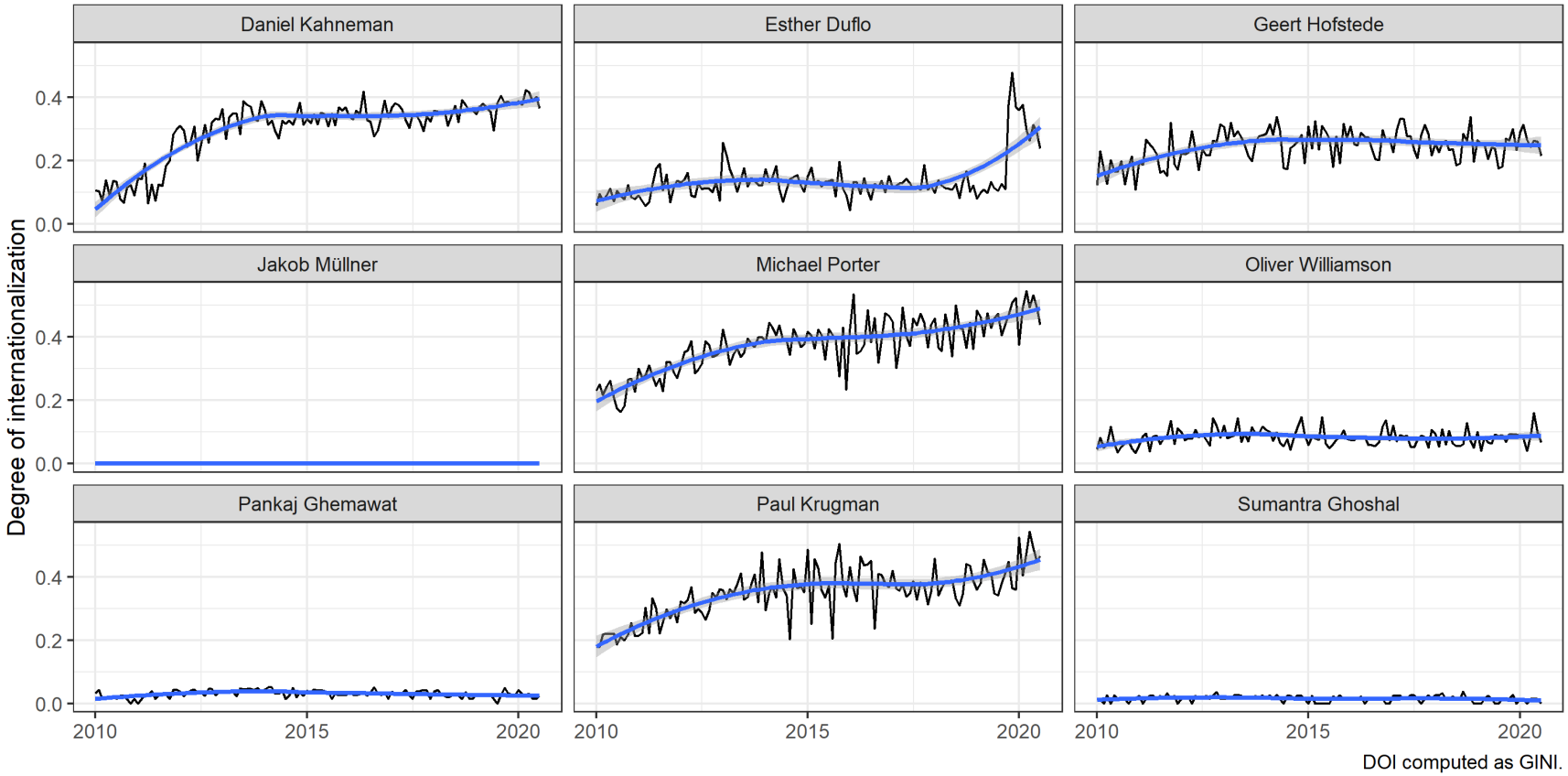


Figure A10: Examples of extreme internationalization processes or fads

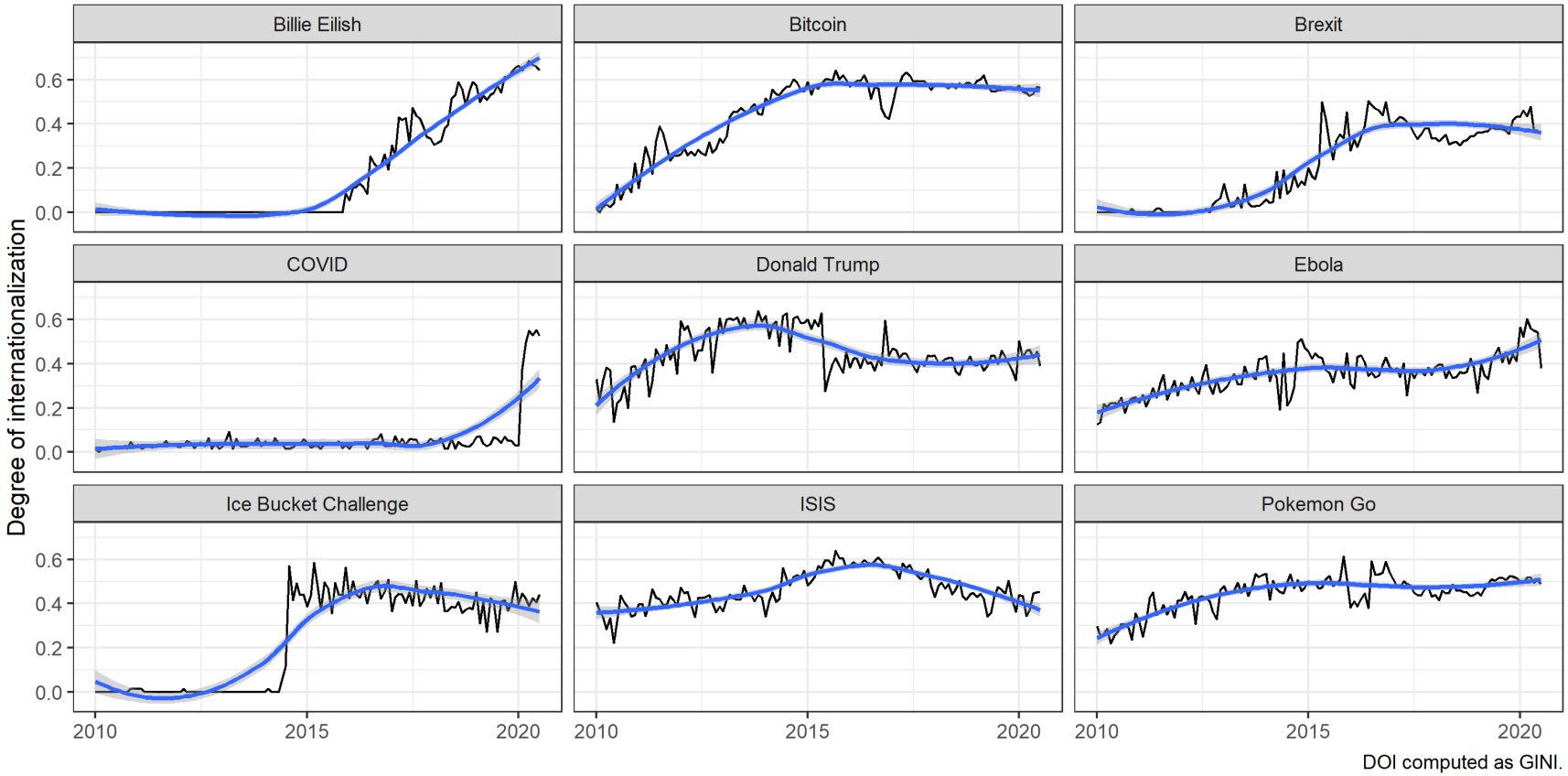
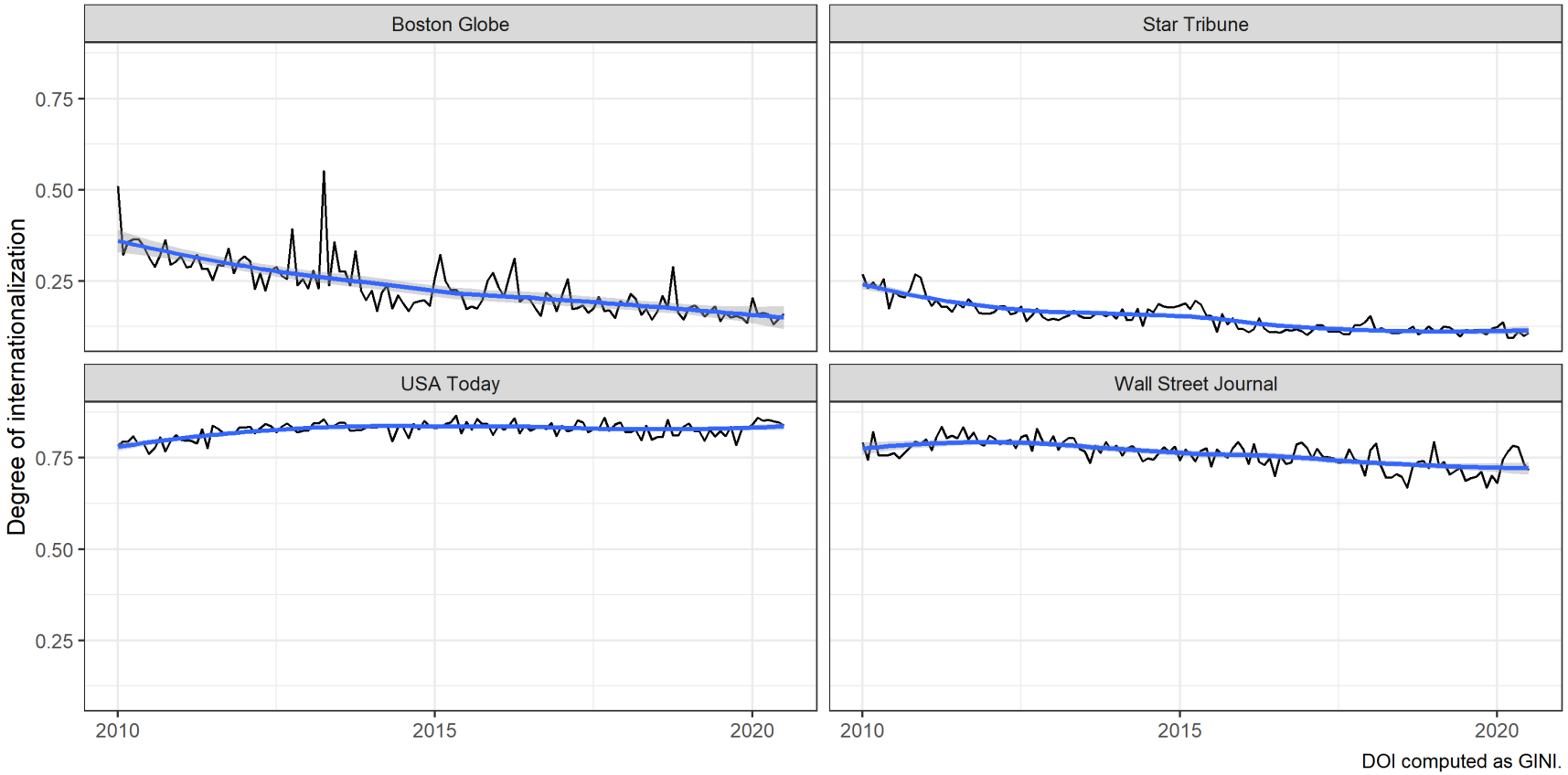


Figure A11: Subnational uses of DOI using newspapers



The graph shows within country distribution or proliferation of search queries for US newspapers.

Table A1: Academic article overview 2000-2020 in Web of Science & Pub Med

Title	Authors	Journal/Source	Year	Vol.	Iss.	Citations	Cit./Year
Predicting the Present with Google Trends	Choi, Hyunyoung; Varian, Hal	ECONOMIC RECORD	2012	88		629	69.89
Quantifying Trading Behavior in Financial Markets Using Google Trends	Preis, Tobias; Moat, Helen Susannah; Stanley, H. Eugene	SCIENTIFIC REPORTS	2013	3		280	35
The Use of Google Trends in Health Care Research: A Systematic Review	Nuti, Sudhakar V.; Wayda, Brian; Ranasinghe, Isuru; Wang, Sisi; Dreyer, Rachel P.; Chen, Serene I.; Murugiah, Karthik	PLOS ONE	2014	9	10	225	32.14
BitCoin meets Google Trends and Wikipedia: Quantifying the relationship between phenomena of the Internet era	Kristoufek, Ladislav	SCIENTIFIC REPORTS	2013	3		192	24
Forecasting Private Consumption: Survey-Based Indicators vs. Google Trends	Vosen, Simeon; Schmidt, Torsten	JOURNAL OF FORECASTING	2011	30	6	174	17.4
Information demand and stock market volatility	Vlastakis, Nikolaos; Markellos, Raphael N.	JOURNAL OF BANKING & FINANCE	2012	36	6	153	17
Forecasting Chinese tourist volume with search engine data	Yang, Xin; Pan, Bing; Evans, James A.; Lv, Benfu	TOURISM MANAGEMENT	2015	46		134	22.33
Can Google data improve the forecasting performance of tourist arrivals? Mixed-data sampling approach	Bangwayo-Skeete, Prosper F.; Skeete, Ryan W.	TOURISM MANAGEMENT	2015	46		109	18.17
The utility of Google Trends for epidemiological research: Lyme disease as an example	Seifter, Ari; Schwarzwalder, Alison; Geis, Kate; Aucott, John	GEOSPATIAL HEALTH	2010	4	2	109	9.91
Big data in tourism research: A literature review	Li, Jingjing; Xu, Lizhi; Tang, Ling; Wang, Shouyang; Li, Ling	TOURISM MANAGEMENT	2018	68		86	28.67
Google search patterns suggest declining interest in the environment	Mccallum, Malcolm L.; Bury, Gwendolyn W.	BIODIVERSITY AND CONSERVATION	2013	22	6-7	76	9.5
Characteristics of Bitcoin users: an analysis of Google search data	Yelowitz, Aaron; Wilson, Matthew	APPLIED ECONOMICS LETTERS	2015	22	13	73	12.17
Nowcasting with Google Trends in an Emerging Market	Carriere-Swallow, Yan; Labbe, Felipe	JOURNAL OF FORECASTING	2013	32	4	70	8.75
Media Influences on Social Outcomes: The Impact of MTV's 16 and Pregnant on Teen Childbearing	Kearney, Melissa S.; Levine, Phillip B.	AMERICAN ECONOMIC REVIEW	2015	105	12	59	9.83
Measuring economic uncertainty and its impact on the stock market	Dzielinski, Michal	FINANCE RESEARCH LETTERS	2012	9	3	55	6.11
Google searches and stock returns	Bijl, Laurens; Kringhaug, Glenn; Molnar, Peter; Sandvik, Eirik	INTERNATIONAL REVIEW OF FINANCIAL ANALYSIS	2016	45		54	10.8
Can Google Trends search queries contribute to risk diversification?	Kristoufek, Ladislav	SCIENTIFIC REPORTS	2013	3		49	6.13
Is Google Trends a reliable tool for digital epidemiology? Insights from different clinical settings	Cervellin, Gianfranco; Comelli, Ivan; Lippi, Giuseppe	JOURNAL OF EPIDEMIOLOGY	2017	7	3	48	12

