

Uber, technology, and governments

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Abstract

This article explores the interplay between governments and new digital markets that have the potential to disrupt markets. The paper is divided into a theoretical building section, where the case of Uber is explained, followed by a semantic analysis of 300 pieces of text produced after the backlash of several governments against Uber. The findings highlight that the discourse around Uber is mixed and doesn't only focus on government and regulations, but also focuses on taxi drivers as an interest group that exerts influence in the public debate.

Keywords: technology, governments, business and politics, Uber

Introduction

This article explores the perceived threat that digital markets pose to governments, translated into a potential inability of the lawmakers to regulate areas of economic activity that are potentially disruptive to the status quo. In order to theorize on the resistance of political actors, we use the case of the most famous recent start-up, Uber, to look at how governments and people in several countries reacted to the establishment of a digital market that virtually lays outside of the immediate governmental control.

The theoretical part that presents the situation of Uber is followed by a study that aims at revealing what were the main topics of the backlash sustained against the digital platform. The study was conducted on a sample of 300 texts that discuss the introduction of Uber as a service. Text mining of news articles and governmental decision outputs is used as the main research method of this article.

The importance of looking at Uber as a primary case is multifold: a) it reveals the institutional strategies employed by governments and citizens to cope with technological advancements; b) it is a unique study that fills a gap in academic research on current digital market disruptions and the discourse around it.

Theory background

The past two decades have witnessed an increased digitization of markets. With the advent of Internet and increased adoption rates of technology, transactions have increasingly been transferred to virtual platforms (Scarle et al. 2012). This process of technologization of markets have asked for a reinterpretation of the way in which governments are tackling the regulation of the economic area of the society. Therefore, lawmakers around the world are facing new issues regarding privacy, Internet law, and more broadly, the enactment of the virtual space and the regulation of the digital economy.

In the recent history of the digital world, the Internet and web-based business have played a crucial role in shaping the way governments understand technological risk (Teo et al, 2008). One of the crucial moments in the contemporary history is the dot-com bubble that created havoc on the financial markets in early 2000. This served as a sort of conceptual lesson for further regulations that were put in place around the world. The Internet-based businesses offered a great deal of prospects, but in the same time

they proved to be an unreliable source of economic growth. The rapid advancements in technology, and particularly digital technology restored the confidence in the capabilities of those advancements to bring economic wealth. Thus, soon after the burst of the exponential growth cycle of digital companies, the financial markets were back to supporting the digital industry.

Governments have once again considered that the high-tech industry is a strategic one, offering fulminant growth potential, as well as competitive advantage on the international stage. This prioritization of the digital industry came with abundant strategic investments in places like Silicon Valley coupled with economic stimulus packages meant to offer a relaxed environment for investors in this area of economic activity (Gilbert, Audretsch & McDougall, 2004). Nonetheless, the strategy developed mainly by the US government lead to the amplification of technological clusters (e.g. Silicon Valley being perhaps the most successful and the most well-known). The intense clustering of technology spawned a myriad of startups that disrupted how markets work.

The beginning of the new technological boom continued with social platforms that offered a simple way to connect millions of people, therefore allowing for the creation of networks of information diffusion that challenged the way people communicate traditionally. Eventually, this new technology also challenged the way in which political factors understand the digital life. Social media has increasingly become a central part in election politics (Herrnson, Stokes-Brown & Hindman, 2007), therefore the lawmakers paid more attention to regulating this new domain of activity. The challenge was to keep the protecting role of the state in place. Once a new form of interaction was made available, virtually the state has no control over the actions of a non-state platform until it regulates it. Because the virtual space doesn't have an immediate physical correspondence, the social interaction that are taking place are not bounded by a space. In other words, the virtual world is 'beyond the state', a social space that cannot be easily regulated because it fails to be compatible with the premises of the rule of law that has an effect on a physically bounded action that falls into the jurisdiction of a state.

