State Control by Stealth in the Big Data Era – From WeChat to the Social Credit System in China

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Abstract: This paper begins with a brief study on the development of the Chinese all-in-one app, WeChat, explaining how WeChat secured its popularity as the multi-functional ubiquitous mobile app in China. By using WeChat as an example, this paper further studies how the Social Credit System (SCS) in China was established out of collaboration between the Chinese government and eight entrusted private companies. This paper then analyses and evaluates the SCS from a socio-legal perspective, focusing on two key implications: the opaque algorithms and the potential abuse of power. The paper argues that the SCS needs to first gain trust from Chinese citizens. A starting point would be immediate action to standardise and reduce the opacity of the prototype. To enhance the longevity and effectiveness of the SCS, developing a legal framework to prohibit potential information misuse by the State and the entrusted companies is crucial: it needs to be put in place sooner rather than later. In constructing the much-needed legal framework, developing privacy laws is certainly a core step, but the framework needs more than just privacy laws. One crucial safeguard is the requirement for an independent tribunal or ombudsman to deal with credit-related complaints fairly and efficiently.

Keywords: cashless society, credit rating, mobile payment, Social Credit System, WeChat

Introduction

China has the largest number of mobile internet users, known as a mobile first country, the number of mobile internet users in China was reported to be 986 million in 2020 (Huaxia, 2020). With severe State censorship and the Great Firewall of China, worldwide social media platforms such as Facebook and Twitter are not accessible in China. This situation has created great opportunities for Chinese companies to generate China's own version of these social media platforms; WeChat, a mobile-based, all-purpose social media application has become one of the most promising answers.

Developed by Chinese multinational investment-holding conglomerate, Tencent, WeChat originally started in 2010 and quickly rose in popularity. The number of active users reached

one billion in March 2018, which means that almost every single smartphone user in China at the time would have had WeChat installed on their device (Iqbal, 2021).

Unlike its Western counterparts, Facebook Messenger and WhatsApp, WeChat's features were not only limited to internet messaging, voice and video calls. WeChat offered additional functions such as the ability to make payments using digital wallets, book doctor appointments, call taxis, pay electricity bills, view crowd density maps, read the news, play games, and much more (Leung, 2015). As a result of WeChat's development into China's all-in-one app, Chinese smartphone users are less likely to use any other apps and thus rely solely on WeChat for all of their needs. With the expansion of WeChat, opportunities emerged to shift some of the core governmental roles onto this platform, such as taxation and the citizen identification system. These functions provided wide access for WeChat to collect personal information on an unprecedented scale, WeChat's public image started to diminish as it became difficult to validate its independence as a private company (Cook, 2019).

The functionality of WeChat has further expanded with the introduction of WeChat Pay in 2014. At the time, there were a small number of platforms offering similar payment functions including the biggest platform, Alipay/Ant Finance. Benefiting from their large membership of subscribers, both WeChat Pay and Alipay were leading in third-party online payments and swiftly gained market popularity. Soon after, several other platforms launched similar functions by following this trend, for example, TikTok Pay and JD.com.

In retrospect, 2014–2019 was an important stage of third-party online payment development in China. This development served as an enabler and foundation for a cashless society, encouraging Chinese citizens to adapt to the new norm of cashless living. This cashless economy gave companies like WeChat large-scale access to consumer data.

The amount of consumer data collected by private companies quickly grew to an unprecedented level as a result of the fast growth of online payment platforms (Yang *et al.*, 2015). The Chinese government embraced this opportunity and incorporated it into its grand plan for the national Social Credit System (SCS). In 2018, a close collaboration between the Government and eight key private companies, including WeChat and Ali, was established for the purpose of rolling out the SCS.

The SCS is regarded as an ambitious project which has received extensive media coverage worldwide. International narratives have often simplified this project as a centralised rating system that generates a social credit score to each citizen (Carney, 2018). Since its inception, the generalisation and moralisation of the SCS has captured the dominant discourse (Shen, 2019). However, the SCS as an ongoing project is much more complex – involving an

extremely diverse range of decentralized, experimental, and fragmented programs across social, economic, and legal fields (C. Zhang, 2020).

