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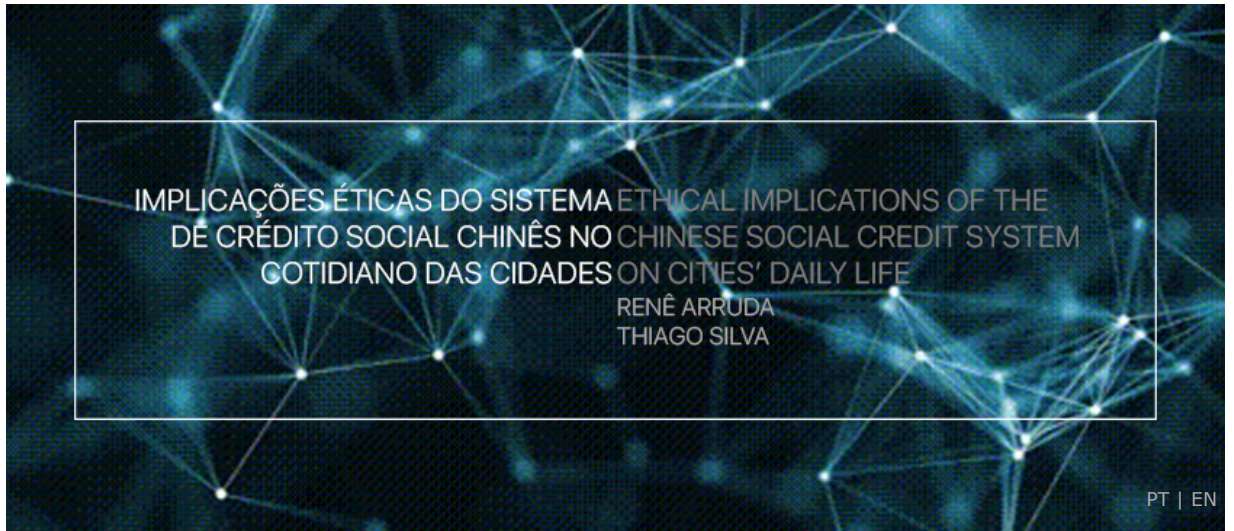
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Abstract

Digital communication devices such as smartphones enable new ways to gather information about the conduct and habits of populations in certain regions or cities. In addition to the rating systems, such as those through which a customer rates a service, and which aims to expose the quality of the consuming experience of a service or product, the same logic underlies a conduct assessment method on China's population, the Social Credit System. In this system, people with a high score receive some kind of easiness or bonus while those with low scores may have their activities limited (free movement, acquisition of goods, etc.). In philosophy, Byung Chul-Han defines this scenario as a psychopolitic that influences our decisions. This article aims to think about the use of big data and assessment systems that score human conduct, as forms of control through digital media that endanger people's decision and experience freedom, through a social engineering system that has implications in the complexity of human relations.

Keywords: Social credit system, Digital media, Big data, Surveillance capitalism

1 Introduction

How to think of information in the era of digital media? Smartphones, social networks, mechanism of collection and hyper massive data analysis have reconfigured the way we think and relate to data, information and knowledge production. The elaboration of means to analyze the data that is collected from each individual's digital means of communication has ushered the age of datafication. These means of analysis

elaborate profiles that are used for the propagation of segmented content based on the preferences of a particular group and, within the scope of the control power that can be exercised through this analysis, elaborate governmental population control mechanisms, as in the case of a social evaluation system elaborated by the Chinese government.

Power techniques in the society of control, especially those based on behavioral data collection and analysis for social engineering are topics already addressed by the authors in other papers, such as "O fenômeno Fake News. Redes, algoritmos e verdade", published on the e-book "Diálogos entre comunicação, filosofia e tecnologia: Reflexões sobre tecnologia, religião e sociedade nas práticas comunicacionais contemporâneas" by the publisher FAPCOM (Arruda and Silva, 2019). Rene Arruda master's research, entitled "Dispositivo da Web: Estudo de caso sobre a lógica do filtro de busca do Google", is also directly related to the content of this paper. The objectives of the research are the understanding and mapping of the form and the extent to which the search engine algorithm modulates the supply of information to the user - thus dealing with behavioral data capture for social engineering and forms of control.