The reason why governments were able ultimately to regulate virtual spaces of social interaction was due to the commercial nature of those platforms and the fiduciary premise on which those entities were

based. In order to reap the economic benefits of the digital spaces created, the social platforms had to find a way to legitimize their actions through a process of institutionalization (Langevoort, 2009). The institutionalization process allowed governments to control for deviance from the norm as the virtual space was falling into the jurisdiction of the state in which the user resided. Moreover, the online users' actions were not solely having consequences in the virtual world, therefore the potential illegality of a person using a digital platform to commit a crime would have been automatically regulated by the law that covers the territory in which the social interaction was taking place. For example, a recent case involving the 'dark web' (the part of the Internet that is not accessible through normal methods of online query) is represented by the bust of the Silk Road network (Martin, 2014). Silk Road was technically a digital marketplace where the identity of the sellers and buyers was hidden through advanced encryption tools like Tor and free of identity online means of payment like the blockchain technology.

The setup of this digital marketplace resembled the pure free market principle, where the transaction costs were removed or greatly minimized. Because no possible regulation could have effect on this type of non-identity social platform, a lot of illegal trade was taking place. This ended up in the arrest of the founder and owner of the platform, however the users were not being affected by the illegality of their action as they virtually resided outside of any jurisdiction. This situation questioned the power of governments to regulate the online world. Silk Road could have survived as an entity if institutionalization was sought. Ultimately, if Silk Road would have been incorporated under the auspices of a territorial law, then it would have had to comply with the laws that govern that territory, including revealing identity of a wrongdoer. But this would have been technically challenging if not impossible. The blockchain technology coupled with network encryption would have rendered the identity revealing process redundant.

Coming back to current legal social platforms, we have observed that in recent years they have underwent a great deal of transformation regarding their privacy and security policy in order to comply with the laws of the countries they operate in (Krasnova et al., 2009). Most of the legal adjustments were ad-hoc as there was no previous experience in regulating Internet privacy. Therefore, both the social platforms and the governments had to adapt as the process of technological adoption went along. The innovation in

social platforms have increased and the power to disrupt is perhaps greater than ever. This takes us to one of the biggest disruptors in the past years, which is Uber.

Uber and governments

The focus on Uber in this paper is not random. It has generated the highest amount of backlash, both from governments and unions of taxi drivers and it has been subjected to a great deal of regulation. In the short history of digital platforms, Uber is among the fewest enterprises that managed to address a substantial gap in the market by creating, in principle, a digital marketplace that connects supply and demand and that removes the friction present in a classical economic market. Even though this setup offered an efficient way of transaction, initially it has been considered to reside outside of the regulatory framework that governs the economic marketplaces. This was due to the fact that drivers were not licensed. However, Uber was not set as a taxi company, but as a mere digital market that connected people with spare seats in their cars and travellers that looked for a cheaper and faster alternative to public transportation. Even though the perceived benefits of this type of enterprise are higher than the loss of inefficient markets, this was offset by the inability of the lawmakers to assure standards.

Coming back to the idea of deviance and normativity presented above, the governments are agents of ‘conservation’ of the status quo, therefore any change in the economic landscape under their supervision needs an adequate response. The government can be conceptualized as an institution that seeks legitimacy in the same way any other institution does. Thus, in order to continue the revenue stream and hold the same power as they did before, governments have to question any social and economic activity that falls outside of their immediate control. The stakes are even higher if a certain social group (in our case the taxi drivers that have a highly cohesive culture) that is regulated by governments has its activity interrupted by the setup of a digital market that hasn’t been previously approved. In the confrontation between a non-institutionalized digital market and a legitimate, heavily regulated group, the former would have the higher bargaining power when dealing with phasing out ‘intruders’. However, this hasn’t been the case recently with this type of digital platforms. Also mentioned above was the fact that technology is a strategic industry for most of the governments, therefore their output is often given special treatment

in relation to more traditional and inefficient industries. Thus, the bargaining power of the incumbents are greatly diminished if their demands are not a priority for governments or they are clashing with overarching strategic economic plans. However, the degree to which the bargaining power of such groups are diminished varies according to the political ideology that governs the markets. Regulatory responses to Uber is a revelatory case of this type of variation. Because the political integration of markets is inconsistent across different governments, Uber has received a mixed reception. For example, the United States of America, the country where Uber was firstly developed and tested under real market conditions, adopted this new technology faster and without many penalties as most of the European governments. France represented the biggest challenge for the car sharing digital platform as the enterprise violated labour laws. In this paper we will look at the mixed reception of Uber and the discourse constructed around this digital platform.