In this context, this paper starts with a brief explanation of the development of WeChat Pay. By using WeChat Pay as the example, this paper explains how the Chinese government mandates key online payment platforms to adapt into its central bank system and consequently, to participate in the SCS as exclusive credit collators. The aim of this research is to examine the SCS from a socio-legal perspective with a focus on the role of the participating private companies. In doing so, this paper articulates the key socio-legal implications of the SCS and highlights two imperative concerns of the current model: the opaqueness of the system, and the potential risk for abuse of power. In conclusion, this paper posits that the current SCS model lacks public confidence and trustworthiness. This paper suggests that, as a starting point, standardising the algorithm and making it publicly available will help the system gain some level of trust from citizens. Further long-term solutions include developing overarching legal frameworks – including core privacy laws, as well as supporting laws and regulations – to prohibit potential abuse of power by the State and the entrusted companies. These are critical steps to safeguard the purpose of the SCS and the society of China as a whole.

WeChat and WeChat Pay

As WeChat emerged as the ubiquitous element of China's social communications, and became stitched into the country's financial and social fabric, the company declared that WeChat alone had one billion active daily users in 2019 (Cao *et al.*, 2020). While the company has been forced to comply with strict Chinese Communist Party information controls since its inception, the combination of growing government demands and WeChat's market saturation in China has increased the scope and impact of any functions that WeChat offers (Harwit, 2016; Jiang *et al.*, 2021; Tu, 2016).

As the most important function of WeChat Finance, in 2014, WeChat Pay began to facilitate the in-app transfer of money both domestically and internationally between users. WeChat borrowed from the traditional Chinese concept of the 'red envelope' to enable this one-to-one payment method. As a marketing campaign, WeChat joined forces with the Chinese Central Television Network (CCTV) to promote its red envelope payment during the CCTV's Annual Gala Night on the 2014 Lunar New Year's Eve which resulted in a massive success for the company. The total number of red envelope transactions during the CCTV Gala Night recorded figures of 11 billion – the peak time was within two minutes after midnight on the Lunar New Year's Day in 2015 during which more than 500 million red envelope transactions were made in each single minute (Ling, 2015). Since then, WeChat Pay has gained substantially in popularity. To date, uses of WeChat Pay include retail purchases, e-commerce, in-app

purchases, and multiple services such as paying for taxis, making doctor appointments, paying bills, and even filing taxes.

The explosion of WeChat Pay in 2015 triggered a wild development of a cashless economy in China in the subsequent years. As a snapshot, in 2016, the volume of mobile payment transactions had increased at an annual rate of more than 100 per cent; the total transactions reached the value of US $16.7 trillion in 2017, US $44 trillion in 2019, and more than doubled to US $97 trillion in 2020 (Chan, 2015; Tencent, 2017, 2019; Tencent Credit, 2019).

China is now the leading country in mobile payment both in transaction volumes and penetration rate (Huang, 2020). A large-scale cashless economy has emerged with mobile payment facilities not only available at almost all of the major shopping centres and public areas, such as train stations and airports, it is also widely available at small-scale street markets, corner stores, and even individual grocers who sell fresh vegetables on their tricycles.

However, this scale of operation and development introduced new issues. When WeChat Pay was introduced, payment via platforms like WeChat Pay did not provide the Chinese government with any transaction data. This was a common situation for all third-party payment platforms at the time. This meant that transactions via the third-party platforms bypassed China's central bank clearing system, and as such, details like the merchant name and location of transactions were not recorded. This situation quickly caught the attention of the Chinese government which was cautious of potential avenues for money laundering, illegal transactions, and theft (Wildau, 2017).

To address this concern, in August 2017, the Chinese central bank introduced a new policy regarding third-party processing platforms. It regulated that all transactions must go through a clearing system operated by the People's Bank of China (PBC) (Yoo, 2017). After the launch of the Online Settlement Platform for Non-Bank Payment Institutions, all of the country's payment companies were to work within a standard set of clearing protocols and rules, with the aim of tightening supervision of the country's fast-growing mobile online payment market (People's Bank of China, 2017). The centralised clearing house sets a more regulated financial environment that allows the PBC to track and monitor all capital flow via third-party payment providers in China. This also sets up a stable foundation for the joint data collection required by the SCS framework.

The Social Credit System (SCS) in China

In most countries, the existence of a credit system is not new or controversial. Past financial information is often used to predict whether individuals will pay their credit card bill in the future. However, China has taken this simple concept to a new level with the SCS.