Title	Authors	Journal/Source	Year	Vol.	Iss.	Citations	Cit./Year
		AND GLOBAL HEALTH					
Forecasting Destination Weekly Hotel Occupancy with Big Data	Pan, Bing; Yang, Yang	JOURNAL OF TRAVEL RESEARCH	2017	56	7	48	12
Oil financialization and volatility forecast: Evidence from multidimensional predictors	Ma, Yan-ran; Ji, Qiang; Pan, Jiaofeng	JOURNAL OF FORECASTING	2019	38	6	43	21.5
Analysis of the Capacity of Google Trends to Measure Interest in Conservation Topics and the Role of Online News	Nghiem, Le T. P.; Papworth, Sarah K.; Lim, Felix K. S.; Carrasco, Luis R.	PLOS ONE	2016	11	3	42	8.4
Searching for the picture: forecasting UK cinema admissions using Google Trends data	Hand, Chris; Judge, Guy	APPLIED ECONOMICS LETTERS	2012	19	11	42	4.67
A dynamic linear model to forecast hotel registrations in Puerto Rico using Google Trends data	Rivera, Roberto	TOURISM MANAGEMENT	2016	57		40	8
Do American States with More Religious or Conservative Populations Search More for Sexual Content on Google?	MacInnis, Cara C.; Hodson, Gordon	ARCHIVES OF SEXUAL BEHAVIOR	2015	44	1	40	6.67
Skip the Trip: Air Travelers' Behavioral Responses to Pandemic Influenza	Fenichel, Eli P.; Kuminoff, Nicolai V.; Chowell, Gerardo	PLOS ONE	2013	8	3	37	4.63
Novel surveillance of psychological distress during the great recession	Ayers, John W.; Althouse, Benjamin M.; Allem, Jon-Patrick; Childers, Matthew A.; Zafar, Waleed; Latkin, Carl; Ribisl, Kurt M.; Brownstein, John S.	JOURNAL OF AFFECTIVE DISORDERS	2012	142	1-3	37	4.11
Exploring new web-based tools to identify public interest in science	Baram-Tsabari, Ayelet; Segev, Elad	PUBLIC UNDERSTANDING OF SCIENCE	2011	20	1	37	3.7
Short-term forecasting of Japanese tourist inflow to South Korea using Google trends data	Park, Sangkon; Lee, Jungmin; Song, Wonho	JOURNAL OF TRAVEL & TOURISM MARKETING	2017	34	3	36	9
Daily happiness and stock returns: Some international evidence	Zhang, Wei; Li, Xiao; Shen, Dehua; Teglio, Andrea	PHYSICA A-STATISTICAL MECHANICS AND ITS APPLICATIONS	2016	460		35	7
Does twitter predict Bitcoin?	Shen, Dehua; Urquhart, Andrew; Wang, Pengfei	ECONOMICS LETTERS	2019	174		34	17
Can internet searches forecast tourism inflows?	Artola, Concha; Pinto, Fernando; de Pedraza Garcia, Pablo	INTERNATIONAL JOURNAL OF MANPOWER	2015	36	1	33	5.5
Data Mining From Web Search Queries: A Comparison of Google Trends and Baidu Index	Vaughan, Liwen; Chen, Yue	JOURNAL OF THE ASSOCIATION FOR INFORMATION SCIENCE AND TECHNOLOGY	2015	66	1	33	5.5

Title	Authors	Journal/Source	Year	Vol.	Iss.	Citations	Cit./Year
Retail investor attention and stock liquidity	Ding, Rong; Hou, Wenxuan	JOURNAL OF INTERNATIONAL FINANCIAL MARKETS INSTITUTIONS & MONEY	2015	37		32	5.33
Everything you always wanted to know about log-periodic power laws for bubble modeling but were afraid to ask	Geraskin, Petr; Fantazzini, Dean	EUROPEAN JOURNAL OF FINANCE	2013	19	5	32	4
A Structured Analysis of Unstructured Big Data by Leveraging Cloud Computing	Liu, Xiao; Singh, Param Vir; Srinivasan, Kannan	MARKETING SCIENCE	2016	35	3	31	6.2
Decomposing the Impact of Advertising: Augmenting Sales with Online Search Data	Hu, Ye; Du, Rex Yuxing; Damangir, Sina	JOURNAL OF MARKETING RESEARCH	2014	51	3	31	4.43
Social media analytics: Extracting and visualizing Hilton hotel ratings and reviews from TripAdvisor	Chang, Yung-Chun; Ku, Chih-Hao; Chen, Chun-Hung	INTERNATIONAL JOURNAL OF INFORMATION MANAGEMENT	2019	48		30	15
Tourism demand forecasting: A deep learning approach	Law, Rob; Li, Gang; Fong, Davis Ka Chio; Han, Xin	ANNALS OF TOURISM RESEARCH	2019	75		30	15
Leveraging Trends in Online Searches for Product Features in Market Response Modeling	Du, Rex Yuxing; Hu, Ye; Damangir, Sina	JOURNAL OF MARKETING	2015	79	1	29	4.83
Where and When Can We Use Google Trends to Measure Issue Salience?	Mellon, Jonathan	PS-POLITICAL SCIENCE & POLITICS	2013	46	2	29	3.63
Ten years of research change using Google Trends: From the perspective of big data utilizations and applications	Jun, Seung-Pyo; Yoo, Hyoung Sun; Choi, San	TECHNOLOGICAL FORECASTING AND SOCIAL CHANGE	2018	130		28	9.33
Investor sentiment and the price of oil	Qadan, Mahmoud; Nama, Hazar	ENERGY ECONOMICS	2018	69		28	9.33
Forecasting volatility with empirical similarity and Google Trends	Hamid, Alain; Heiden, Moritz	JOURNAL OF ECONOMIC BEHAVIOR & ORGANIZATION	2015	117		28	4.67
Forecasting unemployment with internet search data: Does it help to improve predictions when job destruction is skyrocketing?	Rosalia Vicente, Maria; Lopez-Menendez, Ana J.; Perez, Rigoberto	TECHNOLOGICAL FORECASTING AND SOCIAL CHANGE	2015	92		28	4.67
Assessing the Methods, Tools, and Statistical Approaches in Google Trends Research: Systematic Review	Mavragani, Amaryllis; Ochoa, Gabriela; Tsagarakis, Konstantinos P.	JOURNAL OF MEDICAL INTERNET RESEARCH	2018	20	11	27	9
Technology-push and demand-pull factors in emerging sectors: evidence from the electric vehicle market	Choi, Hyundo	INDUSTRY AND INNOVATION	2018	25	7	27	9
Has microblogging changed stock market behavior? Evidence from China	Jin, Xi; Shen, Dehua; Zhang, Wei	PHYSICA A-STATISTICAL	2016	452		27	5.4

Title	Authors	Journal/Source	Year	Vol.	Iss.	Citations	Cit./Year
		MECHANICS AND ITS APPLICATIONS					
Google Trends and tourists' arrivals: Emerging biases and proposed corrections	Dergiades, Theologos; Mavragani, Eleni; Pan, Bing	TOURISM MANAGEMENT	2018	66		26	8.67
Limited Edition for Me and Best Seller for You: The Impact of Scarcity versus Popularity Cues on Self versus Other-Purchase Behavior	Wu, Laurie; Lee, Christopher	JOURNAL OF RETAILING	2016	92	4	26	5.2
Forecasting German car sales using Google data and multivariate models	Fantazzini, Dean; Toktamysova, Zhamal	INTERNATIONAL JOURNAL OF PRODUCTION ECONOMICS	2015	170		26	4.33
Power-law correlations in finance-related Google searches, and their cross-correlations with volatility and traded volume: Evidence from the Dow Jones Industrial components	Kristoufek, Ladislav	PHYSICA A-STATISTICAL MECHANICS AND ITS APPLICATIONS	2015	428		26	4.33
Online big data-driven oil consumption forecasting with Google trends	Yu, Lean; Zhao, Yaqing; Tang, Ling; Yang, Zebin	INTERNATIONAL JOURNAL OF FORECASTING	2019	35	1	24	12
Tweets, Google trends, and sovereign spreads in the GIIPS	Dergiades, Theologos; Milas, Costas; Panagiotidis, Theodore	OXFORD ECONOMIC PAPERS-NEW SERIES	2015	67	2	24	4
The internet as a data source for advancement in social sciences	Askitas, Nikolaos; Zimmermann, Klaus F.	INTERNATIONAL JOURNAL OF MANPOWER	2015	36	1	24	4
Web traffic and organization performance measures: Relationships and data sources examined	Vaughan, Liwen; Yang, Rongbin	JOURNAL OF INFORMETRICS	2013	7	3	24	3
The causal relationship between Bitcoin attention and Bitcoin returns: Evidence from the Copula-based Granger causality test	Dastgir, Shabbir; Demir, Ender; Downing, Gareth; Gozgor, Giray; Lau, Chi Keung Marco	FINANCE RESEARCH LETTERS	2019	28		23	11.5
Bariatric surgery interest around the world: What Google Trends can teach us	Linkov, Faina; Bovbjerg, Dana H.; Freese, Kyle E.; Ramanathan, Ramesh; Eid, George Michel; Gourash, William	SURGERY FOR OBESITY AND RELATED DISEASES	2014	10	3	22	3.14
Predicting short-term stock prices using ensemble methods and online data sources	Weng, Bin; Lu, Lin; Wang, Xing; Megahed, Fadel M.; Martinez, Waldyn	EXPERT SYSTEMS WITH APPLICATIONS	2018	112		21	7
A monthly consumption indicator for Germany based on Internet search query data	Vosen, Simeon; Schmidt, Torsten	APPLIED ECONOMICS LETTERS	2012	19	7	21	2.33
Google It Up! A Google Trends-based Uncertainty index for the United States and Australia	Castelnuovo, Efrem; Trung Duc Tran	ECONOMICS LETTERS	2017	161		20	5
Advertising and Word-of-Mouth Effects on Pre-launch Consumer Interest and Initial Sales of Experience Products	Kim, Ho; Hanssens, Dominique M.	JOURNAL OF INTERACTIVE MARKETING	2017	37		20	5

Title	Authors	Journal/Source	Year	Vol.	Iss.	Citations	Cit./Year
Monitoring of non-cigarette tobacco use using Google Trends	Cavazos-Rehg, Patricia A.; Krauss, Melissa J.; Spitznagel, Edward L.; Lowery, Ashley; Grucza, Richard A.; Chaloupka, Frank J.; Bierut, Laura Jean	TOBACCO CONTROL	2015	24	3	20	3.33
An empirical study of users' hype cycle based on search traffic: the case study on hybrid cars	Jun, Seung-Pyo	SCIENTOMETRICS	2012	91	1	20	2.22
A rapid method for assessing social versus independent interest in health issues: A case study of 'bird flu' and 'swine flu'	Bentley, R. Alexander; Ormerod, Paul	SOCIAL SCIENCE & MEDICINE	2010	71	3	20	1.82
Predicting the direction of stock markets using optimized neural networks with Google Trends	Hu, Hongping; Tang, Li; Zhang, Shuhua; Wang, Haiyan	NEUROCOMPUTING	2018	285		19	6.33
Forecasting tourism demand with Google trends: Accuracy comparison of countries versus cities	Oender, Irem	INTERNATIONAL JOURNAL OF TOURISM RESEARCH	2017	19	6	19	4.75
Has the American Public's Interest in Information Related to Relationships Beyond The Couple Increased Over Time?	Moors, Amy C.	JOURNAL OF SEX RESEARCH	2017	54	6	19	4.75
Perceived pollution and inbound tourism in China	Xu, Xu; Reed, Markum	TOURISM MANAGEMENT PERSPECTIVES	2017	21		19	4.75
Celebrity suicide on the railway network: Can one case trigger international effects?	Koburger, Nicole; Mergl, Roland; Rummel-Kluge, Christine; Ibelshaeuser, Angela; Meise, Ullrich; Postuvan, Vita; Roskar, Saska; Szekely, Andras; Toth, Monika Ditta; van der Feltz-Cornelis, Christina; Hegerl, Ulrich	JOURNAL OF AFFECTIVE DISORDERS	2015	185		19	3.17
Web Search Volume as a Predictor of Academic Fame: An Exploration of Google Trends	Vaughan, Liwen; Romero-Frias, Esteban	JOURNAL OF THE ASSOCIATION FOR INFORMATION SCIENCE AND TECHNOLOGY	2014	65	4	19	2.71
Public interest in the environment is falling: a response to Ficetola (2013)	McCallum, Malcolm L.; Bury, Gwendolynn W.	BIODIVERSITY AND CONSERVATION	2014	23	4	19	2.71
WHO'S GOOGLING WHAT? What Internet Searches Reveal about Hurricane Information Seeking	Sherman-Morris, Kathleen; Senkbeil, Jason; Carver, Robert	BULLETIN OF THE AMERICAN METEOROLOGICAL SOCIETY	2011	92	8	19	1.9
The Collaborative Economy Based Analysis of Demand: Study of Airbnb Case in Spain and Portugal	Palos-Sanchez, Pedro R.; Correia, Marisol B.	JOURNAL OF THEORETICAL AND APPLIED ELECTRONIC COMMERCE RESEARCH	2018	13	3	18	6
Sleep and moral awareness	Barnes, Christopher M.; Gunia, Brian C.; Wagner, David T.	JOURNAL OF SLEEP RESEARCH	2015	24	2	18	3