In 2013, the Supreme People's Court of China created and published a debtors blacklist with about thirty two thousand names (Chan, 2017), to be kept updated by the country's judiciary. The defaulters on the list were prohibited from buying train tickets, taking air travels and staying in hotels with three stars or more. The list was described at the time by the state media as the first step towards a National Social Credit System. From 2013 to 2017, about 6.73 million defaulters were listed. In this period, debtors were prevented from flying 6.15 million times and were denied high-speed train tickets sale 2.22 million times (Xiaofeng, 2017). In addition to travel restrictions, people on the list may be penalized on other everyday situations and services - 71,000 defaulters have lost executive positions in Chinese companies as a result of their debts and the China Industrial and Commercial Bank has declared it has declined loans to debtors with debit balance over 6.97 billion Yuan (\$1.01 billion).

According to a planning document published by the Chinese State Council in 2014, the objective of the National Social Credit System is to improve "sincerity" in government affairs, commerce and social interactions (Creemers, 2014). When the system is in operation, individuals and companies will be scored on various aspects of their respective conduct and these scores will be integrated into an encompassing database that connects government information and data collected by private companies. Scores are intended to measure the conduct of professionals, such as physicians and teachers, but also commercial probity, including the sale of legally substandard products, such as counterfeit items. The system, according to the Chinese government, will also help monitoring the performance of local governments and courts. That is, it is also designed to oversee local public management and ensure that citizens and authorities comply with the law consistently.

2 The individual as a data source for market regulation

China's National Social Credit System relies as much on data provided by companies and government in the traditional way, e.g. the status of a citizen in court or credit rating in a financial institution, as well as data capture through digital devices. Automated processes for extracting user data through digital devices include information on how each individual uses their smartphone, what applications they use, uses of online services such as social networks and search engines, as well as tools that scan movements and behaviors from the real world to the digital medium - face recognition cameras in public and private spaces, entry and exit records on electronic ticket gates and through the use of badges, among many other procedures that are part of daily life in cities.

Eight Chinese technology titans, including Alibaba and Tencent, as well as China's largest hitchhiking and online dating services, respectively Didi Chuxing and Baihe.com, were authorized by the State Council in 2014 to conduct pilot tests of social credit systems. According to Dr. Wang Keren from Pennsylvania State University, technology companies were the real drivers of the Social Credit System, particularly Jack Ma, founder of Alibaba, and Ma Huateng, founder and president of Tencent (Borak, 2017).

Sesame Credit, managed by Alibaba's Ant Financial, is currently (2019) the largest pilot of the Social Credit System and was built on the company's vast array of consumers information. It integrates information about all 400 million users of the service and aims to build a holistic character classification of each person. The Sesame Credit system algorithm evaluates each purchase and scores it according to criteria that suggest or not social responsibility - video games, for example, have low social responsibility scores, while baby safety equipment scores high. Alibaba encourages users to display their social credit score on the company's online dating site, Baihe, so possible partners can consider it in their romantic decisions. In addition, Alibaba offers to users with high social credit scores discounts on airfares and hotels, bicycle and car rental exemptions and even fast visas for countries such as Singapore and Luxembourg.

Another example of the Social Credit System implementation can be found at the Chinese bike rental app company called Mobike, which encourages "more courteous behavior" among its customers by giving each user an initial credit score of 100 points. This number decreases if the user parks his or her bicycle in an inappropriate place and rises if he or she reports another user who is abusing the system or committing an infraction. If the user's score falls below 80, the price charged for renting a bike increases. If the user's score remains high for a certain period, he is rewarded with free rentals (Hawkins, 2017).

In 2017, the Chinese government began to closely monitor the social credit pilot program of authorized technology companies, due to allegations of system manipulation for financial gain and user's private data leakage.

Although it is common that stories and articles about the Chinese system focus on how social scoring might affect individuals, an aspect that cannot be ignored are the implications for doing business in China. According to an analysis published by the Mercator Institute for China Studies (MERICS), the Chinese Social Credit System has the potential to become the most globally sophisticated model for market regulation (Kostka, 2018). The report classifies the Social Credit System as a highly innovative approach to monitoring, classifying and regulating the behavior of market participants, including individuals, companies and other institutions, such as NGOs. The idea is to create a highly effective and adaptive economy, capable of overcoming the slowest and most fragmented Western economies - all through the collection and massive processing of behavioral data from people and companies.

There are also domestic factors that explain the emergence of the National Social Credit System. Chinese state media recognized in 2017 the existence of a crisis of trust in that society - citizens feel that every offer or opportunity has a chance of being a scam and that acts of generosity among citizens are discouraged by the risk of exploitation (Hawkins, 2017). When an elderly person falls onto the street, it is common for no one to offer him help, out of fear of being accused of pushing him and forced to pay compensation. Although the degradation of social trust began decades ago, along with the modernization and economic integration of the country within the productive chains of Europe and the USA, the recognition that this problem threatens not only the harmonious coexistence of citizens, but also the political system as a whole, is recent. The Chinese government's perception seems to be that the less people trust each other, the more the government's social pact with its citizens - of social stability and harmony in exchange for reduced political rights - disintegrates.