On 14th June 2014, the State Council of China published a document titled 'Planning Outline for the Construction of a Social Credit System' (Planning Outline). The Planning Outline proposed a radical idea: to construct a national trust score system that rates individuals based on data collected from every component of their daily life. The plan specified that this credit system is to form an important mechanism of the socialist market economy and the social governance system. According to this plan, all Chinese citizens would be enrolled in a vast national database that compiles private and government information. The information would cover citizens' individual activities, online behaviours, everyday purchases, traffic violations, and much more. All of this information would then be distilled into a single number rank for each citizen. The Planning Outline estimated six years to build this immense database, with a deadline outlined for 2020 (The State Council, 2014a). The Planning Outline also specified that building the SCS would be urgently needed to regulate 'the market economic order, improve the trust environment of the market, lower transaction costs, prevent risks and reduce government intervention in the economy' (The State Council, 2014b). Immediately after the release of the Planning Outline, a series of new public and private initiatives were implemented and State investment contributions to this project have been generous and continuous. As a snapshot, the Chinese government spent over CNY ¥1.5 billion on this project just between 2016–2017 (Credit China, 2017).

However, questions, concerns and controversies have simultaneously emerged with the development of this plan: whether the plan will remain true to its original design; the vast difficulties of setting up such a system on a national level; and the limits to what it will actually be able to deliver (Ahmed, 2019).

The Involvement of WeChat

Data collection is the key to the construction of the SCS. The Chinese government started a credit-sharing platform in 2015 which engaged with 38 key government service offices, including the Taxation Office, industry and business regulatory bureaus, and policy bureaus (PRC National Development and Reform Commission, 2015). The purpose of this platform is to collate and analyse citizens' behaviour from the 38 government services offices. In the same year, the central bank, PBC, identified eight private companies and gave them a six-month period to prepare to become the first group of licensed credit collectors to gather information from its users (The State Council, 2015). Tencent, WeChat's parent company, was one of these eight. All eight companies were expected to collect the data from their users, analyse this data, and develop their own red list and blacklist for their users (People's Bank of China, 2016). Tencent Credit was consequently established to fulfil this mission (Tencent, 2015).

As the all-in-one multi-purpose app, users of WeChat started to gain credit ratings in considerable ways by using their mobile phones. For example, people started to rate taxi services, banking services, online purchases, and relevant individuals within the app. At the same time, all personal data from individual WeChat users was recorded and analysed, and amalgamated into the credit rating algorithm despite no public disclosure of the algorithm and rating criteria.

This trial period started in January 2015 for a duration of six months (The State Council, 2014a). On 21 April 2017, at the International Conference on Personal Data Protection and Credit Collection Management, Mr Cun Wan, Director of Credit Collection Management in PBC, revealed that none of the eight entrusted companies had performed well enough to receive the anticipated credit licence (Cun, 2017).

In 2018, a compromise eventuated, two-and-a-half years after the announcement of the original plan. On 4 January 2018, PBC granted its first private credit collection licence to the newly formed company, Baihang Credit Collection. Baihang registered as a private limited company with headquarters in Beijing and registered capital of CNY ¥1 billion. Baihang has nine shareholders including all of the eight private companies that participated in the PBC 2015 trial and the National Internet Finance Association of China (NIFA). As the major shareholder, NIFA holds 36 per cent of Baihang and all of the other eight companies hold 8 per cent each, accounting for a total of 64 per cent of Baihang (People's Bank of China, 2018). At the time, NIFA was a new government agency jointly established in March 2016 by ten Chinese government departments and bureaus, industry regulators, and policy makers (Baihang, 2018). The grant of this licence to Baihang thus signalled the formal introduction of the system for financial credit collection in China, with close collaboration between the State and the eight key entrusted companies.

The Implications

There is a growing number of people across the world who are willing to trade in their privacy for convenience to use services and apps. A common example is Facebook. Despite the frequent backlash for privacy and data breaches, the number of Facebook users has not been heavily impacted (ABC News, 2018b). People in China are not very different in this regard. Although Chinese people seemed to be even more willing to trade in their personal information to gain the convenience of using WeChat services (Chen & Cheung, 2018; Kostka & Antoine, 2019).