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Public hospital quality report awareness: evidence from National and Californian Internet searches and social media mentions, 2012	Huesch, Marco D.; Currid-Halkett, Elizabeth; Doctor, Jason N.	BMJ OPEN	2014	4	3	18	2.57
Using Search Engine Query Data to Track Pharmaceutical Utilization: A Study of Statins	Schuster, Nathaniel M.; Rogers, Mary A. M.; McMahon, Laurence F., Jr.	AMERICAN JOURNAL OF MANAGED CARE	2010	16	8	18	1.64
Google Trends and reality: Do the proportions match? Appraising the informational value of online search behavior: Evidence from Swiss tourism regions	Siliverstovs, Boriss; Wochner, Daniel S.	JOURNAL OF ECONOMIC BEHAVIOR & ORGANIZATION	2018	145		17	5.67
Research note: Nowcasting tourist arrivals in Barbados - just Google it!	Jackman, Mahalia; Naitram, Simon	TOURISM ECONOMICS	2015	21	6	17	2.83
YES or NO: Predicting the 2015 GReferendum results using Google Trends	Mavragani, Amaryllis; Tsagarakis, Konstantinos P.	TECHNOLOGICAL FORECASTING AND SOCIAL CHANGE	2016	109		16	3.2
Google Trends (R): Ready for real-time suicide prevention or just a Zeta-Jones effect? An exploratory study	Fond, Guillaume; Gaman, Alexandru; Brunel, Lore; Haffen, Emmanuel; Llorca, Pierre-Michel	PSYCHIATRY RESEARCH	2015	228	3	16	2.67
Seasonal trends in sleep-disordered breathing: evidence from Internet search engine query data	Ingram, David G.; Matthews, Camilla K.; Plante, David T.	SLEEP AND BREATHING	2015	19	1	16	2.67
Characterizing the Time-Perspective of Nations with Search Engine Query Data	Noguchi, Takao; Stewart, Neil; Olivola, Christopher Y.; Moat, Helen Susannah; Preis, Tobias	PLOS ONE	2014	9	4	16	2.29
Quantifying the cross-correlations between online searches and Bitcoin market	Zhang, Wei; Wang, Pengfei; Li, Xiao; Shen, Dehua	PHYSICA A-STATISTICAL MECHANICS AND ITS APPLICATIONS	2018	509		15	5
INTENTIONAL MISUSE AND ABUSE OF LOPERAMIDE: A NEW LOOK AT A DRUG WITH LOW ABUSE POTENTIAL"	Borron, Stephen W.; Watts, Susan H.; Tull, Jonathan; Baeza, Salvador; Diebold, Stephanie; Barrow, Alison	JOURNAL OF EMERGENCY MEDICINE	2017	53	1	15	3.75
Forecasting state-level premature deaths from alcohol, drugs, and suicides using Google Trends data	Parker, Jason; Cuthbertson, Courtney; Loveridge, Scott; Skidmore, Mark; Dyar, Will	JOURNAL OF AFFECTIVE DISORDERS	2017	213		15	3.75
A Google-based approach for monitoring suicide risk	Solano, Paola; Ustulin, Morena; Pizzorno, Enrico; Vichi, Monica; Pompili, Maurizio; Serafini, Gianluca; Amore, Mario	PSYCHIATRY RESEARCH	2016	246		15	3
Estimating suicide occurrence statistics using Google Trends	Kristoufek, Ladislav; Moat, Helen Susannah; Preis, Tobias	EPJ DATA SCIENCE	2016	5		15	3
A study of the method using search traffic to analyze new technology adoption	Jun, Seung-Pyo; Yeom, Jaeho; Son, Jong-Ku	TECHNOLOGICAL FORECASTING AND SOCIAL CHANGE	2014	81		15	2.14
The importance of international conferences on sustainable development as higher education	Berchin, Issa Ibrahim; Sima, Mihaela; de Lima, Mauricio Andrade; Biesel, Shelly; dos Santos, Leandro Piazza; Ferreira, Renata	JOURNAL OF CLEANER PRODUCTION	2018	171		14	4.67

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institutions' strategies to promote sustainability: A case study in Brazil	Vilma; Osorio de Andrade Guerra, Jose Baltazar Salgueirinho; Ceci, Flavio						
Quantifying potential tourist behavior in choice of destination using Google Trends	Padhi, Sidhartha S.; Pati, Rupesh K.	TOURISM MANAGEMENT PERSPECTIVES	2017	24		14	3.5
Low validity of Google Trends for behavioral forecasting of national suicide rates	Tran, Ulrich S.; Andel, Rita; Niederkrotenthaler, Thomas; Till, Benedikt; Ajdacic-Gross, Vladeta; Voracek, Martin	PLOS ONE	2017	12	8	14	3.5
Google Trends can improve surveillance of Type 2 diabetes	Tkachenko, Nataliya; Chotvijit, Sarunkorn; Gupta, Neha; Bradley, Emma; Gilks, Charlotte; Guo, Weisi; Crosby, Henry; Shore, Eliot; Thiarai, Malkiat; Procter, Rob; Jarvis, Stephen	SCIENTIFIC REPORTS	2017	7		14	3.5
Characterizing Awareness of Schizophrenia Among Facebook Users by Leveraging Facebook Advertisement Estimates	Saha, Koustuv; Weber, Ingmar; Birnbaum, Michael L.; De Choudhury, Munmun	JOURNAL OF MEDICAL INTERNET RESEARCH	2017	19	5	14	3.5
Could Google Trends Be Used to Predict Methamphetamine-Related Crime? An Analysis of Search Volume Data in Switzerland, Germany, and Austria	Gamma, Alex; Schleifer, Roman; Weinmann, Wolfgang; Buadze, Anna; Liebrenz, Michael	PLOS ONE	2016	11	11	14	2.8
Forecasting tourist arrivals at attractions: Search engine empowered methodologies	Volchek, Katerina; Liu, Anyu; Song, Haiyan; Buhalis, Dimitrios	TOURISM ECONOMICS	2019	25	3	13	6.5
Google Trends: Opportunities and limitations in health and health policy research	Arora, Vishal S.; McKee, Martin; Stuckler, David	HEALTH POLICY	2019	123	3	13	6.5
Drivers of disruption? Estimating the Uber effect	Berger, Thor; Chen, Chinchih; Frey, Carl Benedikt	EUROPEAN ECONOMIC REVIEW	2018	110		13	4.33
The Charlie Sheen Effect on Rapid In-home Human Immunodeficiency Virus Test Sales	Allem, Jon-Patrick; Leas, Eric C.; Caputi, Theodore L.; Dredze, Mark; Althouse, Benjamin M.; Noar, Seth M.; Ayers, John W.	PREVENTION SCIENCE	2017	18	5	13	3.25
Trending now: Using big data to examine public opinion of space policy	Cobb, Wendy N. Whitman	SPACE POLICY	2015	32		13	2.17
Monitoring public interest toward pertussis outbreaks: an extensive Google Trends-based analysis	Gianfredi, V; Bragazzi, N. L.; Mahamid, M.; Bisharat, B.; Mahroum, N.; Amital, H.; Adawi, M.	PUBLIC HEALTH	2018	165		12	4
Using Search Engine Data as a Tool to Predict Syphilis	Young, Sean D.; Torrone, Elizabeth A.; Urata, John; Aral, Sevgi O.	EPIDEMIOLOGY	2018	29	4	12	4
Google Trends as a Resource for Informing Plastic Surgery Marketing Decisions	Ward, Brittany; Ward, Max; Paskhover, Boris	AESTHETIC PLASTIC SURGERY	2018	42	2	12	4
Internet-based monitoring of public perception of conservation	Soriano-Redondo, Andrea; Bearhop, Stuart; Lock, Leigh; Votier, Stephen C.; Hilton, Geoff M.	BIOLOGICAL CONSERVATION	2017	206		12	3
An audit of the quality of online immunisation information available to Australian parents	Wiley, K. E.; Steffens, M.; Berry, N.; Leask, J.	BMC PUBLIC HEALTH	2017	17		12	3

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Tracking search engine queries for suicide in the United Kingdom, 2004-2013	Arora, V. S.; Stuckler, D.; McKee, M.	PUBLIC HEALTH	2016	137		12	2.4
Google's MIDAS Touch: Predicting UK Unemployment with Internet Search Data	Smith, Paul	JOURNAL OF FORECASTING	2016	35	3	12	2.4
Effect of Tobacco Control Policies on Information Seeking for Smoking Cessation in the Netherlands: A Google Trends Study	Troelstra, Sigrid A.; Bosdriesz, Jizzo R.; De Boer, Michiel R.; Kunst, Anton E.	PLOS ONE	2016	11	2	12	2.4
CITES-listings, EU eel trade bans and the increase of export of tropical eels out of Indonesia	Nijman, Vincent	MARINE POLICY	2015	58		12	2
Forecasting Tourism Demand with Decomposed Search Cycles	Li, Xin; Law, Rob	JOURNAL OF TRAVEL RESEARCH	2020	59	1	11	11
Spurious patterns in Google Trends data - An analysis of the effects on tourism demand forecasting in Germany	Bokelmann, Bjoern; Lessmann, Stefan	TOURISM MANAGEMENT	2019	75		11	5.5
Media attention and Bitcoin prices	Philippas, Dionisis; Rjiba, Hatem; Guesmi, Khaled; Goutte, Stephane	FINANCE RESEARCH LETTERS	2019	30		11	5.5
Forecasting sales in the supply chain: Consumer analytics in the big data era	Boone, Tonya; Ganeshan, Ram; Jain, Aditya; Sanders, Nada R.	INTERNATIONAL JOURNAL OF FORECASTING	2019	35	1	11	5.5
The cross-correlations between online sentiment proxies: Evidence from Google Trends and Twitter	Zhang, Zuochao; Zhang, Yongjie; Shen, Dehua; Zhang, Wei	PHYSICA A-STATISTICAL MECHANICS AND ITS APPLICATIONS	2018	508		11	3.67
Combining official and Google Trends data to forecast the Italian youth unemployment rate	Naccarato, Alessia; Falorsi, Stefano; Loriga, Silvia; Pierini, Andrea	TECHNOLOGICAL FORECASTING AND SOCIAL CHANGE	2018	130		11	3.67
The Google voter: search engines and elections in the new media ecology	Trevisan, Filippo; Hoskins, Andrew; Oates, Sarah; Mahlouly, Dounia	INFORMATION COMMUNICATION & SOCIETY	2018	21	1	11	3.67
Income Inequality, Income, and Internet Searches for Status Goods: A Cross-National Study of the Association Between Inequality and Well-Being	Walasek, Lukasz; Brown, Gordon D. A.	SOCIAL INDICATORS RESEARCH	2016	129	3	11	2.2
Searching Choices: Quantifying Decision-Making Processes Using Search Engine Data	Moat, Helen Susannah; Olivola, Christopher Y.; Chater, Nick; Preis, Tobias	TOPICS IN COGNITIVE SCIENCE	2016	8	3	11	2.2
Brief Report: Trends in US National Autism Awareness from 2004 to 2014: The Impact of National Autism Awareness Month	DeVilbiss, Elizabeth A.; Lee, Brian K.	JOURNAL OF AUTISM AND DEVELOPMENTAL DISORDERS	2014	44	12	11	1.57
Web search query volume as a measure of pharmaceutical utilization and changes in prescribing patterns	Simmering, Jacob E.; Polgreen, Linnea A.; Polgreen, Philip M.	RESEARCH IN SOCIAL & ADMINISTRATIVE PHARMACY	2014	10	6	11	1.57

