ADVANCES IN BEHAVIORAL ECONOMICS AND RESPONSIBLE COMPETITION LEADERSHIP:
TACKLING SEARCHPLACE DISCRIMINATION

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The digital millennium leveraged the World Wide Web into a powerful information source. Online internet searchplaces guide human everyday decisions. The strategic placement of information in search engine results has become increasingly important in corporate and political settings. Virtual competition derails in negative search engine de-optimization and unethical strategic searchplace manipulation that degrades the perception of a search term by pushing out competitors' quality content from search engine results. This article discusses technicalities of searchplace discrimination in erasing useful information about competition for negative, unrelated, spamming, or harmful contents. In light of the negative implications of searchplace discrimination, cyberbullying and online inequalities, behavioral economics and responsible competition leadership can aid in creating inclusive digital worlds. Behavioral insights should draw attention to self-determined internet user empowerment to correct abuse of algorithmic loopholes. Legal advancements, regulatory oversight, economic incentives, technical support and industry rescue funds work towards discrimination-free online searchplaces in favor for quality content over unethical competition. Ethics of online inclusion, law and economics analyses of searchplaces and interdisciplinary dialogue building on searchplace ethics but also human-artificial intelligence algorithm compatibility and cyber-checks-and-balances to tackle searchplace discrimination are expected to become key advancements in behavioral e-ethics and competition leadership of the future.

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01
INTRODUCTION

A. The Rise of Online Searchplaces

Recent decades have seen breakthroughs in technological developments triggering a digital revolution with palpable consequences in our daily lives. The World Wide Web has become a powerful source of information exchange. By now the constant access to amalgamated crowd wisdom derived from online searchplaces, such as Google, Bing, Yahoo, DuckDuckGo, Yandex etc., guides human everyday decisions and constant choices.

Since the 1990s, online data presentation started to become more systematically structured. Internet search engines were available for the general public that used software systems carrying out searches on the World Wide Web in a consumer-oriented hands-on, yet fairly unregulated way.

With exponentially-rising information exchange online, human dependency on technological display of information online has risen steadily.[2] The information gain via technological devices turned into the most relevant information source used all the time, often without reflection.[3] With the advent of structured data presentation in online search engines, suddenly the entire world began to use online data provision *en masse* and on a constant basis, imposing a verb to describe this action as "to google" something.[4]

With the rise of social online media internet companies, such as Facebook, Twitter, Instagram and TikTok, and the popularity of smart devices, we have become familiar and more confident with constant information exchange on public online platforms and public display of personal information. With the advent and massification of so-called social networks – personal portals where people constantly register and consult information from their social environments openly online – search engines to navigate big data on the internet became the most important information channels in the modern world. Social media event crowd formation steered revolutions in the Arab world.

Search engines boomed in the wake of the COVID-19 pandemic. Systematic lockdowns of entire populations pushed humans to increasingly use digital devices in order to achieve some sort of social connection on a global level. Crowded hospitals and fear of contagion opened gates for e-healthcare and medical forums to gather crowd wisdom on health and well-being advice. Nations with the technological capability used massive surveillance systems of entire populations to control and contain SARS-CoV-2. Education shifted to remote learning in record speed.[5]

Today, real-time information collection online holds most valuable insights to guide human interaction, social choices, and everyday behavior on a worldwide scale. The currently-breaking 5G technology will enable digitalization to encroach all sorts and tasks of modern life, which is likely to continuously increase the provision and use of information retrieved online for everyday purposes in the future.

B. Searchplaces Technicalities

The enormous and constantly rising amount of internet searchplace activity is supported by artificial intelligence enabling search engine results generation. Search engines are primarily maintained by algorithms and web crawlers continuously processing a rising amount of information appearing online in real-time. The digital revolution generated algorithmic learning technology with processes resembling human decision making, but much faster and often more efficient.

Search engines have grown quantitatively and qualitatively in the last three decades. Computer capacity to process data rose exponentially. As increasingly sophisticated algorithms provided information cheap, quickly and on a worldwide scale, individuals more and more turned to online search functions as all-around aids in navigating through complex daily lives.

With a rise of information transfer online, search engines became more sophisticated with tools including lists of web pages, images, videos, infographics, articles, research papers and other types of mined data and files associated with particular search terms. Search results and features differ by search platform but most often include short description snippets, images, maps, definitions, answer boxes, videos, news, blogs, knowledge graphs, discovery and suggested search refinements or newly-emerging vocalized commands.