Technology has been conceptualized as a tool that helps development (Teitel, 1987) that is reinforced by policies that tackle macroeconomic behaviour. Traditionally technology has been viewed as a ‘cumulative process’. Besides the macroeconomic view of technology as an enhancer of development, this cumulative process has also a cultural impact rendered via „constant reciprocal interaction between technology and all other aspects of culture“;(Bain, 1937: 863). Technology has been governed by the state in the same way an ideology governs the actions within an organisations:

“Governments may try to pass policies that are congruent with the interests of business not because these governments defer to structural power, but because the preferences of their constituents are satisfied by such policy change.” (Culpepper, 2015: 396)

Culpepper (2015) offers a great theoretical framework under which the analysis of situations of technological adoption and disruptive actions can be easily accommodated. However, the case of Uber, which is crucial for the understanding of digital policy and governmental response to market disruption is not fully explained by political congruency. In this particular case, the technological adoption is truncated by resistance to change from certain social groups. Governments are generally interested in promoting policies that are preferred by constituents, thus increasing the acceptability rate of the policy

and lowering the bargaining power of constituents². Culpepper (2015) argues that granting legitimacy to a change agent is not necessarily due to the structural power that the entity holds, but due to a rational action of the government to increase legitimacy. In the case of Uber, we will observe that the discourse is wrapped around taxi drivers more than it is wrapped around the general public or passengers.

Methodology and study

In order to understand better the reception of the spread of Uber as a service in several countries, we conducted a study of online sources that were produced specifically following the backlash that governments and taxi drivers conducted against the service. The main method used in this paper is semantic analysis (see Thrane, 1980; Stenlund & Kanger: 1974; Blake & Gutierrez, 2011) of a large sample of documents scrapped from the Internet. Semantic analysis is a method of analysing co-occurrences of words and how concepts are linked within large chunks of data. The analysis of co-occurrence was done using both Jaccard index of similarity³ and likelihood log.

The scraping of content was done using a semi-automatic tool that extracted the text within specific HTML codes (e.g. <p>). The sample used for this study included two distinct data sets that were collected by searching the following strings: “uber” AND “government” “uber” AND “legal”. The first data set included 200 online sources scrapped from their respective entries, which were the first to show up in the search. The text output generated consisted of approximately 95000 words and 496000 characters. The second data set is more limited and consists of only 50350 words and 262000 characters. The second data set was used to control for variations in different searches. The sources included in the analysis consisted of mainly news items, blog posts, forum threads, Reddit conversations, etc.

The method was focused on the online world particularly due to the nature of the digital platform that is under analysis. Uber is an enterprise that function only via the Internet, therefore a web-based research

² We assume that a government by promoting socially accepted policies increases its legitimacy. By an increase in legitimacy in the short-run we would have an increasing power to regulate for that government as legitimacy is directly proportional with power. Thus, the bargaining power of constituents decreases once the legitimacy of the government increases.

³ Jaccard index was computed using Kh coder using the following formula $JS(A, B) = |A \cap B| / |A \cup B|$

would be native to this type of inquiry. The semantic analysis was done using KH Coder, a software specialized in large data sets and co-occurrence networks. The rationale behind the analysis was to see the most frequent words that are used to discuss the situation of Uber and how they are conceptually linked. This would ultimately reveal the conceptual clustering of the backlash against Uber and what is the general perception on the digital market. This technical analysis coupled with the author’s immersion in the text offers an interpretation of the power interplay between multiple social structures: the government, Uber and various interest groups. This analysis also seeks to reveal the practice of resistance to change as well as forward a structural power theory of this resistance.