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Discovering business information from search engine query data	Vaughan, Liwen	ONLINE INFORMATION REVIEW	2014	38	4	11	1.57
Considering connections between Hollywood and biodiversity conservation	Silk, Matthew J.; Crowley, Sarah L.; Woodhead, Anna J.; Nuno, Ana	CONSERVATION BIOLOGY	2018	32	3	10	3.33
In search of the determinants of European asset market comovements	Gomes, Pedro; Taamouti, Abderrahim	INTERNATIONAL REVIEW OF ECONOMICS & FINANCE	2016	44		10	2
New Internet search volume-based weighting method for integrating various environmental impacts	Ji, Changyoon; Hong, Taehoon	ENVIRONMENTAL IMPACT ASSESSMENT REVIEW	2016	56		10	2
Big Data under the Microscope and Brains in Social Context: Integrating Methods from Computational Social Science and Neuroscience	O'Donnell, Matthew Brook; Falk, Emily B.	ANNALS OF THE AMERICAN ACADEMY OF POLITICAL AND SOCIAL SCIENCE	2015	659	1	10	1.67
THE 2007-2008 US RECESSION: WHAT DID THE REAL-TIME GOOGLE TRENDS DATA TELL THE UNITED STATES?	Chen, Tao; So, Erin Pik Ki; Wu, Liang; Yan, Isabel Kit Ming	CONTEMPORARY ECONOMIC POLICY	2015	33	2	10	1.67
A method for automatic generation of fuzzy membership functions for mobile device's characteristics based on Google Trends	Almeida, Aitor; Orduna, Pablo; Castillejo, Eduardo; Lopez-de-Ipina, Diego; Sacristan, Marcos	COMPUTERS IN HUMAN BEHAVIOR	2013	29	2	10	1.25
Exploring the predictive ability of LIKES of posts on the Facebook pages of four major city DMOs in Austria	Gunter, Ulrich; Oender, Irem; Gindl, Stefan	TOURISM ECONOMICS	2019	25	3	9	4.5
Demand forecasting with user-generated online information	Schaer, Oliver; Kourentzes, Nikolaos; Fildes, Robert	INTERNATIONAL JOURNAL OF FORECASTING	2019	35	1	9	4.5
Using four different online media sources to forecast the crude oil price	Elshendy, Mohammed; Colladon, Andrea Fronzetti; Battistoni, Elisa; Gloor, Peter A.	JOURNAL OF INFORMATION SCIENCE	2018	44	3	9	3
Google Trends and the forecasting performance of exchange rate models	Bulut, Levent	JOURNAL OF FORECASTING	2018	37	3	9	3
News trends and web search query of HIV/AIDS in Hong Kong	Chiu, Alice P. Y.; Lin, Qianying; He, Daihai	PLOS ONE	2017	12	9	9	2.25
Does microblogging convey firm-specific information? Evidence from China	Shen, Dehua; Li, Xiao; Xue, Mei; Zhang, Wei	PHYSICA A-STATISTICAL MECHANICS AND ITS APPLICATIONS	2017	482		9	2.25
Can We Predict the Financial Markets Based on Google's Search Queries?	Perlin, Marcelo S.; Caldeira, Joao F.; Santos, Andre A. P.; Pontuschka, Martin	JOURNAL OF FORECASTING	2017	36	4	9	2.25

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Investor attention and the expected returns of reits	Yung, Kenneth; Nafar, Nadia	INTERNATIONAL REVIEW OF ECONOMICS & FINANCE	2017	48		9	2.25
The half-life of a teachable moment: The case of Nobel laureates	Baram-Tsabari, Ayelet; Segev, Elad	PUBLIC UNDERSTANDING OF SCIENCE	2015	24	3	9	1.5
Health and well-being in the great recession	Askitas, Nikolaos; Zimmermann, Klaus F.	INTERNATIONAL JOURNAL OF MANPOWER	2015	36	1	9	1.5
Conspiratory fascination versus public interest: the case of 'climategate'	Lewandowsky, Stephan	ENVIRONMENTAL RESEARCH LETTERS	2014	9	11	9	1.29
Who are interested in online science simulations? Tracking a trend of digital divide in Internet use	Zhang, Meilan	COMPUTERS & EDUCATION	2014	76		9	1.29
Placing Wikimapia: an exploratory analysis	Ballatore, Andrea; Arsanjani, Jamal Jokar	INTERNATIONAL JOURNAL OF GEOGRAPHICAL INFORMATION SCIENCE	2019	33	8	8	4
Does Google search index really help predicting stock market volatility? Evidence from a modified mixed data sampling model on volatility	Xu, Qifa; Bo, Zhongpu; Jiang, Cuixia; Liu, Yezheng	KNOWLEDGE-BASED SYSTEMS	2019	166		8	4
Correlation between Google Trends on dengue fever and national surveillance report in Indonesia	Husnayain, Atina; Fuad, Anis; Lazuardi, Lutfan	GLOBAL HEALTH ACTION	2019	12	1	8	4
News coverage, digital activism, and geographical saliency: A case study of refugee camps and volunteered geographical information	Mahabir, Ron; Croitoru, Arie; Crooks, Andrew; Agouris, Peggy; Stefanidis, Anthony	PLOS ONE	2018	13	11	8	2.67
Harnessing Big Data for Communicable Tropical and Sub-Tropical Disorders: Implications From a Systematic Review of the Literature	Gianfredi, Vincenza; Bragazzi, Nicola Luigi; Nucci, Daniele; Martini, Mariano; Rosselli, Roberto; Minelli, Liliana; Moretti, Massimo	FRONTIERS IN PUBLIC HEALTH	2018	6		8	2.67
Analysis of New Technology Trends in Education: 2010-2015	Martin, Sergio; Lopez-Martin, Esther; Lopez-Rey, Africa; Cubillo, Joaquin; Moreno-Pulido, Alexis; Castro, Manuel	IEEE ACCESS	2018	6		8	2.67
Information Flow in the 21st Century: The Dynamics of Agenda-Uptake	Gruszczynski, Mike; Wagner, Michael W.	MASS COMMUNICATION AND SOCIETY	2017	20	3	8	2
Forecasting by analogy using the web search traffic	Jun, Seung-Pyo; Sung, Tae-Eung; Park, Hyun-Woo	TECHNOLOGICAL FORECASTING AND SOCIAL CHANGE	2017	115		8	2
Visualization of brand positioning based on consumer web search information Using social network analysis	Jun, Seung-Pyo; Park, Do-Hyung	INTERNET RESEARCH	2017	27	2	8	2
Measuring social influence for firm-level financial performance	Luo, Peng; Chen, Kun; Wu, Chong	ELECTRONIC COMMERCE	2016	20		8	1.6

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		RESEARCH AND APPLICATIONS					
Explaining bank stock performance with crisis sentiment	Irresberger, Felix; Muehlnickel, Janina; Weiss, Gregor N. F.	JOURNAL OF BANKING & FINANCE	2015	59		8	1.33
Forecasting tourism demand using search query data: A hybrid modelling approach	Wen, Long; Liu, Chang; Song, Haiyan	TOURISM ECONOMICS	2019	25	3	7	3.5
Monitoring of Drought Awareness from Google Trends: A Case Study of the 2011-17 California Drought	Kam, Jonghun; Stowers, Kimberly; Kim, Sungyoon	WEATHER CLIMATE AND SOCIETY	2019	11	2	7	3.5
Public perception of the vegetative state/unresponsive wakefulness syndrome: a crowdsourced study	Kondziella, Daniel; Cheung, Man Cheung; Dutta, Anirban	PEERJ	2019	7		7	3.5
Income Inequality and White-on-Black Racial Bias in the United States: Evidence From Project Implicit and Google Trends	Connor, Paul; Sarafidis, Vasilis; Zyphur, Michael J.; Keltner, Dacher; Chen, Serena	PSYCHOLOGICAL SCIENCE	2019	30	2	7	3.5
Demand for MOOC - An Application of Big Data	Tong, Tingting; Li, Haizheng	CHINA ECONOMIC REVIEW	2018	51		7	2.33
The promise and challenges of new datasets for accounting research	Teoh, Siew Hong	ACCOUNTING ORGANIZATIONS AND SOCIETY	2018	68-69		7	2.33
Google Trends and cycles of public interest in biodiversity: the animal spirits effect	Troumbis, Andreas Y.	BIODIVERSITY AND CONSERVATION	2017	26	14	7	1.75
Societal Influence on Diffusion of Green Buildings: A Count. Regression Approach	Braun, Thomas; Cajias, Marcelo; Hohenstatt, Ralf	JOURNAL OF REAL ESTATE RESEARCH	2017	39	1	7	1.75
Heat stroke internet searches can be a new heatwave health warning surveillance indicator	Li, Tiantian; Ding, Fan; Sun, Qinghua; Zhang, Yi; Kinney, Patrick L.	SCIENTIFIC REPORTS	2016	6		7	1.4
A study on the effects of the CAFE standard on consumers	Jun, Seung-Pyo; Yoo, Hyoung Sun; Kim, Ji-Hui	ENERGY POLICY	2016	91		7	1.4
Googling environmental issues Web search queries as a measurement of public attention on environmental issues	Qin, Jie; Peng, Tai-Quan	INTERNET RESEARCH	2016	26	1	7	1.4
A potential way of enquiry into human curiosity	Guo, Shesen; Zhang, Ganzhou; Zhai, Run	BRITISH JOURNAL OF EDUCATIONAL TECHNOLOGY	2010	41	3	7	0.64
Supply chain digitisation trends: An integration of knowledge management	Schniederjans, Dara G.; Curado, Carla; Khalajhedayati, Mehrnaz	INTERNATIONAL JOURNAL OF PRODUCTION ECONOMICS	2020	220		6	6
Price clustering and sentiment in bitcoin	Baig, Ahmed; Blau, Benjamin M.; Sabah, Nasim	FINANCE RESEARCH LETTERS	2019	29		6	3
Public Health Implications of Google Searches for Sunscreen, Sunburn, Skin Cancer, and Melanoma in the United States	Hopkins, Zachary H.; Secrest, Aaron M.	AMERICAN JOURNAL OF	2019	33	4	6	3

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Sci-Hub: The new and ultimate disruptor? View from the front	Nicholas, David; Boukacem-Zeghmouri, Cherifa; Xu, Jie; Herman, Eti; Clark, David; Abrizah, Abdullah; Rodriguez-Bravo, Blanca; Swigon, Marzena	HEALTH PROMOTION LEARNED PUBLISHING	2019	32	2	6	3
Developing a global indicator for Aichi Target 1 by merging online data sources to measure biodiversity awareness and engagement	Cooper, Matthew W.; Di Minin, Enrico; Hausmann, Anna; Qin, Siyu; Schwartz, Aaron J.; Correia, Ricardo Aleixo	BIOLOGICAL CONSERVATION	2019	230		6	3
Digital behavior surveillance: Monitoring dental caries and toothache interests of Google users from developing countries	Cruvinel, Thiago; Ayala Aguirre, Patricia E.; Lotto, Matheus; Oliveira, Thais Marchini; Rios, Daniela; Pereira Cruvinel, Agnes F.	ORAL DISEASES	2019	25	1	6	3
The effect of interest in renewable energy on US household electricity consumption: An analysis using Google Trends data	Park, Sungjun; Kim, Jinsoo	RENEWABLE ENERGY	2018	127		6	2
Can Big Data Predict the Rise of Novel Drug Abuse?	Perdue, Robert Todd; Hawdon, James; Thames, Kelly M.	JOURNAL OF DRUG ISSUES	2018	48	4	6	2
Can Google econometrics predict unemployment? Evidence from Spain	Gonzalez-Fernandez, Marcos; Gonzalez-Velasco, Carmen	ECONOMICS LETTERS	2018	170		6	2
The burden of attention: CEO publicity and tax avoidance	Duan, Tinghua; Ding, Rong; Hou, Wenxuan; Zhang, John Ziyang	JOURNAL OF BUSINESS RESEARCH	2018	87		6	2
What Can Google Inform Us about People's Interests regarding Dental Caries in Different Populations?	Aguirre, Patricia Estefania; Coelho, Melina; Oliveira, Thais; Rios, Daniela; Cruvinel, Agnes Fatima; Cruvinel, Thiago	CARIES RESEARCH	2018	52	3	6	2
Perspectives Measles, social media and surveillance in Baltimore City	Warren, Katherine E.; Wen, Leana S.	JOURNAL OF PUBLIC HEALTH	2017	39	3	6	1.5
How to measure public demand for policies when there is no appropriate survey data?	Oehl, Bianca; Schaffer, Lena Maria; Bernauer, Thomas	JOURNAL OF PUBLIC POLICY	2017	37	2	6	1.5
Quantifying the effect of investors' attention on stock market	Yang, Zhen-Hua; Liu, Jian-Guo; Yu, Chang-Rui; Han, Jing-Ti	PLOS ONE	2017	12	5	6	1.5
The More You Know, the More You Can Grow: An Information Theoretic Approach to Growth in the Information Age	Hilbert, Martin	ENTROPY	2017	19	2	6	1.5
Stock return and volatility reactions to information demand and supply	Moussa, Faten; Delhoumi, Ezzeddine; Ben Ouda, Olfa	RESEARCH IN INTERNATIONAL BUSINESS AND FINANCE	2017	39		6	1.5
Using Twitter sentiment and emotions analysis of Google Trends for decisions making	D'Avanzo, Ernesto; Pilato, Giovanni; Lytras, Miltiadis	PROGRAM-ELECTRONIC LIBRARY AND INFORMATION SYSTEMS	2017	51	3	6	1.5