Living in a highly populated society without any credit system for decades, Chinese people largely welcomed a credit system where people can obtain more information on the goods and services that they engage with, whether it be a taxi service or an online shop. Trustworthiness

has not been highly honoured in Chinese society in the past two decades, with economic development as the key goal of the country, creating a multitude of social issues including corruption, expired vaccines, toxic milk products, corporate fraud, tax evasion, and academic misconduct. For instance, *pengci* (碰瓷) is a well know misbehaviour in China in the past few years. *Pengci* literally means 'break porcelain' and its origin is traced back to merchants who displayed porcelain antiques for sale on the street and in areas of high foot traffic to encourage the likelihood of pedestrians in damaging the goods. The merchant would then demand a large sum of financial compensation for the damage. The practice of *pengci* was witnessed more and more often, including circumstances where people deliberately fall near motor vehicles and allege negligence against the driver, demanding financial compensation on the spot. Mr Wanxiang Sun, a 66-year-old man, was sentenced to seven years' imprisonment after being found to have committed 156 counts of *pengci* in the span of nine years (Beijing Daily, 2020). As a further example, in a case involving arson in Hangzhou in 2017, a nanny started a fire that killed a mother and three children in an attempt to elicit more money from the wealthy employer to pay off her large debts (Jia, 2021). In the context of this society, it is unsurprising for many to desire a credit system that might be able to help them avoid situations like these (Jun, 2018).

Against this backdrop, the move to a social credit system can help to determine trustworthiness through people's daily interests and activities, and represents a clear response to many Chinese social crises. Reward and punishment are directly linked to trustworthiness. For example, in Shanghai, a housing project offered one year of rent-free accommodation to a trustworthy young person with impressive records in volunteering. In contrast, a man in Nanjing who defaulted on his debts was banned from overseas travel for failing to comply with a court judgment. Two construction companies in Sichuan province were placed on a blacklist for failing to pay back wages to its migrant workers. These examples were among a nationwide 'Top 10 Model Cases of Joint Rewards and Sanctions' selected by the National Development and Reform Commission (NDRC) as part of China's emerging SCS (Wang & Liu, 2018).

The rapid development of internet technologies has provided the nation with technical support and opportunities to realise the SCS (C. Zhang, 2020). Admittedly, some social problems have been quickly resolved after the introduction of the SCS. The timely punitive measures have involved public shaming and bans on purchasing airline tickets and booking luxury hotels, and are enforced on low credit score holders who have been deemed untrustworthy (Xu & Xiao, 2018). Some of these punitive measures can even be extended to family members, such as not allowing a child or children of an offender to attend a good school (Zeng, 2018).

Nonetheless, building a monitoring system on such a large scale invokes huge social, economic and legal concerns. As Robin Li, the chief executive of Baidu (China's version of Google) stated openly, 'it doesn't matter if user is willing, it matters that people don't have the right to defend themselves in this social environment' (ABC News, 2018a). This statement triggered enormous backlash from Chinese netizens, revealing the far-reaching and pervasive implications of a social setup where every part of people's lives is monitored and studied by multiple government agencies and private firms, especially when this regime is carried out by multiple platforms with different, but all opaque, algorithms and criteria. The following section of this paper analyses this situation in detail, focusing on two specific implications from a socio-legal perspective.

The opacity of the prototype

The development of digital technology has enabled new ways to collect, handle, and process large samples of qualitative data, reinforcing the number's epistemological claim to truth and perpetuating an ideology of dataism – the widespread conviction that data is truthful, objective, and neutral (Dijck, 2014). However, extensive studies have shown that predictive algorithms naturalize and reproduce social inequity (Eubanks, 2018). Thus, algorithms are crucial when analysing, especially rating, human behaviours based on data collected from every aspect of a person's life.

At its current stage, the SCS should be understood *not* as a single rating system that provides a single score for Chinese citizens, *but* as a system comprised of a number of rating systems that can provide scores based on its own scoring algorithms. These rating systems include government key function bodies, different levels of administrations, and private companies. The landscape is complex due to the number of rating agencies in operation, lack of information disclosure, different scoring systems and final scores, as well as the intricate interplay between all these agencies.

Government rating agencies

As the national system is still being fully realised, dozens of pilot social credit systems have already been tested by local governments at provincial and city levels. Further, there are multiple online platforms hosted by different rating agencies which people can voluntarily sign up for. Algorithms amongst different platforms run by different levels of governments are different, and thus the individual scores are recorded with different standards as well. For example, rating systems run by local council in some cities rate people based on 100 points to start, but online rating platforms normally rate people with 350 points to start.

Not only are the scoring systems different, the consequence of being a low score holder is different too. In Shenzhen, a city in the south of China, authorities launched the use of facial recognition and online shaming to crack down on small crimes such as jaywalking (Xu & Xiao, 2018). In Xiamen, another city in the south, public security authorities were reported to have automatically attached messages to the mobile phone lines of blacklisted citizens – a message of 'the person you're calling is dishonest' is played before any call is connected to a low-rated person (Xie & Liu, 2018).