Since the beginnings of search engines in the 1990s, three features and trends remain at the core of online searchplaces: (1) The relevance of real-time adjustment to keep up with a rising communication activity online, (2) the commer-

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2 *Slowbalisation: The steam has gone out of globalisation: A new pattern of world commerce is becoming clearer – as are its costs*, THE ECONOMIST (Jan. 24, 2019), https://www.economist.com/leaders/2019/01/24/the-steam-has-gone-out-of-globalisation.

3 Francisco Bariffi & Julia Margarete Puaschunder, *Artificial Intelligence and Big Data in the age of COVID-19*. RAIS CONF. PROCEEDINGS: 24TH INT'L RAIS CONF. ON SOC. SCI. & HUMANITIES 1 (2021), http://rais.education/wp-content/uploads/2021/11/0115.pdf.

4 *Id*.; JULIA MARGARETE PUASCHUNDER, ETHICS OF INCLUSION: THE CASES OF HEALTH, ECONOMICS, EDUCATION, DIGITALIZATION AND THE ENVIRONMENT IN THE POST-COVID-19 ERA (2022).

5 Titus Corlatean, *Risk, discrimination and opportunities for education during the times of COVID-19 pandemic*, RAIS CONF. PROCEEDINGS: 17TH INT'L RAIS CONF. ON SOC. SCI. & HUMANITIES 37 (2020), http://rais.education/wp-content/uploads/2020/06/004TC.pdf.

cialization of internet search functions as markets[6] and a (3) growing dependence on constantly iterative web crawlers and algorithms to present an exponentially-rising public information exchange on the internet in a palpable way.[7]

The usefulness of search engines depends on the relevance of the results provided to users searching for information.[8] Most search engines employ methods to rank results based on different constantly-changing criteria, which are not fully made transparent to the public web audience.[9] A mixture of predefined and hierarchically-ordered keywords programmed by humans is coupled with an inverted index generated by algorithms that analyze located texts and images.[10]

Competition among search engines has been a driving force in the evolution of search algorithms filtering relevant results with convenience. Searchplaces mainly compete on speed, accuracy, user-friendliness, and specific content-related searches.[11] Search results are partially based on a web of pages, their relevance and credibility ranking.[12] Usually, searches lead to several pages of descending relevancy and accuracy of contents.

To present search engine results online, mainly automated search engine algorithms rank websites based on a combination of popularity and relevancy.[13] Algorithms include factors such as quality and relevance of the content, expertise, authoritativeness, trustworthiness of websites and author on a given topic, good user experience as well as backlinks.[14]

Search Engine Results Pages ("SERPs") are pages displayed by search engines in response to a query by a user.[15] The results of search engine queries are usually ranked by relevance and credibility. Results usually display titles, links that direct to other pages on the World Wide Web, a short description snippet and descriptions where search terms have matched content with the results page.[16]

C. Searchplace Commercialization

Search engine providers generate revenue by commercial ventures – such as advertising, commercialization of listings in search results, search-related advertisements as well as big data analysis.[17] For sponsored results, advertisers choose what to display.

In most recent decades, the placement of homepages and competitive keywords have become an increasingly-important field of business and political interest.[18] Sponsored searchplace results are paid prominent information display – mostly on top of search engine results display – sold to the highest bidding entity. Sponsored creative results on Google have become a lucrative business with the most expensive keywords being sold for legal services, especially personal injury lawyers in highly competitive markets.[19] Targeted ads and classified advertisement that picks up searchplace users when searching for specific information have become prominent tools of online guerilla marketing.

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6   Bart Pursel, Search Engines, Penn State Pressbooks (Retrieved February 20, 2018); Neil Gandal, *The dynamics of competition in the internet search engine market*, 19 Int'l J. Ind. Org. 1103 (2001), doi:10.1016/S0167-7187(01)00065-0.

7   Sergey Brin & Larry Page, *The Anatomy of a Large-Scale Hypertextual Web Search Engine*, Proceedings Seventh Int'l WWW7 Conf. (1998, retrieved January 10, 2021); *Method for node ranking in a linked database, Google Patents*, archived from the original on 15 October 2015 (Retrieved 19 October 2015); *About: RankDex*, rankdex.com.