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Linking Annual Prescription Volume of Antidepressants to Corresponding Web Search Query Data A Possible Proxy for Medical Prescription Behavior?	Gahr, Maximilian; Uzelac, Zeljko; Zeiss, Rene; Connemann, Bernhard J.; Lang, Dirk; Schoenfeldt-Lecuona, Carlos	JOURNAL OF CLINICAL PSYCHOPHARMACOLOGY	2015	35	6	6	1
Using Google Trends to estimate the incidence of influenza-like illness in Argentina	Wenceslao Orellano, Pablo; Itati Reynoso, Julieta; Antman, Julian; Argibay, Osvaldo	CADERNOS DE SAUDE PUBLICA	2015	31	4	6	1
Web-search trends shed light on the nature of lunacy: Relationship between moon phases and epilepsy information-seeking behavior	Otte, Willem M.; van Diessen, Eric; Bell, Gail S.; Sander, Josemir W.	EPILEPSY & BEHAVIOR	2013	29	3	6	0.75
Evaluating state tourism websites using Search Engine Optimization tools	Vyas, Chaitanya	TOURISM MANAGEMENT	2019	73		5	2.5
Perceived pollution and inbound tourism for Shanghai: a panel VAR approach	Xu, Xu; Reed, Markum	CURRENT ISSUES IN TOURISM	2019	22	5	5	2.5
Rise to fame: events, media activity and public interest in pangolins and pangolin trade, 2005-2016	Harrington, Lauren A.; D'Cruze, Neil; Macdonald, David W.	NATURE CONSERVATION-BULGARIA	2018		30	5	1.67
Using Google Trends to explore the New Zealand public's interest in bariatric surgery	Rahiri, Jamie-Lee; Barazanchi, Ahmed; Furukawa, Sai; MacCormick, Andrew D.; Harwood, Matire; Hill, Andrew G.	ANZ JOURNAL OF SURGERY	2018	88	12	5	1.67
Internet searches for opioids predict future emergency department heroin admissions	Young, Sean D.; Zheng, Kai; Chu, Larry F.; Humphreys, Keith	DRUG AND ALCOHOL DEPENDENCE	2018	190		5	1.67
Forecasting casino revenue by incorporating Google trends	Kim, Woo-Hyuk; Malek, Kristin	INTERNATIONAL JOURNAL OF TOURISM RESEARCH	2018	20	4	5	1.67
Dealing With Information Overload in Multifaceted Personal Informatics Systems	Jones, Simon L.; Kelly, Ryan	HUMAN-COMPUTER INTERACTION	2018	33	1	5	1.67
Zika pandemic online trends, incidence and health risk communication: a time trend study	Adebayo, Gbenga; Neumark, Yehuda; Gesser-Edelsburg, Anat; Abu Ahmad, Wiessam; Levine, Hagai	BMJ GLOBAL HEALTH	2017	2	3	5	1.25
Psychogenic non-epileptic seizures (PNES) on the Internet: Online representation of the disorder and frequency of search terms	Myers, Lorna; Jones, Jace; Boesten, Nadine; Lancman, Marcelo	SEIZURE-EUROPEAN JOURNAL OF EPILEPSY	2016	40		5	1
The Influence of Weather on Interest in a Sun, Sea, and Sand Tourist Destination: The Case of Majorca	Rossello, Jaume; Waqas, Aon	WEATHER CLIMATE AND SOCIETY	2016	8	2	5	1
The Role of the Networked Public Sphere in the US Net Neutrality Policy Debate	Faris, Robert; Roberts, Hal; Etling, Bruce; Othman, Dalia; Benkler, Yochai	INTERNATIONAL JOURNAL OF COMMUNICATION	2016	10		5	1
Nowcasting Intraseasonal Recreational Fishing Harvest with Internet Search Volume	Carter, David W.; Crosson, Scott; Liese, Christopher	PLOS ONE	2015	10	9	5	0.83
A semantic network analysis of technological innovation in dentistry: a case of CAD/CAM	Kim, Jang Hyun; Lee, Jinsuk	ASIAN JOURNAL OF TECHNOLOGY INNOVATION	2015	23		5	0.83

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A multi-scale method for forecasting oil price with multi-factor search engine data	Tang, Ling; Zhang, Chengyuan; Li, Ling; Wang, Shouyang	APPLIED ENERGY	2020	257		4	4
Public Attention to a Local Disaster Versus Competing Focusing Events: Google Trends Analysis Following the 2016 Louisiana Flood	Yeo, Jungwon; Knox, Claire Connolly	SOCIAL SCIENCE QUARTERLY	2019	100	7	4	2
The effect of college education on intolerance: evidence from Google search data	Chan, Jeff	APPLIED ECONOMICS LETTERS	2019	26	2	4	2
Forecasting Hospital Emergency Department Patient Volume Using Internet Search Data	Ho, Andrew Fu Wah; To, Bryan Zhan Yuan Se; Koh, Jin Ming; Cheong, Kang Hao	IEEE ACCESS	2019	7		4	2
Trump's Effect on stock markets: A multiscale approach	de Area Leao Pereira, Eder Johnson; da Silva, Marcus Fernandes; da Cunha Lima, I. C.; Pereira, H. B. B.	PHYSICA A-STATISTICAL MECHANICS AND ITS APPLICATIONS	2018	512		4	1.33
Open data mining for Taiwan's dengue epidemic	Wu, ChienHsing; Kao, Shu-Chen; Shih, Chia-Hung; Kan, Meng-Hsuan	ACTA TROPICA	2018	183		4	1.33
Geospatial Distribution of Local Health Department Tweets and Online Searches About Ebola During the 2014 Ebola Outbreak	Wong, Roger; Harris, Jenine K.	DISASTER MEDICINE AND PUBLIC HEALTH PREPAREDNESS	2018	12	3	4	1.33
Framing Suicide - Investigating the News Media and Public's Use of the Problematic Suicide Referents Freitod and Selbstmord in German-Speaking Countries	Arendt, Florian	CRISIS-THE JOURNAL OF CRISIS INTERVENTION AND SUICIDE PREVENTION	2018	39	1	4	1.33
Tracking internet interest in anabolic-androgenic steroids using Google Trends	Teck, Joseph Tay Wee; McCann, Mark	INTERNATIONAL JOURNAL OF DRUG POLICY	2018	51		4	1.33
Using Google trends data to assess public understanding on the environmental risks	Durmusoglu, Zeynep Didem Unutmaz	HUMAN AND ECOLOGICAL RISK ASSESSMENT	2017	23	8	4	1
Internet searches and transactions on the Dutch housing market	van Veldhuizen, Sander; Vogt, Benedikt; Voogt, Bart	APPLIED ECONOMICS LETTERS	2016	23	18	4	0.8
GOVERNMENT PRESS RELEASES AND CITIZEN PERCEPTIONS OF GOVERNMENT PERFORMANCE: EVIDENCE FROM GOOGLE TRENDS DATA	Hong, Sounman	PUBLIC PERFORMANCE & MANAGEMENT REVIEW	2016	39	4	4	0.8
Open source data reveals connection between online and on-street protest activity	Qi, Hong; Manrique, Pedro; Johnson, Daniela; Restrepo, Elvira; Johnson, Neil F.	EPJ DATA SCIENCE	2016	5		4	0.8
Using newspapers for tracking the business cycle: a comparative study for Germany and Switzerland	Iselin, David; Siliverstovs, Boriss	APPLIED ECONOMICS	2016	48	12	4	0.8
Evaluation of internet search trends of some common oral problems, 2004 to 2014	Harorli, O. T.; Harorli, H.	COMMUNITY DENTAL HEALTH	2014	31	3	4	0.57

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Has there been an increased interest in smoking cessation during the first months of the COVID-19 pandemic? A Google Trends study	Heerfordt, C.; Heerfordt, I. M.	PUBLIC HEALTH	2020	183		3	3
Data source combination for tourism demand forecasting	Hu, Mingming; Song, Haiyan	TOURISM ECONOMICS	2019			3	1.5
More Bang for the Buck: Media Coverage of Suicide Attacks	Jetter, Michael	TERRORISM AND POLITICAL VIOLENCE	2019	31	4	3	1.5
Is Digital Epidemiology the Future of Clinical Epidemiology?	Lippi, Giuseppe; Mattiuzzi, Camilla; Cervellin, Gianfranco	JOURNAL OF EPIDEMIOLOGY AND GLOBAL HEALTH	2019	9	2	3	1.5
Well-being through the lens of the internet	Algan, Yann; Murtin, Fabrice; Beasley, Elizabeth; Higa, Kazuhito; Senik, Claudia	PLOS ONE	2019	14	1	3	1.5
Associations of the Stoptober smoking cessation program with information seeking for smoking cessation: A Google trends study	Tieks, Alieke; Troelstra, Sigrid A.; Hoekstra, Trynke; Kunst, Anton E.	DRUG AND ALCOHOL DEPENDENCE	2019	194		3	1.5
Terrorism and Wine Tourism: The Case of Museum Attendance	Gergaud, Olivier; Livat, Florine; Song, Haiyan	JOURNAL OF WINE ECONOMICS	2018	13	4	3	1
Marine environmental issues in the mass media: Insights from television, newspaper and internet searches in Chile	Thompson-Saud, Gabriela; Gelcich, Stefan; Barraza, Jose	OCEAN & COASTAL MANAGEMENT	2018	165		3	1
Nowcasting and forecasting aquaponics by Google Trends in European countries	Palma Lampreia Dos Santos, Maria Jose	TECHNOLOGICAL FORECASTING AND SOCIAL CHANGE	2018	134		3	1
Using Internet Search Data to Measure Changes in Social Perceptions: A Methodology and an Application	Reyes, Tomas; Majluf, Nicolas; Ibanez, Ricardo	SOCIAL SCIENCE QUARTERLY	2018	99	2	3	1
Using Internet Search Trends and Historical Trading Data for Predicting Stock Markets by the Least Squares Support Vector Regression Model	Pai, Ping-Feng; Hong, Ling-Chuang; Lin, Kuo-Ping	COMPUTATIONAL INTELLIGENCE AND NEUROSCIENCE	2018			3	1
Has information on suicide methods provided via the Internet negatively impacted suicide rates?	Paul, Elise; Mergl, Roland; Hegerl, Ulrich	PLOS ONE	2017	12	12	3	0.75
Assessing the effectiveness of disease awareness programs: Evidence from Google Trends data for the world awareness dates	Shariatpanahi, Seyed Peyman; Jafari, Afshin; Sadeghipour, Maryam; Azadeh-Fard, Nasibeh; Majidzadeh-A, Keivan; Farahmand, Leila; Ansari, Alireza Madjid	TELEMATICS AND INFORMATICS	2017	34	7	3	0.75
Business ethics searches: A socioeconomic and demographic analysis of US Google Trends in the context of the 2008 financial crisis	Faugere, Christophe; Gergaud, Olivier	BUSINESS ETHICS-A EUROPEAN REVIEW	2017	26	3	3	0.75
Fear on the networks: analyzing the 2014 Ebola outbreak	D'Agostino, Marcelo; Mejia, Felipe; Brooks, Ian; Marti, Myrna; Novillo-Ortiz, David; de Cosio, Gerardo	REVISTA PANAMERICANA DE SALUD PUBLICA-	2017	41		3	0.75

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		PAN AMERICAN JOURNAL OF PUBLIC HEALTH					
Retail investor information demand - speculating and investing in structured products	Schroff, Sebastian; Meyer, Stephan; Burghof, Hans-Peter	EUROPEAN JOURNAL OF FINANCE	2016	22	11	3	0.6
Oscillatory Patterns in the Amount of Demand for Dental Visits: An Agent Based Modeling Approach	Sadeghipour, Maryam; Shariatpanahi, Peyman; Jafari, Afshin; Khosnevisan, Mohammad Hossein; Ahmady, Arezoo Ebn	JASSS-THE JOURNAL OF ARTIFICIAL SOCIETIES AND SOCIAL SIMULATION	2016	19	3	3	0.6
Computational Models of Consumer Confidence from Large-Scale Online Attention Data: Crowd-Sourcing Econometrics	Dong, Xianlei; Bollen, Johan	PLOS ONE	2015	10	3	3	0.5
A review of pornography use research: Methodology and results from four sources	Gmeiner, Michael; Price, Joseph; Worley, Michael	CYBERPSYCHOLOGY-JOURNAL OF PSYCHOSOCIAL RESEARCH ON CYBERSPACE	2015	9	4	3	0.5
Estimating Population Ecology Models for the WWW Market: Evidence of Competitive Oligopolies	Mateos de Cabo, Ruth; Gimeno, Ricardo	NONLINEAR DYNAMICS PSYCHOLOGY AND LIFE SCIENCES	2013	17	1	3	0.38
Google trends and the predictability of precious metals	Salisu, Afees A.; Ogbonna, Ahamuefula E.; Adewuyi, Adeolu	RESOURCES POLICY	2020	65		2	2
Spatio-temporal dynamics and drivers of public interest in invasive alien species	Fukano, Yuya; Soga, Masashi	BIOLOGICAL INVASIONS	2019	21	12	2	1
Nowcasting of the US unemployment rate using Google Trends	Nagao, Shintaro; Takeda, Fumiko; Tanaka, Riku	FINANCE RESEARCH LETTERS	2019	30		2	1
The Validity of Google Trends Search Volumes for Behavioral Forecasting of National Suicide Rates in Ireland	Barros, Joana M.; Melia, Ruth; Francis, Kady; Bogue, John; O'Sullivan, Mary; Young, Karen; Bernert, Rebecca A.; Rebholz-Schuhmann, Dietrich; Duggan, Jim	INTERNATIONAL JOURNAL OF ENVIRONMENTAL RESEARCH AND PUBLIC HEALTH	2019	16	17	2	1
Meningococcal disease in Italy: public concern, media coverage and policy change	Covolo, Loredana; Croce, Elia; Moneda, Marco; Zanardini, Elena; Gelatti, Umberto; Schulz, Peter J.; Ceretti, Elisabetta	BMC PUBLIC HEALTH	2019	19	1	2	1
Developing an early warning system of suicide using Google Trends and media reporting	Chai Yi; Luo Hao; Zhang Qingpeng; Cheng Qijin; Lui, Carrie S. M.; Yip, Paul S. F.	JOURNAL OF AFFECTIVE DISORDERS	2019	255		2	1
Spillovers between the oil sector and the S&P500: The impact of information flow about crude oil	Aromi, Daniel; Clements, Adam	ENERGY ECONOMICS	2019	81		2	1
Investor attention and short-term return reversals	Heyman, Dries; Lescrauwaet, Michiel; Stieperaere, Hannes	FINANCE RESEARCH LETTERS	2019	29		2	1