This situation is confusing and potentially misleading (WeChat Pay, 2020). Hu Naihong, a finance professor at Shanghai University of Finance and Economics, who participated in the SCS infrastructure build, commented that '[t]he top-level design, the institutional framework, and the key documents are all in place, but there are still many problems to be solved. The most serious problem is that all kinds of platforms are rigorously collecting [data], while having vague legal and conceptual basis and boundaries' (Hu, 2017).

Payment platforms

Online payment rating agents are doing things differently in this regard. For example, WeChat Pay started offering WeChat Pay Score (WPS) on 3rd June 2020. The design of the score allows individual WeChat Pay users to rate transactions and check their scores at any given time within the app. The product release page on WeChat's website is concise, containing information regarding what WPS is, how to use it, the benefits of gaining high WPS scores, and how to realise these benefits (the lures). Information on the actual construction of the algorithm –how the WPS is calculated, or what criteria are used to differentiate high-score behaviours from low-score behaviours – is merely one sentence: 'WPSs are a comprehensive calculation of personal identity characteristics, payment behaviours, usage history, etc., aiming to provide users with a simpler and more convenient lifestyle'. In contrast, the lures are explained in much more detail, such as the ability to borrow power banks and umbrellas without needing to leave a bond, and to book a hotel room without a deposit and in-advance room charge payment (WeChat Pay, 2020).

Other similar rating agents have been following suit. According to Sesame Credit, an affiliate of the Alibaba Group which owns the largest online payment platform Alipay, 'a complex algorithm' is being used to measure individuals by a score between 350 and 950 points. The company published five factors that it uses to rate their users, including credit history, a user's ability to fulfil their contract obligations, personal characteristics (such as their phone number and address, behaviours and preferences), and lastly, interpersonal relationships (Sesame Credit, 2017). Under this system, 'someone who plays video games for ten hours a day, for example, would be considered a lazy person', said Li Yingyun, Sesame Credit's Technology Director. 'Someone who frequently buys diapers would be considered as probably a parent,

who on balance is more likely to have a sense of responsibility'. Also under this system, interpersonal relationships are important which means that people are required to be conscientious of who they are friends with, and the public activities of their friends, both in real life and online (Liang *et al.*, 2018).

These insights can, of course, only provide a limited understanding of how the scores are calculated by different rating agents. Alipay and WeChat Pay have long enjoyed their duopoly status in China's online payments (Kapronasia, 2020). Together, they hold 90–95 per cent of the online payment market, which is equivalent to USD $97 trillion in transaction value, and more than 2.4 billion active users on a yearly basis (Chen & Cheung, 2018; Wang Yi Tech News, 2021). This disproportionate level of transparency on scoring calculation and algorithm simply does not justify the massive user base.

Baihang

As the only licensed credit collector, Baihang emerged with market advantages. As explained previously, Baihang has nine shareholders: the NIFA (the major shareholder) and the eight private firms.

Baihang is certainly an important component to the construction of the SCS. How it handles the collaboration with powerful companies such as WeChat and Tencent, how it deals with the relationship with other government bodies, and how it works with the central bank are all challenging tasks. Unlike its shareholder companies which have vast user bases, Baihang does not have any existing data sources. Aside from strong government support, gaining trust from Chinese citizens to encourage them to sign up to its platform is still crucial to Baihang's establishment. Unfortunately for Baihang, the company has not dealt effectively with these challenges. To date, about three years after its inception, Baihang's coverage of users is still patchy in comparison to its own shareholders. Currently, most of Baihang's users are small financial institutions and companies with the majority of them being online microlenders. The fact that these companies are connected to Baihang's credit database means that they can trade their credit transaction data for fuller credit histories on users (Zhao, 2019).