8   Wikipedia entry, *Search Engine*, Retrieved Aug. 20, 2022, https://en.wikipedia.org/wiki/Search_engine#cite_note-29.

9   Waman S Jawadekar, Knowledge Management: Tools and Technology, Knowledge Management: Text & Cases (2011).

10   Wikipedia entry, *Search Engine*, *supra* note 8.

11   *Id*.

12   *Id*.

13   El Segev, Google and the Digital Divide: The Biases of Online Knowledge (2010); Liwen Vaughan & Mike Thelwall, *Search engine coverage bias: evidence and possible causes*, 40 Info. Process & Mgmt. 693 (2004), doi:10.1016/S0306-4573(03)00063-3; Google, *How search works* (Retrieved Aug. 20, 2022), https://www.google.com/search/howsearchworks/how-search-works/ranking-results/.

14   Google, *id*.

15   Wikipedia entry, *Search Engine Results Page*, *id*.

16   *Id*.

17   Google, *supra* note 13.

18   *Google Warns: Automated Queries on Google is against the Terms of Service*, seroundtable.com (Retrieved Apr. 4, 2017), https://www.seroundtable.com/google-warns-automated-queries-23135.html.

19   Wikipedia entry, *Search Engine Results Page*, *id*.

The commercialization and the need to generate revenue, however, may conflict with searchplace providers' goal to offer the most useful, healthy and accurate information – for instance when one thinks of advertisement to clog limited human attention span capacity, or the social media paid advertisement scandals. Arguably, commercialization may crowd out the overall integrity and usability of searchplaces for users. In 2018, a European Commission study showed that consumers generally avoid paid top searchplace results expecting the sponsoring being less relevant and credible.[20]

02
SEARCHPLACE DISCRIMINATION

A. Systemically-Biased Searchplace Discrimination

While digitalization offers unprecedented human advancement in access to worldwide information, recently attention was drawn to systemic biases in searchplaces. Online information display in modern searchplaces have generated notable repercussions for arguments about human harmful biases influencing and replicating in algorithmic choices.

Empirical studies found political, economic, and social biases in the information display search engines provide.[21] Technological, political, societal but also economic biases have been addressed as underlying causes.[22] Biases are likely unnoticingly transmitted by programmers and artificially-created big data generated from large-scale preference amalgamation.[23] Online search engine portals have done most important work and attempts towards eradicating or – at least – alleviating biases.

At the same time, shifting marketplaces to online virtual spaces opens gates for misinformation and disinformation in search engines and online forums being intentionally used in a competitive, dishonest, and harmful sense.

B. Searchplace Discrimination due to Search Engine Exploitation

Besides technically-transmitted biases, search engine "rebel" users exploit the structures of search engine algorithms to strategically manipulate search results, often for commercial or strategic reasons.
Search engine optimization ("SEO") is the strategic manipulation of search engine results for political, career, social and commercial advantages. Positive SEO targets at improving the search engine listings of web pages for relevant content search terms.

Negative SEO aims at reducing the quality and relevance of search results of professional and commercial competitors. Negative search engine de-optimization ("SEDO") refers to strategic searchplace manipulation that aims at changing the perception of a term or push out competition from search engine results.[24] SEDO is primarily done for business, political, comical, and competitive purposes.[25]

In the case of Google – the most prominent search engine in the Western world – SEDO happens, for example, in the form of Google Bombing or Googlewashing, which causes a website to rank highly in web search engine results for irrelevant, unrelated or off-topic search terms. Spamdexing is the practice of deliberately modifying website markup ("HTML") to place a website close to the beginning of specific search engine results or to assign a page to unrelated content in a misleading or dishonest manner.[26]

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20 *Behavioural Study on the Transparency of Online Platforms*, European Union 19 (2018, retrieved Apr. 22, 2021).

21 Segev, *supra* note 13; Liwen & Thelwall, *supra* note 13; Bernard J. Jansen & Soo Young Rieh, *The Seventeen Theoretical Constructs of Information Searching and Information Retrieval*. 61 Am. Soc'y Int'l L. Proc. 1517 (2010).