The second step of the analysis implied using eight codes that were constructed by computing neighbours of “Uber”. The selected neighbours were words that were related to the theoretical background we retrieved: government, protest, illegal, legal, law, safe, labor, and labour. The search was set to look for neighbours within the paragraph where the target word existed.

Results

During the analysis, a word frequency table was produced in order to show what were the most relevant recurrent words used in describing Uber as a digital platform.

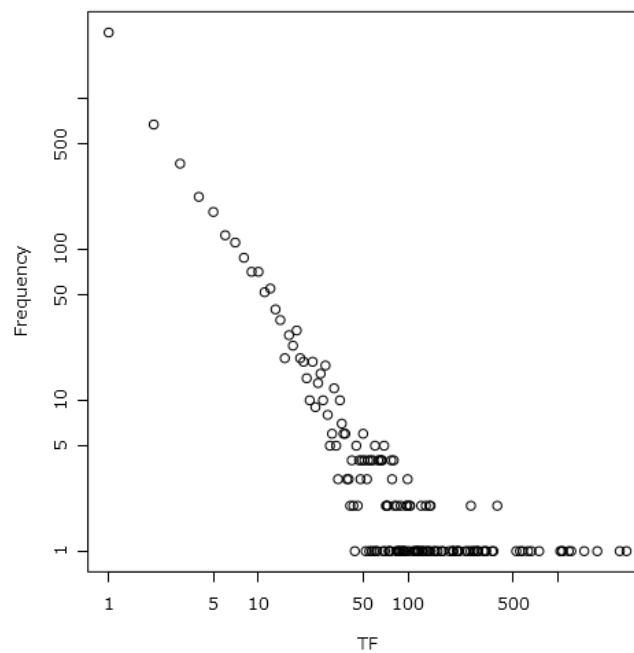
| Table 1. Word Frequencies | |
|----------------------------------|------------------|
| <i>Word</i> | <i>Frequency</i> |
| uber | 1560 |
| that | 1264 |
| it | 1209 |
| for | 1079 |
| is | 1070 |
| driver | 828 |
| taxi | 735 |
| government | 568 |
| have | 567 |
| service | 546 |
| companies | 375 |
| regulation | 365 |
| transport | 251 |
| who | 237 |
| use | 232 |
| about | 227 |
| business | 226 |

| | |
|-------------------|-----|
| share | 221 |
| state | 214 |
| been | 206 |
| app | 205 |
| all | 196 |
| people | 188 |
| market | 186 |
| industrial | 180 |
| ride | 165 |
| cab | 154 |
| license | 154 |
| vehicle | 152 |
| law | 150 |
| public | 148 |
| because | 146 |
| passenger | 144 |
| work | 144 |

Source: author’s computation

We observe that, besides Uber which is the most frequent word used, there are a plethora of terms related to the government. This was expected as the search was biased towards entries that contained both words. However, government as a word is exceeded in frequency by “driver” and “taxi” showing that the social cluster defined above as union of taxi drivers are consistently viewed as an important actor in the case of Uber backlash. In contrast, the word “public” and “passanger” has a lower frequency. There is a high degree of conceptual clustering, with words like regulation following government in frequency. There is also a high degree of economic terms being used: “market”, “industrial”, “work”, “companies”, “business” showing the nature of the impact that Uber has on the markets. Uber is seen ultimately as a business that competes with taxi workers and that is pending governmental approval through regulation.