In addition, dealing with its own shareholders has appeared to be a difficult task for Baihang as well. Reportedly, Baihang struggles to find the right balance working together with some of its shareholders including WeChat and Ali over the control of user data. Baihang's shareholding scheme has done little to smooth the pathway to data sharing. The reason behind this is not difficult to understand since WeChat Pay/Tencent Credit and Sesame Credit/Alibaba dominate and hold the most customer data – they have the least to gain from pooling their credit data with Baihang. In fact, only three of the eight shareholding companies have agreed to feed their data into Baihang's system, neither Tencent Credit nor Sesame Credit

were willing to share their data ([Yang & Liu, 2019](#)). Many questions arise: are Baihang's shareholders obliged to feed their data to Baihang? Can they even do so without the consent of their users? How much information do they need to share with Baihang even with the government's explicit intention of Baihang's role as the main credit collector? Is the government in any position to mandate who owns the data? Baihang, same as all of the eight shareholders, is a private company so why should one private company be given priority over other private companies? What authority does the central bank have to decide such a setup? Considering that credit collection as a business activity, Baihang is in direct competition with its shareholders, why should Baihang's competitors share key business information with Baihang? What is in it for them? Questions like these can go a long way in trying times, unfortunately the battle is likely still being waged between Baihang and its eight shareholders, however no answers to these questions have been offered, or at the very least, been openly discussed.

Potential conflict of interest and abuses of power

Digital technology developments have enabled new ways of data-driven governance and have perpetuated the conviction that data sharing and management are the keys to solving many problems. In this sense, the SCS is considered constitutive of an emerging 'operating system for global normative orders' ([Backer, 2018](#)). As stated, the SCS aims 'to forge a public opinion environment where keeping trust is glorious… [to] strengthen sincerity in government affairs, commercial sincerity, social sincerity and the construction of judicial credibility' [(PRC State Administration of Taxation, 2018)](#). But can these goals be achieved in the current model?

We are already living in a world where our daily activities are under constant monitoring and evaluation. Activities such as where we are at any given time; what we buy at the shops and online; who we are friends with and how we interact; what our daily routine looks like; how many hours we spend online either watching videos or playing games; and whether we pay bills and taxes. Many of these activities are already being tracked by companies like Google, Facebook and Instagram. Even health tracking apps such as Fitbit and Apple Watch are collecting information such as users' heart rates and step counts. In other words, many people are already well-adapted in this digital world through consenting to give up some of their private information. However, situations can become more alarming where there is a system that categorises all of these behaviours as either positive or negative, and distils this into a single score – a score that would tell the rest of the world how trustworthy the score holder is. It may become more alarming when the score is publicly ranked against that of the entire population of the country and used to determine any individual's eligibility for important

things, such as job seeking, travelling, their children's schooling, or even the chances of getting a date (Botsman, 2018).

This forms an obvious imbalance of power between the citizens who are being rated, and the agents that have the power to determine the score calculation, the rating algorithm as well as the ramifications for low scores. Whether this imbalanced power play can encourage 'a public opinion environment where keeping trust is glorious' may work to a certain extent, however it is certainly lacking in persistence for the group that has the power to set the rules of the game.

The State

Personal data in the SCS prototype is a wide category of information comprising public, financial, market, and personal credit. All personal credit is collected simultaneously through the use of legal, administrative, and technical means (C. Zhang, 2020). This is a brand-new model that has never been ventured into anywhere in the world and has been met with fierce international criticism since the State released the SCS Planning Outline in 2014. 'It is very ambitious in both depth and scope, including scrutinising individual behaviour and what books people are reading. It's Amazon's consumer tracking with an Orwellian political twist', described Johan Lagerkvist, a Chinese internet specialist (Lagerkvist, 2015; Netkin, 2018). Rogier Creemers, a scholar specialising in Chinese law and governance at the Van Vollenhoven Institute at Leiden University, published a comprehensive translation of the plan and compared it to 'Yelp reviews with the nanny state watching over your shoulder' (Creemers, 2017).

The epistemological foundation of the SCS lies in a conviction that data and quantified indicators are truthful reflections of social reality and their scientific deployment provides a technological fix to socio-economic problems, improves administrative efficiency and transparency, and maximizes the entrepreneurial potential of society. This technological fix entails data sharing among different regulatory authorities, reputation mechanisms aimed at effective enforcement of laws and regulations, and the diffused application of financial technologies to evaluate the performance of enterprises, individuals, and governments. It shifts attention from the field of the political, which concerns contests and empowerment, to that of governance which focuses on finding 'innovative and effective ways of steering and organizing society' (Lievens, 2015).

In collaborating with the State in the government prototype, the eight private companies are playing an important role, whether willingly or unwillingly. The fact that all eight companies are shareholders of Baihang, and that Baihang is entrusted to run the credit system for the State, indicates that all eight companies will ultimately be responsible for running the government's own system. It is difficult to claim that the government will not want to extract

the maximum amount of data from it. If this happens, and continues as the new normal, it will form a legitimate perception that private platforms are essentially acting as spy agencies for the government. When that time arrives, the companies may not have a choice to say no, or would the companies be willing to say no to the government?