22 Segev, *id*.; Liwen & Thelwall, *id*.; Jansen & Rieh, *id*.; Berkman Center for Internet & Society, *Replacement of Google with Alternative Search Systems in China: Documentation and Screen Shots*, Harvard Law School (2002); Lucas Introna & Helen Nissenbaum, *Shaping the Web: Why the Politics of Search Engines Matters*, 16 Info. Soc'y 169 (2000), doi:10.1080/01972240050133634. S2CID 2111039.

23 Bariffi & Puaschunder, *supra* note 3; Jamie Bartlett, The People vs. Tech: How the Internet is Killing Democracy and how we save it (2018); Malcolm Frank, Paul Roehring & Ben Pring, What to do when Machines do everything: Five Ways your Business can thrive in an Economy of Bots, AI, and Data (2017); Michael D. Smith & Rahul Telang, Streaming, Sharing, Stealing (2017); Seth Stephens-Davidowitz & Steven Pinker, Everybody lies: Big data, New Data, and what the Internet can tell us about who we really are (2018).

24 Orlowski, Andrew, *Anti-war slogan coined, repurposed and Googlewashed in 42 days*, The Register (April 3, 2003, retrieved Jan. 6, 2007); Andrew A. Adams & Rachel McCrindle, Pandora's Box: Social and Professional Issues of the Information Age (2008).

25 Tom Zeller. *A New Campaign Tactic: Manipulating Google Data*, The New York Times, October 26, 2006, at 20; Wikipedia entry, *Google bombing* (retrieved Aug. 20, 2022), https://en.wikipedia.org/wiki/Google_bombing#cite_note-nytimes1-1; Gary Price, Google and Google Bombing Now Included New Oxford American Dictionary, Search Engine Watch (May 16, 2005, archived January 27, 2007, retrieved January 29, 2007).

26 Zoltán Gyöngyi & Hector Garcia-Molina Web spam taxonomy (2005).

While these terms are primarily focused on webpages, individual search terms can also be subject to negative SEDO, which is referred to individual searchplace discrimination. Searchplace discrimination is primarily used in political, educational, and academic cases, where reputation capital stakes are high.

So-called Search Engine De-optimization black hat strategies are competitive and unethical distortions of search engine results that either overemphasize unfavorable search results (likely enabled via clickfarms) or create a misinformation, disinformation or spam overload that derails from accurate representations of individuals or entities online.

The strategic manipulation of SEO in a harassing, misrepresenting and discriminatory online display of unassociated, harmful, or violent information is often based on concrete strategies. This hardly-discussed and mainly-unregulated market information distortion discriminates individuals or entities, who hardly have legal protection, regulatory control mechanisms or community support from the individual and consumer perspective.

B. Search Engine De-Optimization ("SEDO") technicalities of searchplace discrimination

Searchplace discrimination occurs when individuals are targeted by erasing online quality content information, potentially due to data compartmentalization and wrong flagging of search results as well as overemphasizing negative, unrelated, spamming, or harmful content, potentially via clickfarms and automated bots.

First, negative SEO comes to play in strategically-manipulating of breaking big data clouds in combination with pegging harmful, outdated, or useless spamming information to actual content keywords describing the victim, so no coherent information is found, and no stable knowledge panel is formed. Data compartmentalization may be enabled by capping Google search results at a low number (indicated by Google). The algorithm is tricked to cap the number of search results by infusing critical or unfavored contents (e.g., crimes, hate speech, obscene language, violent, illegal, sexual or outdated content) and then highlighting unfavorable, misleading and/or compromising information via clickfarms in the cropped displayed results. Search engine data cloud compartmentalization may be used to create separate data clouds with positive and negative results, in order to then overemphasize negative or useless search engine results while shifting quality content into clusters that appear under unrelated searchterms or keywords.

Second, SEDO can be used to erase online content by inappropriately flagging competitors' quality or favorable contents in order to make competitors' positive image cues disappear and/or the big data of competitors less relevant for search engines. SEDO is possibly due to the fact that most real-time searchplaces are enabled mainly based on algorithmic iterative processes and human quality control of

flagging is limited. Positive or content information can thus be erased by flagging content online that gets immediately taken offline. The process includes hardly any resuscitation control by human review. While there is a positive possibility to craft the internet search results together and positive quality control is enabled via flagging online content, reporting inappropriate online content gets blocked immediately. Little quality control is given to this option being used as a strategy to push down or make appropriate content disappear in the wake of competition.