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Information availability and return volatility in the bitcoin Market: Analyzing differences of user opinion and interest	Yu, Ju Hyun; Kang, Juyoung; Park, Sangun	INFORMATION PROCESSING & MANAGEMENT	2019	56	3	2	1
Tobacco Price Increases and Population Interest in Smoking Cessation in Japan Between 2004 and 2016: A Google Trends Analysis	Tabuchi, Takahiro; Fukui, Keisuke; Gallus, Silvano	NICOTINE & TOBACCO RESEARCH	2019	21	4	2	1
Forecasting private consumption with Google Trends data	Woo, Jaemin; Owen, Ann L.	JOURNAL OF FORECASTING	2019	38	2	2	1
Nutritional Culturomics and Big Data; Macroscopic Patterns of Change in Food, Nutrition and Diet Choices	Troumbis, Andreas Y.; Hatziantoniou, Maria; Vasios, Georgios K.	CURRENT PHARMACEUTICAL BIOTECHNOLOGY	2019	20	10	2	1
Latin American countries lead in Google search volumes for anorexia nervosa and bulimia nervosa: Implications for global mental health research	Eli, Karin	INTERNATIONAL JOURNAL OF EATING DISORDERS	2018	51	12	2	0.67
Measuring the impact of monetary policy attention on global asset volatility using search data	Wohlfarth, Paul	ECONOMICS LETTERS	2018	173		2	0.67
GOOGLE SEARCH EFFECT ON EXPERIENCE PRODUCT SALES AND USERS' MOTIVATION TO SEARCH: EMPIRICAL EVIDENCE FROM THE HOTEL INDUSTRY	Zhao, Daying; Fang, Bin; Li, Huiying; Ye, Qiang	JOURNAL OF ELECTRONIC COMMERCE RESEARCH	2018	19	4	2	0.67
Clustering functional data streams: Unsupervised classification of soccer top players based on Google trends	Fortuna, Francesca; Maturo, Fabrizio; Di Battista, Tonio	QUALITY AND RELIABILITY ENGINEERING INTERNATIONAL	2018	34	7	2	0.67
Comparison between Bayesian and information-theoretic model averaging: Fossil fuels prices example	Drachal, Krzysztof	ENERGY ECONOMICS	2018	74		2	0.67
Mining online activity data to understand food consumption behavior: A case of Asian fish sauce among Japanese consumers	Nakano, Mitsutoshi; Sato, Hiroaki; Watanabe, Toshihiro; Takano, Katsumi; Sagane, Yoshimasa	FOOD SCIENCE & NUTRITION	2018	6	4	2	0.67
Trigger warning: the causal impact of gun ownership on suicide	Vitt, David C.; McQuoid, Alexander F.; Moore, Charles; Sawyer, Stephen	APPLIED ECONOMICS	2018	50	53	2	0.67
What did Ryan Lochte do? The double-edged sword of endorsers behaving badly	Vredenburg, Jessica; Giroux, Marilyn	INTERNATIONAL JOURNAL OF SPORTS MARKETING & SPONSORSHIP	2018	19	3	2	0.67
Comparison of Periodic Behavior of Consumer Online Searches for Restaurants in the US and China Based on Search Engine Data	Tang, Hao; Qiu, Yichen; Guo, Ya; Liu, Juan	IEEE ACCESS	2018	6		2	0.67
Big Data: An Institutional Perspective on Opportunities and Challenges	Hasnat, Baban	JOURNAL OF ECONOMIC ISSUES	2018	52	2	2	0.67
Search and You Shall Find: Geographic Characteristics Associated With Google Searches	Gollust, Sarah E.; Qin, Xuanzi; Wilcock, Andrew D.; Baum, Laura M.; Barry, Colleen	MEDICAL CARE RESEARCH AND REVIEW	2017	74	6	2	0.5

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During the Affordable Care Act's First Enrollment Period	L.; Niederdeppe, Jeff; Fowler, Erika Franklin; Karaca-Mandic, Pinar						
Evaluating the use of internet search volumes for time series modeling of sales in the video game industry	Ruohonen, Jukka; Hyrynsalmi, Sami	ELECTRONIC MARKETS	2017	27	4	2	0.5
Use of enhancement drugs amongst athletes and television celebrities and public interest in androgenic anabolic steroids. Exploring two Peruvian cases with Google Trends	Avilez, J. L.; Zevallos-Morales, A.; Taype-Rondan, A.	PUBLIC HEALTH	2017	146		2	0.5
Periodicity analysis and a model structure for consumer behavior on hotel online search interest in the US	Liu, Juan; Li, Xue; Guo, Ya	INTERNATIONAL JOURNAL OF CONTEMPORARY HOSPITALITY MANAGEMENT	2017	29	5	2	0.5
Predicting Virtual World User Population Fluctuations with Deep Learning	Kim, Young Bin; Park, Nuri; Zhang, Qimeng; Kim, Jun Gi; Kang, Shin Jin; Kim, Chang Hun	PLOS ONE	2016	11	12	2	0.4
Abortion Internet searches. An evaluation with Google Trends in Peru	Jesus Tejada-Llacsa, Paul	GACETA SANITARIA	2016	30	4	2	0.4
Content and quality of websites supporting self-management of chronic breathlessness in advanced illness: a systematic review	Luckett, Tim; Disler, Rebecca; Hosie, Annmarie; Johnson, Miriam; Davidson, Patricia; Currow, David; Sumah, Anthony; Phillips, Jane	NPJ PRIMARY CARE RESPIRATORY MEDICINE	2016	26		2	0.4
Reforming Higher Education Finance in Turkey: The Alumni - Crowdfunded Student Debt Fund A-CSDF Model	Son-Turan, Semen	EGITIM VE BILIM-EDUCATION AND SCIENCE	2016	41	184	2	0.4
Discovering the unequal interest in popular online educational games and its implications: A case study	Zhang, Meilan	BRITISH JOURNAL OF EDUCATIONAL TECHNOLOGY	2016	47	2	2	0.4
Presidential Attention Focusing in the Global Arena: The Impact of International Travel on Foreign Publics	Cohen, Jeffrey E.	PRESIDENTIAL STUDIES QUARTERLY	2016	46	1	2	0.4
After the crisis? Big data and the methodological challenges of empirical sociology	Burrows, R.; Savage, M.	SOTSIOLOGICHESKIE ISSLEDOVANIYA	2016		3	2	0.4
Global search demand for varicose vein information on the internet	El-Sheikha, Joseph	PHLEBOLOGY	2015	30	8	2	0.33
An informetrics view of the relationship between internet ethics, computer ethics and cyberethics	Onyancha, Omwoyo Bosire	LIBRARY HI TECH	2015	33	3	2	0.33
Forecasting tourism demand with multisource big data	Li, Hengyun; Hu, Mingming; Li, Gang	ANNALS OF TOURISM RESEARCH	2020	83		1	1
More effective strategies are required to strengthen public awareness of COVID-19: Evidence from Google Trends	Hu, Dingtao; Lou, Xiaoqi; Xu, Zhiwei; Meng, Nana; Xie, Qiaomei; Zhang, Man; Zou, Yanfeng; Liu, Jiatao; Sun, Guoping; Wang, Fang	JOURNAL OF GLOBAL HEALTH	2020	10	1	1	1

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Infection prediction using physiological and social data in social environments	Baldominos, Alejandro; Ogul, Hasan; Colomo-Palacios, Ricardo; Sanz-Moreno, Jose; Manuel Gomez-Pulido, Jose	INFORMATION PROCESSING & MANAGEMENT	2020	57	3	1	1
Heat-health vulnerability in temperate climates: lessons and response options from Ireland	Paterson, Shona K.; Godsmark, Christie Nicole	GLOBALIZATION AND HEALTH	2020	16	1	1	1
The Impact of Widely Publicized Suicides on Search Trends: Using Google Trends to Test the Werther and Papageno Effects	Gunn, John F., III; Goldstein, Sara E.; Lester, David	ARCHIVES OF SUICIDE RESEARCH	2020	24		1	1
Using Google Trends and Baidu Index to analyze the impacts of disaster events on company stock prices	Liu, Ying; Peng, Geng; Hu, Lanyi; Dong, Jichang; Zhang, Qingqing	INDUSTRIAL MANAGEMENT & DATA SYSTEMS	2020	120	2	1	1
What Does Google Trends Tell Us about the Impact of Brexit on the Unemployment Rate in the UK?	Simionescu, Mihaela; Streimikiene, Dalia; Strielkowski, Wadim	SUSTAINABILITY	2020	12	3	1	1
Dr. Google, I am in Pain-Global Internet Searches Associated with Pain: A Retrospective Analysis of Google Trends Data	Kaminski, Mikolaj; Loniewski, Igor; Marlicz, Wojciech	INTERNATIONAL JOURNAL OF ENVIRONMENTAL RESEARCH AND PUBLIC HEALTH	2020	17	3	1	1
Search trends preceding increases in suicide: A cross-correlation study of monthly Google search volume and suicide rate using transfer function models	Lee, Joo-Young	JOURNAL OF AFFECTIVE DISORDERS	2020	262		1	1
Responses to mass shooting events The interplay between the media and the public	Croitoru, Arie; Kien, Sara; Mahabir, Ron; Radzikowski, Jacek; Crooks, Andrew; Schuchard, Ross; Begay, Tatyanna; Lee, Ashley; Bettios, Alex; Stefanidis, Anthony	CRIMINOLOGY & PUBLIC POLICY	2020	19	1	1	1
Lifestyle Disease Surveillance Using Population Search Behavior: Feasibility Study	Memon, Shahan Ali; Razak, Saquib; Weber, Ingmar	JOURNAL OF MEDICAL INTERNET RESEARCH	2020	22	1	1	1
Electronic Cigarette Themes on Twitter: Dissemination Patterns and Relations with Online News and Search Engine Queries in South Korea	Paek, Hye-Jin; Baek, Hyunmi; Lee, Saerom; Hove, Thomas	HEALTH COMMUNICATION	2020	35	1	1	1
Volatility forecasting: the role of internet search activity and implied volatility	Basistha, Arabinda; Kurov, Alexander; Wolfe, Marketa	JOURNAL OF RISK MODEL VALIDATION	2020	14	1	1	1
EVIDENCE OF PARTISAN AGENDA FRAGMENTATION IN THE AMERICAN PUBLIC, 1959-2015	Gruszczynski, Mike	PUBLIC OPINION QUARTERLY	2019	83	4	1	0.5
Google Trends in tourism and hospitality research: a systematic literature review	Dinis, Gorete; Breda, Zelia; Costa, Carlos; Pacheco, Osvaldo	JOURNAL OF HOSPITALITY AND TOURISM TECHNOLOGY	2019	10	4	1	0.5
Horizon scanning to identify invasion risk of ornamental plants marketed in Spain	Bayon, Alvaro; Vila, Montserrat	NEOBIOTA	2019		52	1	0.5

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Predicting Contagion from the US Financial Crisis to International Stock Markets Using Dynamic Copula with Google Trends	Maneejuk, Paravee; Yamaka, Woraphon	MATHEMATICS	2019	7	11	1	0.5
A novel index of macroeconomic uncertainty for Turkey based on Google-Trends	Bilgin, Mehmet Huseyin; Demir, Ender; Gozgor, Giray; Karabulut, Gokhan; Kaya, Huseyin	ECONOMICS LETTERS	2019	184		1	0.5
A Review of Public Issue Salience: Concepts, Determinants and Effects on Voting	Dennison, James	POLITICAL STUDIES REVIEW	2019	17	4	1	0.5
Forecasting tourist arrivals: Google Trends meets mixed-frequency data	Havranek, Tomas; Zeynalov, Ayaz	TOURISM ECONOMICS	2019			1	0.5
Modelling international monthly tourism demand at the micro destination level with climate indicators and web-traffic data	Emili, Silvia; Figini, Paolo; Guizzardi, Andrea	TOURISM ECONOMICS	2019			1	0.5
Feeling Is Believing? Evidence From Earthquake Shaking Experience and Insurance Demand	Lin, Xiao	JOURNAL OF RISK AND INSURANCE	2020	87	2	1	0.5
Bringing forecasting into the future: Using Google to predict visitation in US national parks	Clark, Matt; Wilkins, Emily J.; Dagan, Dani T.; Powell, Robert; Sharp, Ryan L.; Hillis, Vicken	JOURNAL OF ENVIRONMENTAL MANAGEMENT	2019	243		1	0.5
Perspective: Global country-by-country response of public interest in the environment to the papal encyclical, Laudato Si'	McCallum, Malcolm L.	BIOLOGICAL CONSERVATION	2019	235		1	0.5
Laying the Foundation for a Successful Presidential Campaign: Public Attention and Fundraising in the Preprimary Period	Swearingen, C. Douglas	SOCIAL SCIENCE QUARTERLY	2019	100	4	1	0.5
Forecasting with auxiliary information in forecasts using multivariate singular spectrum analysis	Silva, Emmanuel Sirimal; Hassani, Hossein; Ghodsi, Mansi; Ghodsi, Zara	INFORMATION SCIENCES	2019	479		1	0.5
Mechanisms of meme propagation in the mediasphere: a system dynamics model	Perissi, Ilaria; Falsini, Sara; Bardi, Ugo	KYBERNETES	2019	48	1	1	0.5
Collective Perception and Exchange Rates	Reed, Markum; Ankouri, Kaotar	JOURNAL OF BEHAVIORAL FINANCE	2019	20	1	1	0.5
Leap2Trend: A Temporal Word Embedding Approach for Instant Detection of Emerging Scientific Trends	Dridi, Amna; Gaber, Mohamed Medhat; Azad, R. Muhammad Atif; Bhogal, Jagdev	IEEE ACCESS	2019	7		1	0.5
Can search engine data improve accuracy of demand forecasting for new products? Evidence from automotive market	Kim, Dongha; Woo, JongRoul; Shin, Jungwoo; Lee, Jongsu; Kim, Yongdai	INDUSTRIAL MANAGEMENT & DATA SYSTEMS	2019	119	5	1	0.5
A bibliometric analysis of inventory management research based on knowledge mapping	Ye, Yong; Ge, Yuanqin	ELECTRONIC LIBRARY	2019	37	1	1	0.5
Implicit frames of CSR: The interplay between the news media, organizational PR, and the public	van den Heijkant, Linda; Vliegenthart, Rens	PUBLIC RELATIONS REVIEW	2018	44	5	1	0.33
How Does the World Google the Internet, Anxiety, and Happiness?	Banerjee, Snehasish	CYBERPSYCHOLOGY BEHAVIOR AND	2018	21	9	1	0.33