Food safety, falsification and local abuse are real problems for Chinese citizens, and if this specific system results in more effective supervision and accountability, it will likely be well received by the population (Creemers, 2015). However, the system will also include an all-encompassing monitoring of the individuals conduct online. The State Council's plan, for example, mentions "spreading rumors" as an example of behavior to be sanctioned. Punishments for individuals with low social scores may include, in addition to travel and credit restrictions, exclusion from private schools, slow internet connection and impossibility to perform certain professional activities.

3 Surveillance Capitalism and Social Engineering

By analyzing how the Chinese Social Credit System is forming, it can be inferred that life in cities will be highly impacted - certain places, services and economic activities would be accessible only to high-ranking citizens. By scoring the social behaviors of each individual and company, the system tends to increase the segregation of public and private spaces in the city.

It is important to notice that despite the National Social Credit System having as its goal to integrate data from multiple sources into a single database, this is far from happening. Currently, the system is fragmented into databases of the Chinese federal government, state and private companies and, at last, provinces or cities, such as Shanghai (which has the Sincere Shanghai app). Each of these actors decides their own rules for scoring, as well as rewards and punishments. The Chinese government is currently trying to lay the groundwork for a National Social Credit System, which will integrate the individual, government, legal and business scores of all citizens into one system.

Although China's initiative is unprecedented in its scope and range, ratings on technology users based on their behavior are not exclusive of the Asian country. From eBay sellers ratings to Uber passengers and drivers ratings, companies around the world have encouraged consumers to rate each other. In 2018, the New Economics Foundation compared the Chinese citizen's score to UK rating systems (WILLIAMS, 2018), such as the use of a British citizen's credit data - telephone usage, rent payment, etc. - to filter job applications, determine access to social services, etc.

Harvard University emeritus professor Shoshana Zuboff argues that while China's view of social credit may be described by many as "digital totalitarianism" and is often compared to George Orwell's work, 1984, it can be best understood as the apotheosis of power and control techniques of behavioral data capture systems, whose particularity, relating Chinese case to the West, is only that control is exerted by an authoritarian state (ZUBOFF, 2019, p.389). According to her, user behavior data extraction and processing systems form the basis of a new economic and social logic, which she calls surveillance capitalism.

In this scenario the competitive pressure for increasingly scarce profits (economic imperative) would have led companies and institutions to use big data technologies for the massive collection of data on people's behavior. The objective would be, from these data, to infer the probability of certain behavioral outcomes. Therefore, with the people's behavior probability properly calculated, the uncertainty about investments and commercial actions would be reduced and it would also be possible to "direct" digital service users to situations that are more likely to generate profits.

The use of behavioral prediction technology ranges from identifying simple behaviors, such as reliably predicting which online ad placement generates most clicks, to more complex issues, such as verifying a user's mood by their message typing pattern or understand political positioning from likes and shares on social networks.

In the West, these techniques are widely used by corporations to generate "guaranteed outcomes" - clicking on an ad, liking a company's action, buying a product, etc. (Zuboff, 2019, p.203). There are three main ways of directing people's behavior to the desired "outcome": (1) modulation, which consists of subliminal clues, designed to subtly shape the flow of behavior, at the precise time and place for maximal efficient influence (examples: advertising the right product at the right time on the right website); (2) herding, which is the control of key elements in the immediate context of the person (examples: blocking or unblocking a rented mean of transport, blocking or unblocking credit, opening or closing of turnstiles and doors, etc.); and (3) conditioning, which boils down to positive and negative reinforcements related to certain behaviors (examples: plus or minus score points if certain action is performed) (Zuboff, 2019, p.294-296).

Therefore, the tendency to social engineering and to the "nudge" of individuals toward "better" behavior is also part of the Silicon Valley approach. In this sense, perhaps the most intriguing element of the National Social Credit System is not the specific agenda of the Chinese government, but its similarity to the use of digital technologies for social and economic control in liberal democracy countries.

4 Datafied life and individual freedom

Massive data collection through information technology and its use as a tool for analyzing human behavior to induce possible conduct, as well as imposing behavioral restrictions, put at risk ethical principles stated in the promulgation of constitutional articles instituted during the twentieth century, which guarantee citizen's rights to freedom. A country that conditions citizens' actions to an evaluation system that attaches scores to their actions and maintains a database of all activities ends up curtailing the free right of choice and free movement. A question should be asked in a scenario which everyday life is being influenced by the analysis of data collected through information technology devices: What are the possible implications that may emerge in a society in which human actions are guided by massive data analyzed by algorithms?