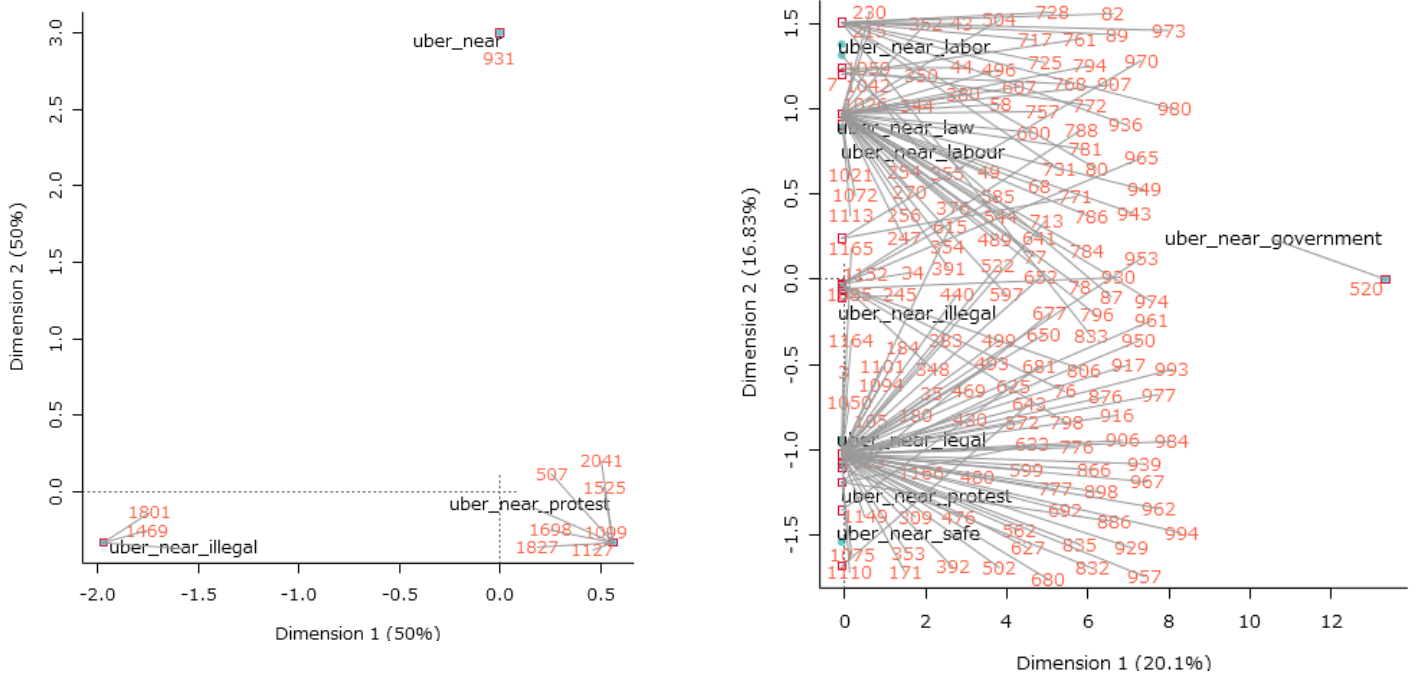
Fig 1. Term frequency plot



Source: computed using the control dataset

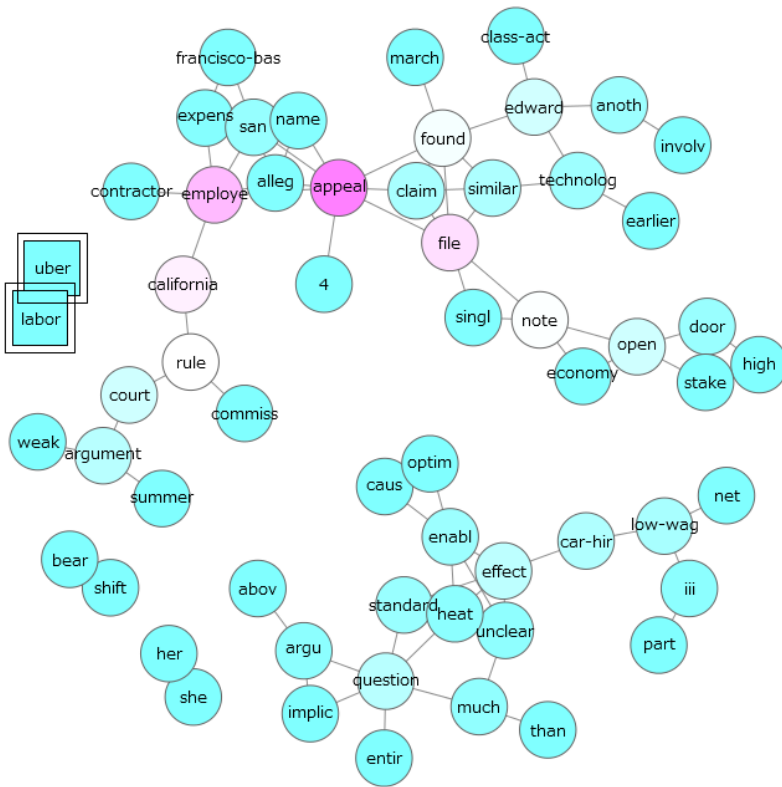
We also observed that the term frequencies are unevenly distributed with a high degree of clustering in the low frequency quartile. Most of the words occur just once, while a minority of them are outliers in the distribution.

Fig2. Correspondence analysis of codes using the control dataset



Source: computed using the control dataset

Fig 3. Co-occurrence network of 'labor' cluster



Source: computed using the control dataset

The results of the correspondence analysis shows that there is an intense clustering around Uber being associated with protests and legal matters (Fig 2). The second cluster is represented by Uber being

associated with issues of labour standards. The legality of Uber is also represented by the disjunctive coding of 'Uber' near 'legal' and 'Uber' near 'illegal' which cluster around the same dimensions. Also, the question whether Uber is legal is associated with 'Uber' and the 'law' and 'labour'. The safety concerns of Uber are not well represented in the texts, showing that the Uber debate is more focused around issues of legality rather than passenger safety.

For this working paper, we selected one out of the eight codes used in the analysis is the association of Uber with the word 'labor'. The choice was motivated by the high dimension of the word, as well its embeddedness in the texts collected. We ran a co-occurrence network of the words that are contextual to the 'labor' code. While some of the results are due to randomness in the construction of the text, we observe that some words are central to the discussion. For example, 'employee' is a central node in the semantic network and it is connected with 'appeal', 'claim', 'file', "class-act" which are legal terms.

Discussion and conclusions

