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Regulation
» Competition
International Economics
Economic Impact
Labour Markets
» Innovation
Sustainable Growth
Energy Sector
Climate Change
» ICT
Health Care
Berlin Economy
Postal Services
Telecommunications
Energy Efficiency
Renewable Energies

HOW TO GOOGLE "COMPETITION"

Web search markets are increasingly characterised by monopolisation, enhancing the possibility of market power abuse

Recently, the EU Commission launched an investigation into allegations claiming that Google abuses its leading position in the web search market by foreclosing its competitors. This announcement, however, did not come much as a surprise, given widespread concerns that the Information Society will be associated with the rise of new monopolies and that the web search industry is particularly prone for this development. This bulletin will elaborate on the economic forces that drive this concentration process, describe the possibilities of search engine providers to abuse a strong position and discuss the case for regulators and policy makers to intervene.

A multi billion dollar industry

Search engines have developed into some of the most important players in the World Wide Web. Economically, they serve a double function since they operate in a two-sided market environment: on the one side, they act as gateway for web users searching for structured access to web content. On the other side, they sell the searchers' interest for a specific topic – as specified in the search query – to advertisers who offer ads targeted to certain key-words. As web search is typically a free of charge service, revenues of search engine providers are mainly generated from advertising. In fact, all major search engine providers operate own advertisement platforms. Based on cutting-edge technology and innovative auction schemes, they have turned search-based advertising into a central pillar of today's online advertising industry. From 2000 to 2009, annual revenues from search-based advertising in the US have increased from practically zero to more than $10 billion. Moreover, search engines also use their technology to supply context-related advertisements to web publishers who earn extra revenue by placing these ads on their own websites. Driven by the spectacular success of this business model, Google, the world's larges web search operator, has grown into a business worth close to $200 billion.

Highly concentrated markets

Around the world, the rise of the web search industry has been accompanied by strong concentration tendencies. Google, the world's largest web search provider, is estimated to handle more than 65% of all search queries in the US and even up to 90% in European countries such as the UK or France. Likewise, the leading provider in China, Baidu, handles more than 60% of all queries while Yandex, who leads the Russian market, has a share of more than 50%. However, such high levels of concentration are hardly surprising, given the underlying structural characteristics of the industry.

For web search providers, establishing an effective search engine requires significant upfront investments to set up an extensive server infrastructure and to pay for high levels of research and development which are essential in this innovation-driven industry. These outlays can be as much as $1-2 billion. Once these high fixed costs are paid for, variable costs are typically low and declining with the size of the operation. This clearly favours bigger firms.

More importantly, the industry exhibits strong network effects. Since web search algorithms exploit users' past behaviour and personalised information to find the most accurate response to every new search query, the quality of results that a given search engine can generate increases with the number of queries submitted and thus, the number of searchers using the engine. At the same time, a larger number of searchers increases the probability for a close match between a specific ad-keyword and a search query, which generates value for advertisers. Hence, an increase in the number of searchers using a particular search engine increases the value for both, searchers and advertisers. Network effects are therefore a key driver for the concentration process and effectively give rise to the emergence of winner-takes-it-all competition in the web search industry.

No competitor 'just a click away'

Theoretically, even an almost-monopoly position cannot necessarily be abused. Rather, as long as other firms can contest this position through market entry and supply at competitive prices, also large providers are effectively constrained.

Google, for instance, claims that its competitors are 'just a click away'.
In reality, however, it is doubtful that the leading positions, which Google, Yandex or Baidu enjoy in their respective markets, can easily be contested. Users are unable to objectively assess the quality of results that a search engine provides. Owing to this information asymmetry, they have to trust a particular search engine to deliver the best-possible results. In fact, web search engines like Google, Yandex or Baidu have all grown to leading positions in their respective markets precisely because they have become the default option for the majority of web users. Both, existing competitors as well as

new entrants will find it difficult to challenge this position since searchers as well as advertisers will be reluctant to turn away from the search engine they have learned to trust.

Possibilities for abuse

With strong concentration and low contestability, abuse of market power is a realistic threat. For the web search market, however, it is often argued that since prices for online advertising are determined by auctions, possibilities for abuse are limited. Nevertheless, various forms of non-price abuse are possible. For example, a leading provider could arbitrarily upgrade the ranking of own services like maps or product price comparison in its organic search results to foreclose other competitors who rely on the search engine for access to potential consumers. Alternatively, a dominant provider could force advertisers to exclusively operate on the provider's own platform in order to weaken the position of competing platforms. Both types of abuse are actually expected to be assessed by the European Commission. Many more types of abuse are possible. Ultimately, a provider could exploit existing information asymmetries by manipulating the results of its own search algorithm, for instance in order to display more revenue gathering links and ads at the expense of high-quality results.

The case for moderate interventions

Given the strong concentration forces in today's markets and the many possibilities for abuse, the recent anti-trust allegations against Google in Europe are hardly surprising. On the contrary, further complaints against leading web search providers around the world can be expected. Hence, policy makers and regulators need to think wisely about potential preventive measures. On the one hand, any policy intervention needs to carefully consider its impact on the incentives for web search providers to further improve the quality of their services. Web search is a capital- and innovation-intensive business which has greatly improved the economic and non-economic benefits of the internet, and this innovation should not be unnecessarily stifled. On the other hand, it is unrealistic to assume that a dominant firm will simply generate valuable innovations for internet users and advertisers without attempting to abuse its position if such abuse is found to be profitable. Given the extent to which search engines control the sorting and shaping of online information, the accumulation of power in the hands of a commercial firm without policy-based mitigation is likely to cause harm to both users and advertisers. Hence, policy makers must seek to gradually improve transparency in the industry and to limit the potential benefits from market abuses, while maintaining strong incentives for further growth and innovation.

One way forward would be by encouraging transparency in the industry. In fact, this may be the area where policy-based mitigation is likely to be needed the most. But this, too, is not unproblematic. Radical solutions, such as the forced publication of search algorithms, the main commercial asset of a web search provider, are unlikely to go well with preserving the incentives to innovate. More moderate forms of mandatory information sharing designed to limit the possibilities for unchecked discrimination in access to advertising slots as well as in organic search might be a more preferred way forward.

Other options, such as "unbundling" a monopolist's computing grid to stimulate competition among different services following the example of network industries, such as utilities, seems too far reaching to be executed in so young an industry. A more promising alternative might be enforcing the auctioning of advertisement slots by third parties. This would deny search engine operators the opportunity to shut out competitors, while keeping basic economic incentives intact. Another fairly sensible type of intervention would be requiring search engines to separate organically generated search results and advertisements more clearly, thus reducing the incentives to replace organic search results by revenue-enhancing ads. In any case, regulators must ensure that decisions are taken on the basis of sound economic analysis and judgement, reflecting the importance of web search services for a smooth operation of the World Wide Web.

Conclusion

Recent anti-trust allegations against Google highlight growing concerns about the level of competition in web search markets. Around the world, strong concentration forces due to network effects and high fixed costs have stimulated a monopolisation tendency. At the same time, the position of leading providers has become increasingly non-contestable due to the importance of credibility and reputation for a service characterised by information asymmetries. Together, this increases the incentives for leading firms to exploit their position in numerous ways. After all, assuming that a dominant firm will simply provide valuable web search services for internet users and advertisers without attempting to abuse its position seems to be increasingly unrealistic. Hence, the case for regulatory interventions beyond anti-trust will become stronger. However, any interventionist measure must find a fine balance between rightful public concerns on the one hand and the incentives for web search providers to continue investing in this research- and innovation-driven business on the other.

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