We can postulate that, against a backdrop in which big data has influenced individual actions and guidelines of complex relationships (politics, trade, culture, etc.) established around the world, we have the definition of a "dataeconocracy", in other words, the formation of a state regulated by an economy with data generated by people and collected by information technologies, which are used to influence activities, from the most common, such as the acquisition of consumer goods, to the political guidelines of a country.

The collected data becomes a property of private institutions and is analyzed and maintained as economic assets that define the behavior of those who generated them, both in an individual and massive spectrum. It is perceptible that hyper mediation, based on people's use, have become a regulating mean of daily life, as there is an overexposure to directed content, supplied to each person based on each one's interests and their relation to the information they are exposed to. It is believed that in an informational dataeconocracy, the ethical systems that guarantee individual freedom end up being weakened, as individual and collective behavior is guided by algorithmic instructions that play a regulatory role in our experiences, thoughts, what we consume, etc. According to the thought of Edgar Morin (2011, p.19), ethics manifests in the human being as a moral requirement, which has as its origin both the individual's interior and the relationships, beliefs and norms instituted by a community.

Deleuze and Guattari argue that (Lazzarato, 2014, p.17) in capitalism, the production of subjectivity operates in two ways: through devices of social subjection and machinic servitude. Social subjection devices provide the individual an identity (gender, body, profession, nationality, and pre-established social roles as male / female, employed / unemployed, consumer, etc.) in response to the needs of the social division of labor. Machinic servitude, on the other hand, does not institute the individual as an "individuated subject", but only considers it as a gear, a component part of other assemblages such as "company", "financial system", "media" and their collective equipment (schools, hospitals, museums, theaters, television, internet, etc.).

These two forms of operation of the production of subjectivity acts as a double device of power - while social subjection produces individuals, machinic servitude makes them "dividual" - samples, data, masses of information, commodities (Lazzarato, 2014, p. 29). Therefore, the "dividual" is the objectification of the human being and the meaning of life reduction to a mere component of other assemblages, just as "non-human" components are parts of technical machines.

The Chinese Social Credit System links citizens to an external object (digital data collection devices) that the subject makes use of and acts with. A dividual is adjacent to machines and together - human and machine - they constitute a device in which each part is interchangeable and recurrent in a process of production, communication and consumption that exceeds them. Thus, intelligence, affects, sensations, memory and cognition become components whose synthesis no longer resides in the person, but rather in the assemblage or process in which the "man-machine" device is inserted.

In the social system influenced by the assessment that scores the individuals conduct, the ethical relationship with society is no longer an individual commitment to the common good but an algorithmic requirement of a data-based panoptic regulatory system that analyzes the behavior. The person here goes from "being" to become "data" in a process that reduces the human being to a bundle of decisions that can result in better or worse scoring in the system. As the logic of mediation imposes itself onto the practices of everyday life - in this case an algorithmic logic -, social/cultural/economic/political relations, that is, any practice conditioned to the complexity of human relations may become less and less influenced by the ethical understanding that the individual has of the world, while relationships conditioned by the interaction of the individual with the algorithmic logic of mediation strengthen.

In a culture in which the algorithmic logic of hypermediation underlies everyday practices, the way our ethical relations with the world take place must be considered, since the dynamics of hypermedia is to expose information almost as immediately as it occurs. In doing so, it promotes behaviors in society that can lead to disruptions in ethical systems.

The dynamic that characterizes hypermediation drives the consumption of a given idea (political directions, economic information, among others) and gives the power of speech to anyone, even people who do not really exist (bots), as in the case of fake profiles, designed to massively spread messages aimed at disseminate specific content.

Since there are no verification criteria that guarantee the truth of a fact or prevent the propagation of discourses oriented to discursive violence or false news, digital media have proven to be a form of mediation that exposes the fragility of the ethical systems of the human being. It culminates in the shaping of a culture where it is acceptable for corporations to take personal information from individuals for a data manipulation process.

Morin (2018) states that mass culture is a result of market relations and the way it imposes a pedagogy that guides this culture's participant, but which, itself, is not imposed, but proposed. It is the individual who accepts to participate in it and submits to its logic. According to Morin the mass culture:

"It always goes through the mediation of salable product and therefore borrows certain characteristics of salable product, such as bending to the law of Market, of supply and of demand. Its fundamental law is that one of the Market (Morin, 2018, p. 36)."