Third, up-playing and aggressively displaying negative contents, calling on hateful online crowds and bad reviews in order to damage competitors' reputations, may be enabled via clickfarms and Amazon mechanical Turk ("mTurk"), algorithmic repetitive accessing of online contents via bots and posting in hateful echo chambers of the internet. Wrong images displayed – potentially brought into Bing searches via related search results of clickfarms in combination with shooting out quality images through backlinks, pegging quality contents to harmful or outdated contents (e.g., crimes or ancient death notices) in third-party knowledge broker systems (e.g. SlideToDoc, Pagaloo, DATAnalyze, Readcube etc.) and comment buttons fed with flagged content – are additional black hat techniques to bring down quality search results and elicit a false image in a malicious and/or harmfully-competitive way.

These manipulations impose a wide range of damage and negative externalities. For instance, if individual consumers struggle to find credible results. In the case of vulnerable populations, such as children – innocent internet users may end up traumatized when being exposed to harmful, aggressive or violent contents. Victims of cyberbullying and searchplace discrimination may face an uphill battle when it comes to critical life gateway decisions determining educational paths and careers. The socio-economic damage may include impairment of careers, scientific advancement but also derailed purchase potential when it comes to searchplace discrimination against promotion and job market candidates, finance professionals, academics and authors or artists selling products, services or ideas online.

03
REGULATING SEARCHPLACE DISCRIMINATION

With instant information exchange on social online media playing an increasing role in politics, finance and economics, governments all over the world have set out to better understand the collective impact of online con-

tent.[27] Social crowd control through online information display has become subject to debate of governmental security.[28]

The role of social media online information exchange for law making, in particular in developing customary law in the international law context, has recently become subject to scrutiny by the International Law Commission and debate in global governance and policy contexts.[29]

In the comparative international arena, governance, and governmental approaches to regulate internet activities differ substantially around the world. Even with the complex supranational legal system of the European Union, the approaches of individual countries in curbing the global phenomenon of internet security vary.

The governmental and regulatory responses to individual searchplace discrimination are to this day just forming in response to industry developments. Individual searchplace discrimination via SEDO techniques and black hat strategies are fairly undiscussed and unregulated. One reason for this may be that the changes to search results often appear only temporally and/or gradually so that the manipulation is barely noticed and hard to track down. Discourse on these tactics remains scarce, and legal and regulatory measures appear insufficient.

In general, previous SEO growth has resulted in consumer pressure to debias searchplaces. In recent years, the public opinion and stakeholder critique made – for instance – the market leader Google pay increasing attention to correcting errors and manipulative distortions.[30] With Google management having become aware of deliberate distortions of search results and increasing stakeholder concern over the credibility and misuse of online searchplaces, industry re-

sponses against strategic, competitive manipulation have turned search engine providers to punish strategic manipulation of search engine results.[31]

Technically, search engine engineers, like Google and Bing, can change the position of a website if ranked very low compared to its competitors but it requires human attention and likely compulsory regulatory action for searchplace providers to do so.[32] If being called for action and detecting misuse, Google can immediately remove spam and harmful contents from Google searches and also correct misleading snippets.[33] Google also informs that if strategic manipulation of search results gets noticed, an overcorrection towards the other end of the display spectrum, hence overemphasizing the disturbed result, may occur in order to punish and deter searchplace manipulation. Bing can exclude related search bubble suggestion buttons if harmful or violent content pops up. Amazon can curb its search results to specific content results if the suspicion exists that unrelated products are maliciously pegged to a competitor to bring down credibility or water down a specific big data cloud formation. Searchplaces permit owners of websites to disavow harmful and spamming backlinks pegged to websites.[34] All these measures, however, require the awareness, attention, knowledge and pro-active engagement of the searchplace-discriminated victim.

To this day, however, behavioral black hat strategies that have become prominent to be used competitively in searchplaces, such as Google, Yahoo, or Bing, are not well-regulated by governmental or governance efforts. The economic power dynamics and legal situation around competitive search engine results manipulation and its wider implications for entire affected domains are still not sufficiently covered in the academic and practitioners' literature.

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27 New Zealand Prime Minister Jacinda Ardern, Harvard Commencement Speech 2022, May 26, 2022, YouTube, Retrieved at https://www.youtube.com/watch?v=xOg7FJBBBbJc.