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Google Searches for Cheap Cigarettes Spike at Tax Increases: Evidence from an Algorithm to Detect Spikes in Time Series Data	Caputi, Theodore L.	SOCIAL NETWORKING NICOTINE & TOBACCO RESEARCH	2018	20	6	1	0.33
When do Indians feel hot? Internet searches indicate seasonality suppresses adaptation to heat	Singh, Tanya; Siderius, Christian; Van der Velde, Ype	ENVIRONMENTAL RESEARCH LETTERS	2018	13	5	1	0.33
Googling the World: Global and Regional Information Flows in Google Trends	Segev, Elad	INTERNATIONAL JOURNAL OF COMMUNICATION	2018	12		1	0.33
Co-query volume as a proxy for brand relatedness	Cho, Sulah	INDUSTRIAL MANAGEMENT & DATA SYSTEMS	2018	118	4	1	0.33
INTERNET SEARCHES FOR SUICIDE	ITS ASSOCIATION WITH EPIDEMIOLOGICAL DATA AND INSIGHTS FOR PREVENTION PROGRAMS		2018	2018	30		1
An infodemiology study on breast cancer in Iran: Health information supply versus health information demand in PubMed and Google Trends	Hosseini, Shohreh Seyyed; Asemi, Asefeh; Shabani, Ahmad; Sohrabi, Mozafar Cheshmeh	ELECTRONIC LIBRARY	2018	36	2	1	0.33
Does Political Advertising Lead to Online Information Seeking? A Real-World Test Using Google Search Data	Housholder, Elizabeth; Watson, Brendan R.; LoRusso, Susan	JOURNAL OF BROADCASTING & ELECTRONIC MEDIA	2018	62	2	1	0.33
Did online publishers get it right? Using a naturalistic search strategy to review cognitive health promotion content on internet webpages	Hunter, P. V.; Delbaere, M.; O'Connell, M. E.; Cammer, A.; Seaton, J. X.; Friedrich, T.; Fick, F.	BMC GERIATRICS	2017	17		1	0.25
Digital news-seeking during wartime: Unobtrusive measures of Pakistani and American attention to drone strikes	Kalmoe, Nathan	JOURNAL OF INFORMATION TECHNOLOGY & POLITICS	2017	14	1	1	0.25
The life cycle of social media	Franses, Philip Hans	APPLIED ECONOMICS LETTERS	2015	22	10	1	0.17
Searching for Czech towns by Google users	Horak, Jiri; Ivan, Igor; Navratova, Marketa; Ardielli, Jiri	GEOGRAFIE	2013	118	3	1	0.13
Evaluating the environmental protection strategy of a printed circuit board manufacturer using a T-w fuzzy importance performance analysis with Google Trends	Chen, Kuen-Suan; Lin, Kuo-Ping; Lin, Li-Ju	EXPERT SYSTEMS WITH APPLICATIONS	2020	156		0	0
Role of scavengers in providing non-material contributions to people	Aguilera-Alcala, Natividad; Morales-Reyes, Zebensui; Martin-Lopez, Berta; Moleon, Marcos; Antonio Sanchez-Zapata, Jose	ECOLOGICAL INDICATORS	2020	117		0	0
Which predictor is more predictive for Bitcoin volatility? And why?	Liang, Chao; Zhang, Yaojie; Li, Xiafei; Ma, Feng	INTERNATIONAL JOURNAL OF	2020			0	0

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		FINANCE & ECONOMICS					
Impact of the COVID-19 Pandemic on Mental Health: Real-Time Surveillance Using Google Trends	Hoerger, Michael; Alonzi, Sarah; Perry, Laura M.; Voss, Hallie M.; Easwar, Sanjana; Gerhart, James I.	PSYCHOLOGICAL TRAUMA-THEORY RESEARCH PRACTICE AND POLICY	2020	12	6	0	0
COVID-19 outbreak, social response, and early economic effects: a global VAR analysis of cross-country interdependencies	Milani, Fabio	JOURNAL OF POPULATION ECONOMICS	2020			0	0
Bank deposits and Google searches in a crisis economy: Bayesian non-linear evidence for Greece (2009-2015)	Konstantakis, Konstantinos N.; Paraskeuopoulou, Despoina; Michaelides, Panayotis G.; Tsionas, Efthymios G.	INTERNATIONAL JOURNAL OF FINANCE & ECONOMICS	2020			0	0
Brief Report: Public Awareness of Asperger Syndrome Following Greta Thunberg Appearances	Hartwell, Micah; Keener, Ashley; Coffey, Sara; Chesher, Tessa; Torgerson, Trevor; Vassar, Matt	JOURNAL OF AUTISM AND DEVELOPMENTAL DISORDERS	2020			0	0
Spatial and Temporal Comparison of Perceived Risks and Confirmed Cases of Lyme Disease: An Exploratory Study of Google Trends	Kim, Dohyeong; Maxwell, Sarah; Le, Quang	FRONTIERS IN PUBLIC HEALTH	2020	8		0	0
Stock-induced Google trends and the predictability of sectoral stock returns	Salisu, Afees A.; Ogbonna, Ahamuefula E.; Adediran, Idris	JOURNAL OF FORECASTING	2020			0	0
Forecasting Realized Volatility of Bitcoin: The Role of the Trade War	Bouri, Elie; Gkillas, Konstantinos; Gupta, Rangan; Pierdzioch, Christian	COMPUTATIONAL ECONOMICS	2020			0	0
Using search engine data to gauge public interest in mental health, politics and violence in the context of mass shootings	Vargas, T.; Schiffman, J.; Lam, P. H.; Kim, A.; Mittal, V. A.	PLOS ONE	2020	15	8	0	0
Analyzing online search patterns of music festival tourists	Montoro-Pons, Juan D.; Cuadrado-Garcia, Manuel	TOURISM ECONOMICS	2020			0	0
In Search of a Job: Forecasting Employment Growth Using Google Trends	Borup, Daniel; Schutte, Erik Christian Montes	JOURNAL OF BUSINESS & ECONOMIC STATISTICS	2020			0	0
Tracking societal concerns on pesticides - a Google Trends analysis	Schaub, Sergei; Huber, Robert; Finger, Robert	ENVIRONMENTAL RESEARCH LETTERS	2020	15	8	0	0
A copycat crime meme: Ghost riding the whip	Surette, Ray	CRIME MEDIA CULTURE	2020	16	2	0	0
Forecasting crude oil price with multilingual search engine data	Li, Jingjing; Tang, Ling; Wang, Shouyang	PHYSICA A-STATISTICAL MECHANICS AND ITS APPLICATIONS	2020	551		0	0

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Nowcasting the Greek (semi-) deposit run: Hidden uncertainty about the future currency in a Google search	Anastasiou, Dimitrios; Drakos, Konstantinos	INTERNATIONAL JOURNAL OF FINANCE & ECONOMICS	2020			0	0
Popularity and Visibility Appraisals for Computing Olympic Medal Rankings	Garcia-del-Barrio, Pedro; Gomez-Gonzalez, Carlos; Manuel Sanchez-Santos, Jose	SOCIAL SCIENCE QUARTERLY	2020			0	0
Public Awareness of Nature and the Environment During the COVID-19 Crisis	Rousseau, Sandra; Deschacht, Nick	ENVIRONMENTAL & RESOURCE ECONOMICS	2020	76	4	0	0
Validation: The Use of Google Trends as an Alternative Data Source for COVID-19 Surveillance in Indonesia	Nindrea, Ricvan Dana; Sari, Nissa Prima; Lazuardi, Lutfan; Aryandono, Teguh	ASIA-PACIFIC JOURNAL OF PUBLIC HEALTH	2020			0	0
Information Search and Financial Markets under COVID-19	Ahundjanov, Behzod B.; Akhundjanov, Sherzod B.; Okhunjanov, Botir B.	ENTROPY	2020	22	7	0	0
Daily tourism volume forecasting for tourist attractions	Bi, Jian-Wu; Liu, Yang; Li, Hui	ANNALS OF TOURISM RESEARCH	2020	83		0	0
Using networks and partial differential equations to forecast bitcoin price movement	Wang, Yufang; Wang, Haiyan	CHAOS	2020	30	7	0	0
Knowledge mapping of tourism demand forecasting research	Zhang, Chengyuan; Wang, Shouyang; Sun, Shaolong; Wei, Yunjie	TOURISM MANAGEMENT PERSPECTIVES	2020	35		0	0
Cycles of attention to fad diets and internet search trends by Google trends	Passos, Jasilaine Andrade; Vasconcellos-Silva, Paulo Roberto; da Silva Santos, Ligia Amparo	CIENCIA & SAUDE COLETIVA	2020	25	7	0	0
High spatial and temporal detail in timely prediction of tourism demand	Emili, Silvia; Gardini, Attilio; Foscolo, Enrico	INTERNATIONAL JOURNAL OF TOURISM RESEARCH	2020	22	4	0	0
Do economic downturns fuel racial animus?	Anderson, D. Mark; Crost, Benjamin; Rees, Daniel, I	JOURNAL OF ECONOMIC BEHAVIOR & ORGANIZATION	2020	175		0	0
Nowcasting in real time using popularity priors	Monokroussos, George; Zhao, Yongchen	INTERNATIONAL JOURNAL OF FORECASTING	2020	36	3	0	0
Epidemiology of inflation expectations and internet search: an analysis for India	Saakshi; Sahu, Sohini; Chattopadhyay, Siddhartha	JOURNAL OF ECONOMIC INTERACTION AND COORDINATION	2020	15	3	0	0
A State-Level Analysis of Mortality and Google Searches for Pornography: Insight from Life History Theory	Cheng, Lei; Zhou, Xuan; Wang, Fang; Xiao, Lijuan	ARCHIVES OF SEXUAL BEHAVIOR	2020			0	0
Changes in Suicide and Resilience-related Google Searches during the Early Stages of the COVID-19 Pandemic	Sinyor, Mark; Spittal, Matthew J.; Niederkrotenthaler, Thomas	CANADIAN JOURNAL OF PSYCHIATRY-REVUE	2020			0	0

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		CANADIENNE DE PSYCHIATRIE					
Improving Tourist Arrival Prediction: A Big Data and Artificial Neural Network Approach	Hoepken, Wolfram; Eberle, Tobias; Fuchs, Matthias; Lexhagen, Maria	JOURNAL OF TRAVEL RESEARCH	2020			0	0
In search of art: rapid estimates of gallery and museum visits using Google Trends	Botta, Federico; Preis, Tobias; Moat, Helen Susannah	EPJ DATA SCIENCE	2020	9	1	0	0
Computational Forecasting Methodology for Acute Respiratory Infectious Disease Dynamics	Alejandro Gonzalez-Bandala, Daniel; Carlos Cuevas-Tello, Juan; Noyola, Daniel E.; Comas-Garcia, Andreu; Garcia-Sepulveda, Christian A.	INTERNATIONAL JOURNAL OF ENVIRONMENTAL RESEARCH AND PUBLIC HEALTH	2020	17	12	0	0
Using Google Trends to assess the impact of global public health days on online health information seeking behaviour in Central and South America	Havelka, Eva Maria; Mallen, Christian David; Shepherd, Thomas Andrew	JOURNAL OF GLOBAL HEALTH	2020	10	1	0	0
Consequences of banning commercial solaria in 2016 in Australia	Gordon, Louisa G.; Sinclair, Craig; Cleaves, Noel; Makin, Jennifer K.; Rodriguez-Acevedo, Astrid J.; Green, Adele C.	HEALTH POLICY	2020	124	6	0	0
A content analysis from 153 years of print and online media shows positive perceptions of the hellbender salamander follow the conservation biology	Unger, Shem D.; Hickman, Caleb R.	BIOLOGICAL CONSERVATION	2020	246		0	0
Improving unemployment rate forecasts at regional level in Romania using Google Trends	Mihaela, Simionescu	TECHNOLOGICAL FORECASTING AND SOCIAL CHANGE	2020	155		0	0
Absolutist Words From Search Volume Data Predict State-Level Suicide Rates in the United States	Adam-Troian, Jais; Arciszewski, Thomas	CLINICAL PSYCHOLOGICAL SCIENCE	2020	8	4	0	0
The traces of ecotourism in a digital world: spatial and trend analysis of geotagged photographs on social media and Google search data for sustainable development	Go, Hanyoung; Kang, Myunghwa; Nam, Yunwoo	JOURNAL OF HOSPITALITY AND TOURISM TECHNOLOGY	2020			0	0
Nature or Science: what Google Trends says	Turki, Houcemeddine; Taieb, Mohamed Ali Hadj; Ben Aouicha, Mohamed; Abraham, Ajith	SCIENTOMETRICS	2020	124	2	0	0
Shining the light on abortion: Drivers of online abortion searches across the United States in 2018	Guendelman, Sylvia; Yon, Elena; Pleasants, Elizabeth; Hubbard, Alan; Prata, Ndola	PLOS ONE	2020	15	5	0	0
Health insurance and self-assessed health: New evidence from Affordable Care Act repeal fear	Li, Xiaoxue; Stith, Sarah S.	HEALTH ECONOMICS	2020	29	9	0	0
Immigration enforcement awareness and community engagement with police: Evidence from domestic violence calls in Los Angeles	Muchow, Ashley N.; Amuedo-Dorantes, Catalina	JOURNAL OF URBAN ECONOMICS	2020	117		0	0
Google trends identifying seasons of religious gathering: applied to investigate the correlation between crowding and flu outbreak	Elhussein, Mariam; Brahimi, Samiha; Alreedy, Abdullah; Alqahtani, Mohammed; Olatunji, Sunday O.	INFORMATION PROCESSING & MANAGEMENT	2020	57	3	0	0