For the South Korean philosopher Byung Chul-Han (2018), the freedom and unlimited communication, that are characteristic of digital social networks, constitute a state of constant surveillance, which he calls the "digital panopticon" that constantly collects information and data about people. Han defines big data as a psychopolitical instrument that, by analyzing a large amount of collected data, creates parameters for an understanding of communicational dynamics, thus enabling interventions in human behavior as a way of 'predicting the future'. For Han, this practice configures a "thingification" of the person into a measurable and controllable object, endangering individual free will. The measurability of the human being in data generated by devices they carry with them is considered by Han as the main dominant feature of the digital age, which

he defines as “quantified self” (2018, p. 84). The quantified self is defined as a dataistic technique defined by the emptying of the meaning that characterizes the person into insignificant data, that is, a technique that reduces the complexity of being into measurable data and turns it into fragments that do not have the narrative that constitutes knowledge. According to Han:

“Big data suggests absolute knowledge. Everything is measurable and quantifiable. Things reveal their secret correlations, which until then were hidden. Similarly, human behavior must also be predictable. A new age of knowledge is heralded. Correlations replace causality. The that’s the way it is substitutes why. Quantifying data-driven reality completely alienates the spirit of knowledge (Han, 2018, p. 93).”

Regarding the complexity of human activities and the data captured by information technology devices, one of the problems that must be put into discussion is the reduction of knowledge to data. The predictability generated by big data analysis does not consider individual narratives, as can be seen in Byung Chul-Han's critique to this method of data collection and analysis, let alone the relationships with the environment and the time when such data are generated. It was referring to this point that we have it was stated earlier that, in the algorithmic logic of digital mediation, in which the individual is subjected to an evaluation system of its practices and conduct, there is a transformation from 'being' to 'data'. Data expresses only a fragment of a condition and not its complexity. They exclude individual narrative, as stated by Han, and configure the quantified self, the measurable being in data but void in narrative and without the meaning built by individual experiences.

5 Conclusions

A point that should be made by this fact is that the systems that analyze the collected data do not have the proper moral and ethical judgment, proper of the human being, much less consider the individual aesthetic experience. Therefore, restrictions on human conduct may emerge based on numbers generated in (and by) the system and not in evaluations that respect human relations and the right to freedom. Data is fragile because it can be manipulated by the interests of those who control it, while at the same pace, through proposals such as the Chinese Social Credit System, there is a risk that the inherent dynamics in the complexity of human life will be subjected to a regulatory system that shapes people's behavior through inhibitory inducements that reward and penalize individuals for their conduct. The history of digital media exemplifies several moments when algorithm-driven systems have demonstrated their fragility by being susceptible to hacking and data leakage.

It is considered that decisions about everyday actions are subjected to a kind of social game in which data and algorithms guide decisions that are based on individual experience evaluation systems but do not necessarily express the quality of experience. Therefore, the exposed data guides the decision of the individual in function of an evaluation method based on algorithms, that may culminate in the deterioration of freedom of choice.

Algorithms that capture and process user data to create “guaranteed outcomes” have been a reality on the web for years and may serve as a precedent for analyzing the Chinese initiative. When a user searches on Google, the search algorithm takes into account a series of variables and collected data about that user to compose the results page, customizing it to some extent in order for it to be “as relevant as possible” to that search performed by that person at that time. Relevance, in the case of Google, translates into the possibility of clicks. That is, one of the main measures of search engine relevance is how often a determined link is clicked, and how many independent websites link to that specific link.

By considering most relevant what is most likely to be clicked by the user, Google reproduces what its users already think. Therefore, Google's own concept of relevance is biased (Arruda, 2019, p. 11). By customizing what will be displayed on each user's results page through opaque logic, Google creates layers of visibility and therefore invisibility, based primarily on the likelihood of clicks and “social authority” of links. This operative logic of the Google algorithm reinforces the confirmation bias of its users and promotes a kind of sensitivity that reinforces what is familiar and repudiates otherness (Arruda and Silva, 2019, p. 201). It is speculated how much of this search engine operating logic, but also similarly found in social networks like Facebook, would be related to contemporary phenomena such as political polarization in the West, fake news, anti-vaccine movement, among others.

The Chinese Social Credit System shares this same operating logic, directing citizens to certain behaviors defined by the government or companies; in short, by social agents who hold power. The information gathering about citizens' behavior, made possible by digital devices, can become input for control through social engineering. Therefore, one of the most likely consequences of this system in relation to the distribution

and occupation of urban space is the segregation and fragmentation according to the individual's score, radicalizing the existing social differences and perpetuating them.

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