28 Speech by Foreign Minister Annalena Baerbock, Seizing the Transatlantic Moment: Our common responsibility in a new world, The New School, New York City, Aug. 2, 2022, Twitter, Retrieved at https://twitter.com/i/broadcasts/1YpKkZlbLgAxj.

29 James A. Green, *The Rise of Twiplomacy and the Making of Customary International Law on Social Media*, 21 Chinese J. Int. Law. 1 (2022), https://doi.org/10.1093/chinesejil/jmac007.

30 *Official Google Webmaster Central Blog: A quick word about Googlebombs*, Googlewebmastercentral.blogspot.com (January 25, 2007, retrieved July 9, 2010); Jacqui Cheng, Google defuses Googlebombs, News: ARS Technica (January 26, 2007, retrieved January 27, 2007), https://en.wikipedia.org/wiki/Search_engine_results_page.

31 Marissa Mayer, *Official Google Blog: Googlebombing 'failure',* Googleblog.blogspot.com (September 16, 2005, retrieved July 9, 2010); Noam Cohen, *Google Halts 'Miserable Failure' Link to President Bush*, The New York Times (January 29, 2007, retrieved May 3, 2010); *Urban Legends Reference Pages: Miserable Failure*, Snopes.com (Retrieved July 9, 2010); Googlewebmastercentral.blogspot.com, *id*.

32 *Is CTR A Ranking Factor in Organic Results?*, Search Engine Land (August 12, 2015, retrieved May 14, 2022), https://searchengineland.com/ctr-ranking-factor-227162.

33 See Google Developers at https://developers.google.com/search/docs/advanced/guidelines/report-spam?utm_source=wnc_652000&utm_medium=gamma&utm_campaign=wnc_652000&utm_content=msg_712700&hl=en&visit_id=638012791146250546-3049517595&rd=1.

34 See Google Search Console at https://search.google.com/search-console/disavow-links?resource_id=http://juliampuaschunder.com/&utm_source=wnc_649702&utm_medium=gamma&utm_campaign=wnc_649702&utm_content=msg_711402&hl=en.

Studying the socio-economic market dynamics of SEDO could help in order to present potential legislative, regulatory, and institutional remedies to curb harmful market, socio-economic and individual consequences of searchplace discrimination. To this day, the currently available remedies are inadequate to provide effective relief for victims of searchplace discrimination, demanding for advances in behavioral economics and responsible competition leadership to concern the topic.

04

ADVANCES IN BEHAVIORAL ECONOMICS AND RESPONSIBLE COMPETITION LEADERSHIP

The subliminal influence of environments on human decision making is studied by behavioral economics. Behavioral economics started in the 1950s with a theoretical critique of the neoclassical economic rational choice model in an iconic entrance of psychological and sociological contents in economics.

From the 1970s on, human decision-making was then investigated in laboratory and field experiments. Empirically, behavioral economists found heuristics as quick human decision making standards that often deviate from pure rationality. Behavioral science systematically outlines human decision-making deviations from rationality in mental shortcut heuristics. Heuristics were perceived as failures in the North American Behavioral Economics School, while the European tradition saw human decision making as successful strategy to cope with an overly complex world.[35]

In the last decade, behavioral economics became applied to political contexts in a behavioral insights revolution. Behavioral insights showed how to use nudging and winking to help citizens to make rational choices. Over time, behavioral insights specialists developed a broad range of nudges and winks to curb the harmful consequences of human decision-making or improve human fitness to adapt to an uncertain environment and complex world. Some of these powerful nudges to benefit from life and economic markets were communicated openly, while other behavioral insights were more subliminal change strategies.

From around the turn of the millennium, behavioral economics turned to big data online settings in order to guide human choices by strategic manipulation. Behavioral Economics and Finance Leadership demonstrated how economics can be employed for the greater societal good, also when it comes to digitalization and online searchplaces.[36] Most recently, systemic heuristics and biases are captured in big data of online observations.