The large text that were used in the analysis was randomly collected from various sources. The main task of the analysis was to reveal the sentiments of different groups that wrote about Uber. The findings showed that most of discussion about Uber revolves around the legality of it in rapport with issues of labour. If we apply the results to the theoretical model developed in this paper, we can observe that the structural power of Uber is challenged by the instrumental power of pro-labour rights campaigners. Structural power has a high influence on policy-making, even when challenged by interest groups that are using instrumental power (e.g. protests) to resist change. But the influence of Uber varies according to the willingness of governments to allow digital markets to avoid extant regulations.

The analysis revealed the main actors that are taking part in this legal battle: taxi drivers, governments and Uber. This signals that there is a high degree of locality in the instrumental actions pursued by cab drivers against the disruption they are facing. This might show that the willingness of governments to regulate is not only due to their desire to preserve the status quo, but also due to an extant bottom-up

pressure. According to theory presented, the action of a government would have to be in accordance with the constituents' wishes. However, the instrumental power of taxi drivers is not enough to dislocate the power exerted by Uber unless governments confer a high degree of importance to labour issues.

Extrapolating from this case, we could argue that further disruptions caused by the implementation of digital markets could follow the same pattern of adoption. Governments sensitive to issues that are pushed forward by interest groups that use instrumental power to propagate their agenda might minimize the impact that social actors that are structurally embedded might have.

Nonetheless, this research has several limitations. Firstly, the sample selected for analysis is biased towards English material. This is the case due to the nature of semantic analysis software that is sensitive to language. Secondly, the results of semantic analysis are relying heavily on substantive theory and experience within the field the analysis is done.

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