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A Language-Independent Measurement of Economic Policy Uncertainty in Eastern European Countries	Kupfer, Alexander; Zorn, Josef	EMERGING MARKETS FINANCE AND TRADE	2020	56	5	0	0
Determination of the Popularity of Dietary Supplements Using Google Search Rankings	Kaminski, Mikolaj; Kregielska-Narozna, Matylda; Bogdanski, Pawel	NUTRIENTS	2020	12	4	0	0
Enhanced Public Interest in Response to the Refugee and Healthcare Crises in Greece	Kotsiou, Ourania S.; Kotsios, Vaios S.; Gourgoulianis, Konstantinos I.	INTERNATIONAL JOURNAL OF ENVIRONMENTAL RESEARCH AND PUBLIC HEALTH	2020	17	7	0	0
Quantifying the sustainability of Bitcoin and Blockchain	Fry, John; Serbera, Jean-Philippe	JOURNAL OF ENTERPRISE INFORMATION MANAGEMENT	2020			0	0
The Dark Web and cannabis use in the United States: Evidence from a big data research design	Jardine, Eric; Lindner, Andrew M.	INTERNATIONAL JOURNAL OF DRUG POLICY	2020	76		0	0
Forecasting Foreign Exchange Markets Using Google Trends: Prediction Performance of Competing Models	Wilcoxson, Jordan; Follett, Lendie; Severe, Sean	JOURNAL OF BEHAVIORAL FINANCE	2020			0	0
An Extensive Search Trends-Based Analysis of Public Attention on Social Media in the Early Outbreak of COVID-19 in China	Xie, Tiantian; Tang, Tao; Li, Jun	RISK MANAGEMENT AND HEALTHCARE POLICY	2020	13		0	0
FORECASTING THE INFLATION RATE IN POLAND AND US USING DYNAMIC MODEL AVERAGING (DMA) AND GOOGLE QUERIES	Drachal, Krzysztof	ROMANIAN JOURNAL OF ECONOMIC FORECASTING	2020	23	2	0	0
Evolution of the popularity of Donald Trump and other international leaders on Google Trends (2016-2019)	Villa-Gracia, Daniel; Cerdan, Victor	PROFESIONAL DE LA INFORMACION	2020	29	1	0	0
Inequality and Bias in the Demand for and Supply of News	Owen, Ann L.; Wei, Andrew	SOCIAL SCIENCE QUARTERLY	2020	101	1	0	0
Online Searching and Social Media to Detect Alcohol Use Risk at Population Scale	Weitzman, Elissa R.; Magane, Kara M.; Chen, Po-Hua; Amiri, Hadi; Naimi, Timothy S.; Wisk, Lauren E.	AMERICAN JOURNAL OF PREVENTIVE MEDICINE	2020	58	1	0	0
Searching for a better life: Predicting international migration with online search keywords	Boehme, Marcus H.; Groeger, Andre; Stoehr, Tobias	JOURNAL OF DEVELOPMENT ECONOMICS	2020	142		0	0
When is prime-time in streaming media platforms and video-on-demands services? New media consumption patterns and real-time economy	Tana, Jonas; Eirola, Emil; Nylund, Mats	EUROPEAN JOURNAL OF COMMUNICATION	2020	35	2	0	0
The secret life of PETs A cross-sectional analysis of interest in privacy enhancing technologies	Makin, David A.; Ireland, Leanna	POLICING-AN INTERNATIONAL	2020	43	1	0	0

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		JOURNAL OF POLICE STRATEGIES & MANAGEMENT					
Internet search query data improve forecasts of daily emergency department volume	Tideman, Sam; Santillana, Mauricio; Bickel, Jonathan; Reis, Ben	JOURNAL OF THE AMERICAN MEDICAL INFORMATICS ASSOCIATION	2019	26	12	0	0
Rhythmicity of health information behaviour	Tana, Jonas; Eirola, Emil; Eriksson-Backa, Kristina	ASLIB JOURNAL OF INFORMATION MANAGEMENT	2019	71	6	0	0
Utilizing the infodemiology approach to study temporal patterns and variations							
Moving the Needle in MMA: On the Marginal Revenue Product of UFC Fighters	Gift, Paul	JOURNAL OF SPORTS ECONOMICS	2020	21	2	0	0
Can google trends improve sales forecasts on a product level?	Fritzsch, Benjamin; Wenger, Kai; Sibbertsen, Philipp; Ullmann, Georg	APPLIED ECONOMICS LETTERS	2019			0	0
Google Trends and forecasting of influenza epidemics in Lithuania	Austys, D.; Burneikait, M.	EUROPEAN JOURNAL OF PUBLIC HEALTH	2019	29		0	0
Tax reforms and Google searches: the case of Spanish VAT reforms during the great recession	Artes, Joaquin; Botello Mainieri, Ana Melissa; Jesus Sanchez-Fuentes, A.	SERIES-JOURNAL OF THE SPANISH ECONOMIC ASSOCIATION	2019	10	3-4	0	0
Do changes in threat salience predict the moral content of sermons? The case of Friday Khutbas in Turkey	Alper, Sinan; Bayrak, Fatih; Us, Elif Oyku; Yilmaz, Onurcan	EUROPEAN JOURNAL OF SOCIAL PSYCHOLOGY	2020	50	3	0	0
Immigration, uncertainty and macroeconomic dynamics	Donadelli, Michael; Gerotto, Luca; Lucchetta, Marcella; Arzu, Daniela	WORLD ECONOMY	2020	43	2	0	0
Extreme dependence in investor attention and stock returns ? consequences for forecasting stock returns and measuring systemic risk	Scheffer, Marcus; Weiss, Gregor N. F.	QUANTITATIVE FINANCE	2020	20	3	0	0
Filtering and prediction of noisy and unstable signals: The case of Google Trends data	Fenga, Livio	JOURNAL OF FORECASTING	2019			0	0
Public interest in gun control in the USA	Niforatos, Joshua D.; Zheutlin, Alexander R.; Pescatore, Richard M.	INJURY PREVENTION	2019	25		0	0
ONLINE DATING AND SEXUALLY TRANSMITTED INFECTIONS IN ENGLAND: AN ECOLOGICAL STUDY USING GOOGLE TRENDS DATA	Jennings, L. K. R. P.; Kypridemos, C.	JOURNAL OF EPIDEMIOLOGY AND COMMUNITY HEALTH	2019	73		0	0
Measuring Christian Religiosity by Google Trends	Yeung, Timothy Yu-Cheong	REVIEW OF RELIGIOUS RESEARCH	2019	61	3	0	0
Measuring Uncertainty for New Zealand Using Data-Rich Approach	Trung Duc Tran; Vehbi, Tugrul; Wong, Benjamin	AUSTRALIAN ECONOMIC REVIEW	2019	52	3	0	0

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Bidding for attention: using google trends to measure global interest in Olympic bidders	Stow, Hollie; Bason, Tom	SPORT IN SOCIETY	2019			0	0
The public and legislative impact of hyperconcentrated topic news	Sheshadri, Karthik; Singh, Munindar P.	SCIENCE ADVANCES	2019	5	8	0	0
A copycat crime meme: Ghost riding the whip	Surette, Ray	CRIME MEDIA CULTURE	2019			0	0
Here's Looking at You: Public- Versus Elite-Driven Models of Presidential Primary Elections	Swearingen, Colin Douglas; Stiles, Elizabeth; Finneran, Kate	SOCIAL SCIENCE QUARTERLY	2019	100	5	0	0
The Effects of Publicized Suicide Deaths on Subsequent Suicide Counts in Israel	Bakst, Shelly S.; Berchenko, Yakir; Braun, Tali; Shohat, Tamy	ARCHIVES OF SUICIDE RESEARCH	2019	23	3	0	0
Building sectoral job search indices for the United States	Pan, Wei-Fong	ECONOMICS LETTERS	2019	180		0	0
Illuminating the Sewol Ferry Disaster using the institutional model of punctuated equilibrium theory	Cho, Ki Woong; Jung, Kyujin	SOCIAL SCIENCE JOURNAL	2019	56	2	0	0
Changes in Internet Suicide Search Volumes Following Celebrity Suicides	Ortiz, Shelby N.; Forrest, Lauren N.; Fisher, Thomas J.; Hughes, Michael; Smith, April R.	CYBERPSYCHOLOGY BEHAVIOR AND SOCIAL NETWORKING	2019	22	6	0	0
Utilizing Google Trends to Measure Public Interest in Marijuana Before and After Recreational Legalization in California	Khan, Khalid Salim; Athanasiou, Nicholas; Burke, Michael	AMERICAN JOURNAL ON ADDICTIONS	2019	28	3	0	0
Exploring spatiotemporal heterogeneity in online travel searches: a local spatial model approach	Xu, Jing; Jin, Cheng	GEOGRAFISK TIDSSKRIFT-DANISH JOURNAL OF GEOGRAPHY	2019	119	2	0	0
How many facets does a social robot have? A review of scientific and popular definitions online	Sarrica, Mauro; Brondi, Sonia; Fortunati, Leopoldina	INFORMATION TECHNOLOGY & PEOPLE	2019	33	1	0	0
IMPACT OF BEHAVIOURAL ATTENTION ON THE HOUSEHOLDS' FOREIGN CURRENCY SAVINGS AS A RESPONSE TO THE EXTERNAL MACROECONOMIC SHOCKS	Deltuvaite, Vilma; Kapounek, Svatopluk; Korab, Petr	PRAGUE ECONOMIC PAPERS	2019	28	2	0	0
Leveraging media informatics for the surveillance and understanding of disease outbreaks	Falade, Bankole	SOUTH AFRICAN JOURNAL OF SCIENCE	2019	115	3-4	0	0
A Comparative Analysis of Worldwide Trends in the Use of Information and Communications Technology in Engineering Education	Martin, Sergio; Lopez-Martin, Esther; Moreno-Pulido, Alexis; Meier, Russ; Castro, Manuel	IEEE ACCESS	2019	7		0	0
Behavioural Attention to Financial Indicators: Evidence from Google Trends Data	Stejskalova, Jolana	FINANCE A UVER-CZECH JOURNAL OF ECONOMICS AND FINANCE	2019	69	5	0	0

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Valuable information in early sales proxies: The use of Google search ranks in portfolio optimization	Kupfer, Alexander; Zorn, Josef	JOURNAL OF FORECASTING	2019	38	1	0	0
Does investor attention to energy stocks exhibit power law?	Ranjan, Ravi Prakash; Bhattachharyya, Malay	ENERGY ECONOMICS	2018	75		0	0
Appetitive information seeking behaviour reveals robust daily rhythmicity for Internet-based food-related keyword searches	Alvarado, Nicolas Scrutton; Stevenson, Tyler J.	ROYAL SOCIETY OPEN SCIENCE	2018	5	7	0	0
Replicating Predicting the present with Google trends by Hyunyoung Choi and Hal Varian (The Economic Record, 2012)	Coupe, Tom	ECONOMICS-THE OPEN ACCESS OPEN-ASSESSMENT E-JOURNAL	2018	12		0	0
Racial climate and homeownership	Harris, Timothy F.; Yelowitz, Aaron	JOURNAL OF HOUSING ECONOMICS	2018	40		0	0
FORECASTING OF WEST NILE EPIDEMICS USING GOOGLE TRENDS: US STATE-SPECIFIC SEARCH BEHAVIOR	Champion, Cody J.; Xu, Jiannong	ANNALS OF BEHAVIORAL MEDICINE	2018	52		0	0
How good can heuristic-based forecasts be? A comparative performance of econometric and heuristic models for UK and US asset returns	Guidolin, Massimo; Orlov, Alexei G.; Pedio, Manuela	QUANTITATIVE FINANCE	2018	18	1	0	0
Fines versus prison for the issuance of bad checks: Evidence from a policy shift in Turkey	Eksi, Ozan; Gurdal, Mehmet Y.; Orman, Cuneyt	JOURNAL OF ECONOMIC BEHAVIOR & ORGANIZATION	2017	143		0	0
The use of open source internet to analysis and predict stock market trading volume	Moussa, Faten; BenOuda, Olfa; Delhoumi, Ezzeddine	RESEARCH IN INTERNATIONAL BUSINESS AND FINANCE	2017	41		0	0
Utility of Web search query data in testing theoretical assumptions about mephedrone	Kapitany-Foveny, Mate; Demetrovics, Zsolt	HUMAN PSYCHOPHARMACOLOGY-CLINICAL AND EXPERIMENTAL	2017	32	3	0	0
How Does the Internet Pornography Market Function?	Joos, Richard	ZEITSCHRIFT FUR SEXUALFORSCHUNG	2017	30	1	0	0
THE DIFFERENCES IN EFFECTS OF RENAMING SCHIZOPHRENIA AMONG 3 ASIAN COUNTRIES USING GOOGLE TRENDS	Lee, Yu Sang; Kwon, Jun Soo; Hong, Kyung Sue	SCHIZOPHRENIA BULLETIN	2017	43		0	0

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Mists, vapors and other illusory volatilities of electronic cigarettes	de Almeida, Liz Maria; da Silva, Rildo Pereira; Cheriff dos Santos, Antonio Tadeu; de Andrade, Joecy Dias; Suarez, Maribel Carvalho	CADERNOS DE SAUDE PUBLICA	2017	33		0	0
Adverse drug reaction early warning using user search data	Shang, Wei; Chen, Hsinchun; Livoti, Christine	ONLINE INFORMATION REVIEW	2017	41	4	0	0
Association between volume and momentum of online searches and real-world collective unrest	Qi, Hong; Manrique, Pedro; Johnson, Daniela; Restrepo, Elvira; Johnson, Neil F.	Results in Physics	2016	6		0	0
Novel Data Sources for Women's Health Research: Mapping Breast Screening Information Seeking Through Google Trends	Dehkordy, Soudabeh Fazeli; Carlos, Ruth; Hall, Kelli; Dalton, Vanessa	JOURNAL OF WOMENS HEALTH	2014	23	4	0	0
EARLY 2012 WINNERS AND LOSERS: ELLISON SAILS, GOOGLE TRENDS DOWNWARD	[Anonymous]	FORBES	2012	189	2	0	0