While behavioral economics primarily focuses on how to use nudges and winks to make the world a better place in helping humans make wiser decisions in favorable environments; to this day less is written and known about strategic manipulation of online environments by deleting information, clogging online searchplace users with unnecessary misinformation or compromising individual search profiles with disinformation.[37]

Most recently, leadership and followership directives on nudging in digitalized spaces emerged that appeal to scholars and policy makers interested in rational decision-making and the use of nudging and winking in the digital age.[38] With the advent of digitalization and the COVID-19 pandemic digital shock, but also in light of the lurking 5G revolution tying success even stronger to navigating a mounting big data online jungle, the time is ripe for behavioral insights to turn a critical eye to searchplace discrimination and dedicate behavioral insights attention to self-determined internet user empowerment to correct abuse of algorithmic loopholes. Behavioral economics and competition leadership can now be advanced by aiding in creating inclusive digital worlds and discrimination-free online searchplaces in individualized-sensitive search results and self-determined search results reputation control.

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35 Julia Margarete Puaschunder, Behavioral Economics and Finance Leadership: Nudging and Winking to Make Better Choices (2020).

36 Id.

37 Id.

38 Id.

05
TECHREG AGAINST SEARCHPLACE DISCRIMINATION

Future behavioral insights could improve societal welfare in online virtual worlds and alleviate online inequalities. Legal advancements should include clear guidelines and oversight of fraudulent use of the internet in a competitive way that manipulates genuine algorithm results, for instance via clickfarms or backlinks that curb or tilt search results in a particular way. Regulatory oversight could draw from the wisdom developed in behavioral economics on how environments can form opinions and manipulate choices even subliminally. Those who face a searchplace discrimination disadvantage should be protected by legal means, technical support and rescue funds established by the industry to uphold to favor quality over unethicality in their profession. In an attempt to declog search engine results and break the malicious pegging of content to unrelated or harmful information to bring down SEO, technological regulatory remedies and user empowerment strategies could expand on the U.S. Digital Millennium Copyright Act ("DMCA") that allows for the removal of copyrighted material if used without consent by the copyright holder. Regulators could build on and/or strengthen the DMCA as a remedy to erase the unlawful use of copyrighted material on harmful, outdated or useless spamming webpages that curb a proper big data cloud formation and push down favorable and/or valuable content search engine results. Informing the public about the DMCA in general information campaigns and educating about the occurrence of SEDO strategies, could raise critical awareness and sensitivity for searchplace discriminated victims and empower copyright holders and especially authors to maintain a fair online competition position.

When it comes to internet rebels inappropriately using flagging and report buttons to weaken or make quality content of competitors unavailable, regulatory due diligence and legally-enforceable human control over what gets flagged and who manipulates search results strategically is recommended. The previously-successfully-advocated "Right to Delete," could be turned into a "Right to not be Deleted." The "right to delete" or "right to be forgotten" developed by Mayer-Schönberger and adopted by the Court of Justice of the European Union ("CJEU") allows for individuals to order the deletion of private information and removal of private information from Internet searches and other directories. This right could be reverse-extended into a "right to not be deleted" to instigate better quality control of online flagging tools with attentive oversight of humans instead of automated algorithmic action that likely can easier be manipulated.[39] As a punishment for flagging abuse, overemphasizing of strategically-incorrectly removed content may also deter from using SEDO techniques. Like in fines and legal punishment, repetitive malicious wrongdoing could grant the harmed victim higher credibility and compensation status, for instance in the rising uplifting overrepresentation of erroneously-flagged important content.

Awareness building for SEDO tactics used in competitive settings will hopefully empower users to respond to inappropriate automatic erasing of quality content by search engines. Like in previous stakeholder advocacy, consumer pressure may instigate search engine operators to create the necessary fast, easy and efficient communication channels to curb harmful reliance on algorithms being prone to e-heuristics. Suspicious data compartmentalization should become tracked by search engine providers and easily accessible tools to visualize content clouds should be offered to decentralize search engine results presentations. People should have a right to know about their data clouds and have an active stance on shaping content that is pegged to their online image.

06
STAKEHOLDER SUPPORT AGAINST SEARCHPLACE DISCRIMINATION

Professional groups should align to curb unprofessional online conduct and offer information in trainings how to detect online cyberbullying by competitors and colleagues. The issue is particularly important in higher education and academia where online visibility and reputational capital are guideposts in developing successful careers. Concerted reporting mechanisms could become the basis for a registry of incidents that would lay open certain pockets of harmful institutions, professional groups and/or colleagues that may strategically remove competitors' contents online. Professional representation and union groups could drive advocacy for better institutional support against searchplace discrimination. Collegiality trainings and whistleblower protection to empower victims are future advancements to curb negative SEDO. Professional groups are in particular called for addressing the problem of searchplace discrimination as bringing down colleagues and muffing excellence and ambition by rebellious searchplace users degrade entire research communities and stop academic discourse-driven

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39   Viktor Mayer-Schönberger, Delete: The Virtue of Forgetting in the Digital Age (2009).

advancements in competitive fields. Automatic scanning coupled with human oversight as a double-layer protection are especially needed for vulnerable populations, such as – for instance – during early career stages and critical gatekeeper moments – such as tenure decisions or when job candidates are competing on the job market.