This lack of public information has created a perfect storm for doubts and controversies: are these companies being paid for sharing the information? What is the benefit to these private firms in Baihang's setup? Do they have the choice not to collaborate with the government? Are they participating for commercial benefits? Or under the political pressure? (Lee, 2019; Li, 2019). All of these questions remain unanswered.

Comparing the SCS to data-driven analytics in private risk and compliance systems, Larry Backer has argued that these systems 're-center the object of obligation of responsibility from the law's command and obey structure' to 'one grounded in the centrality of accountability and assessment – to oneself and to others' (Backer, 2018). Beyond legal orders, the system also exemplifies a more general ethos of data-driven governance that 'the ontological unit of analysis is the discrete data point' isolated from constitutive social relations and power structures (Lake, 2017).

Individual credit scores are currently being used in China on a mass scale, even by the country's judicial system, where a blacklist of people deemed untrustworthy is published by the courts (PRC Legal Enforcement, 2013). Low scores may lead to many undesirable consequences, including court-issued bans from travelling by plane or train (Chen & Cheung, 2018); reducing Internet speeds (Mistereanu, 2018); bans from attending good schools (Ni, 2018); bans from staying in good hotels (Hatton, 2015); and public shaming and branding as 'bad citizens' (The State Council, 2019).

Liu Hu, a vocal journalist who has criticised government officials on social media, was accused of spreading rumours and defamation. While seeking legal redress in early 2017, Mr Liu realised that he was blacklisted as 'untrustworthy' and was subsequently prohibited from purchasing airline tickets (Tracy, 2018). A similar case occurred to Xiaolin Li, a lawyer who was placed on the blacklist in 2015, who found himself unable to purchase a plane ticket home during a work trip and was barred from applying for credit cards (Wang, 2017). In 2015, Zhong Pei, who was a 16-year-old student living in Jiangsu at the time, was blacklisted for being 'dishonest' after her father killed two people and died in a car accident. It took Mrs Zhong four months to dispute the court's decision and to strike her name off the list in 2017 to be able to board a train and enrol in university (Kania, 2018).

While these situations may be isolated incidents, on the whole, this system demonstrates the clear potential to be used to push the government's agenda and crackdown on dissent (Zeng,

2018). It is important for a country to be able to enforce court orders, but when the judicial and legislative systems malfunction, it raises questions about whether the ability to expose and punish without due process can lead to concealed abuses of power.

The companies

Good social scores bring convenience and benefit to people's daily lives and as such high scores are becoming more and more desirable. Not surprisingly, ways to improve social scores are now an attractive service to the public. Score advisers, who can share tips on how to gain points, or credit consultants who offer expert advice on how to strategically improve a ranking or be removed from the blacklist, are amongst a list of newly emerged services. As an example, some of the tips offered by these service platforms include warnings on the negative consequences of being friends with someone with a low score (Tian, 2016).

Arguably, this might not be a huge concern if the rating agencies are not offering services like this, as only the agencies know the detailed algorithm and score calculation, however there has been no public policy to prohibit this potential conflict of interest. Considering the algorithm not part of public knowledge and is solely owned by the rating agencies (or perhaps jointly with the government), one would naturally believe that the help from the rating agencies to improve the score would be the most effective way for the user while also creating an immense business opportunity for those entrusted companies. At the current time, there is no prohibition to stop these companies offering services of this nature. This situation calls for a timely policy response especially since conflicts of interest might have already occurred widely and is only likely to increase.

Another potential conflict of interest rests within the complex competitive relationship between the entrusted companies and Baihang. As all eight private companies are running their own commercial credit collection services, they are competitors with Baihang. At the same time, these companies are also shareholders of Baihang. This relationship requires more consideration. Simply forcing together companies who undertake credit collections may potentially enlarge the pool of information, but this can only be achieved when all pre-requisites are met. For example, pooling information together requires all participating companies to share a common goal. Since these companies are separate commercial companies and some of them are in direct competition, it is difficult to identify the common goal. While government direction may work as a top-down measure, the effectiveness of this measure is questionable. Moreover, proficient information sharing requires all participants to be at similar level in terms of information capacity. This is certainly not the case in the Baihang setup. WeChat/Tencent Finance (WeChat Pay) and Ant Finance (Alipay) are by far the largest platforms in terms of users as well as information reserves. The quantity of information that these two companies are required to transfer to Baihang remains a question. Baihang's

establishment has not done away with competition. In fact, the relationships between all of these competitors have become more complex. This complex landscape offers more potential for conflicts of interest that might benefit either Baihang, or its individual shareholders, and the benefit is certainly gained with the cost of the public giving up their personal information.