Future behavioral law and economics advancements could directly investigate the societal burden and disparate impact of derailed digitalization on particular groups that hinder fair competition. Legal scholars may spearhead an analysis how to detect disparate impacts online in regard to vulnerable populations of untenured or job seeking academic candidates on the job market. Behavioral economists may work on incentivization schemes for victims to speak up against cyberbullies and online searchplace platform providers to punish discrimination (e.g., in overemphasizing positive search results of the bullied) in order to deter from online misconduct. Technical support may be concerned with creating a right infrastructure to track online SEO performance in real time and especially monitor changes as SEDO often appears as malleable and unnoticingly gradual changes. Behavioral insiders could work on how to alleviate biases in an uncertain online world that changes quickly based on algorithmic heuristic choices. Behavioral competition leadership trainings could work towards uplifting and empowering weaker societal segments and in particular vulnerable groups, such as people in direct competition, job market candidates or tenure-clock contestants, in our online digital workplaces and online searchplaces.

Awareness building in affected stakeholder groups is key – especially in social groups and decision-making leaders, such as behavioral economists, who are prone to understanding the often-unnoticed impact of favorable and unfavorable environmental "nudges" guiding individuals' choices, oftentimes subliminally. Awareness-raising should be provided to hiring authorities to not discriminate against cyberbullied job market candidates and potentially rescue scholarships and quotas established for those whose career has taken a hit due to SEDO.

Self-help groups should be cultivated that empower against cyberbullying and exchange ideas to combat searchplace discrimination. Strategy exchange could include self-help tactics to piggyback on negative SEDO and Googlewashing. For instance, when bullies use Googlewashing or clickfarms to play up dormant internet social media profiles without content (e.g., an old unused Facebook, Twitter, Instagram or YouTube account with no information and followers), waiting until Google features the account prominently in searches is recommended and then playing in a lot of quality content information at once can be a powerful strategy to curb Googlewashing and replace spam with content and deter further clickfarm attraction.

After all, sensitivity for cyberbullying via misinformation, disinformation and spamming could elevate professions to a more ethical ground and uphold focus on excellence and merit rather than breeding discreditation potential due to lacking human-algorithmic control.

07
FUTURE ADVANCEMENTS IN BEHAVIORAL E-LAW AND ECONOMICS

The age of digitalization opens gates for searchplace discrimination, which is hardly captured in legal regulation or workplace anti-discrimination laws. Online inclusion should be free from any form of discrimination – may it be direct and obvious or more discrete. Future ethics of online inclusion should build on behavioral law and e-economics insights.

Future advancements in behavioral economics and finance leadership may address this abyss of discriminatory actions online and find ways how to avert the negative implications of searchplace black hat strategies. Most recent law and economics developments of the future could become the basis for solving practical ethical dilemmas arising from the disparate impact of negative SEDO strategies.

The strategic display of information but also the competitive infiltration of online search results with harmful content, nonsense or unrelated cues should become subject to scrutiny and academic discourse ignited over upholding ethics and merit-based anti-discrimination. Anti-discrimination measures of the future should start to integrate insights about searchplace strategies. Searchplace providers, such as search engines but also social media tools and career platforms, should help refine search results and work towards wiser and more harmonious human-algorithmic interactions. As a long-term goals, improving the algorithm-human-interaction gap could aid in quality control over online contents and content removal.

Ethics of online inclusion, law and economics analyses of searchplaces and interdisciplinary dialogue building on searchplace ethics but also human-artificial intelligence algorithm compatibility and checks-and-balances to tackle searchplace discrimination are expected to become key advancements in behavioral e-ethics and competition leadership of the future. All these endeavors may lead to an interdisciplinary understanding and sound TechReg framework for online inequality alleviation that can set the course for a better online future in a more inclusive digital world. ■

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