Conclusion and Suggestions

The SCS poses significant challenges to researchers not only because it is an ongoing endeavour, but also due to the heterogeneous and experimental nature of the vastly different initiatives operating in both public and private sectors that loosely fall under its purview. As a result, much of the emerging literature on the subject remains largely descriptive, which is nonetheless of crucial importance given the prevalence of mischaracterisations (T. Zhang, 2020).

The SCS is swiftly expanding in China with solid support from the Chinese government. The current system is effective in luring people in with treats for good behaviour despite the fact that the system is designed so that 'untrustworthy people can't rent a car, can't borrow money or even can't find a job' (Tencent Credit, 2019). At the same time, fragmentary government rating systems in cities, agencies, courts and even schools are also being used to discipline and punish undesirable behaviours. The consequences of a low score rating is far-reaching. The overriding principle, as noted in the State Council General Office policy entitled 'Warning and Punishment Mechanisms for Persons Subject to Enforcement for Trust-Breaking' is: 'If trust is broken in one place, restrictions are imposed everywhere' (The State Council, 2019).

Currently, across 26 cities, the government is trialling to have WeChat replace traditional state-issued social security cards with digital versions connected to users' accounts (Chen, 2018). The likelihood of WeChat being used as the official Chinese virtual identification card is reasonably high once this wider scale trial completes. If this happens, WeChat/Tencent, as a private company, would hold all personal information of citizens, including social security number, date of birth, medical history, daily activities, friends, hobbies, expenses, and much more. When all of these government functions are transferred onto a private platform, laws and regulations that ensure entrusted company/ies will not breach the privacy of citizens and will not abuse this information should be well thought-out before the roll-out. Regrettably, this safeguarding process is yet to come at this stage.

There has been no public information regarding why the State has chosen these SCS participating companies, or any relevant public consultation nor criteria for decisions. One can only assume that the State would have chosen the companies that obtained certain level of trust or the trust between the State and the SCS-participating companies may have long been established. Unfortunately, trust has not been established between the SCS and

individual citizens. Without this trust, the SCS may not have the longevity that it aims to achieve. As a starting point, reducing the unknowns is important. This involves taking steps to reduce the opacity of the algorithms and to standardise various score systems. This will require a disclosure of mandatory information on the rating systems, in particular the scoring criteria. The argument against mandatory disclosure always involves the scenario whereby if people know what happens on the backend, the system can be rigged or hacked. However, if humans are being reduced to a score that could significantly impact their lives, there must be transparency in how this scoring system works.

To enhance the longevity and effectiveness of the SCS in the longer term, effective measures to prohibit potential conflicts of interest and abuses of power are crucial. To achieve this, specific laws and regulations regarding data collection and processing need to be developed in a timely manner in order to prohibit potential information misuse from the State and the entrusted companies. Once the scope of data collection and processing is established by laws, there will be a need for an independent tribunal or ombudsman to deal with credit related complaints efficiently and fairly. This independent agency would be best established to assist individual citizens with low or no cost to request rating agencies to correct their errors. It is also important to ensure that this independent agent is able to have access to the various platforms, as well as government bodies, to carry out their complaint investigation.

It is pleasing to see the first guideline for improvement to the SCS published in December 2020. This document signifies the awareness of the government on various issues of the current SCS model. The guideline highlights the importance of central legislation and lays the ground for future national law on the SCS. The government also highlighted that some local authorities misconstrued the definition of 'bad behaviour', for instance, spitting in public and fare-dodging should not be part of the credit score (The State Council, 2020).

The determination to pass relevant laws that will bring much-needed clarity to social credit systems seems strong but the timing is uncertain. The only unknown is time. Until then, the motley collection of credit scores, ranging from city-level schemes to commercial credit scores and national blacklists, will continue to confuse Chinese citizens (Sun, 2021). Just as Botsman has said, 'if we are not vigilant, distributed trust could become networked shame. Life will become an endless popularity contest, with us all vying for the highest rating that only a few can attain' (Botsman, 2018).

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