China’s Social Credit System and Pro-Environmental Behaviour

Michael Small
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Climate change is an enormous challenge which, if not addressed will have detrimental impacts across the globe. This problem is largely produced by human behaviour. Therefore, strategies aimed at influencing behaviour are necessary in addressing this issue. Governments are currently utilising informational campaigns, rewards, penalties, nudging and structural changes to influence pro-environmental behaviour. Although these methods are creating change, it is far from sufficient to address the massive and urgent issue of climate change. Therefore, alternative strategies should be considered. As such, this thesis aims to explore the effectiveness and the extent to which the Social Credit System, as it is being developed in China, can be considered an alternative strategy for producing pro-environmental behaviour. A framework to analyse and describe the SCS was developed by executing a literature review of key environmental behaviour models and intervention strategies aimed at producing pro-environmental behaviour. It concludes that the Social Credit System utilises a variety of methods similar to the behaviour models and interventions reviewed in this thesis, especially as far as rewards and punishments are concerned. However, surveillance stands out as a distinct means of intervention that is not utilised outside China to produce pro-environmental behaviour. The discussion suggests that this aspect of the system might be effective in contributing to address the challenge of climate change due to its coercive nature.

Keywords: Climate Change, Pro-Environmental Behaviour, Environmental Behaviour Models, Environmental Intervention Strategies, China Social Credit System, Surveillance.

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Summary:
Significant evidence points towards human behaviour, both directly and indirectly as a major cause of climate change. Addressing climate change involves targeting the rationality of individuals or changing the environment of action in the hope that individuals will adopt pro-environmental behaviours. Thus far, these strategies have not been capable of matching the scale and urgency of change required in tackling climate change.

China is currently in the process of implementing a so-called Social Credit System (SCS) for the purposes of influencing the behaviour of individuals and corporations. This thesis sets out to analyse the potential of the SCS as an alternative strategy for producing pro-environmental behaviour and to what extent this can be applied in other contexts. Models of environmental behaviour and implied intervention strategies were analysed to identify the various elements which produce pro-environmental behaviour. These elements were used to develop a framework to describe and analyse the effectiveness of the SCS. The results show that many similarities exist between the SCS and current methods of intervention such as the use of rewards, punishments and choice architecture although in varying forms. The SCS use of rewards and punishments seeks to enhance or restrict an individual’s ability to function in society. However, one distinct aspect of the SCS is the use of surveillance. This allows the SCS to be all-encompassing and omnipresent, thus enabling it to manage and control all aspects of society. In conclusion, the system has the potential to contribute effectively and efficiently to solving the problem of climate change by coercing individuals to act pro-environmentally. However, the use of this system involves several ethical and moral considerations which call for serious reflection.

Keywords: Climate Change, Pro-Environmental Behaviour, Environmental Behaviour Models, Environmental Intervention Strategies, China Social Credit System, Surveillance.

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1. Introduction

Climate change is the defining global challenge at present. A landmark United Nations (UN) Report published in 2018 by the Intergovernmental Panel on Climate Change (IPCC) warned that reducing humanity’s impact on global warming will “require rapid, far-reaching and unprecedented changes in all aspects of society” in order to avoid the likelihood of severe, pervasive, and irreversible impacts on people and ecosystems (IPCC, 2018; IPCC, 2014). In terms of IPCC greenhouse gas (GHG) emissions scenarios, the challenge can be represented as a shift from the current trajectory leading to a global warming of 2.6 to 4.8°C to one that is compatible with warming of less than 2°C by 2100. This will require all countries to limit the global GHG emissions by 45% by 2030. As of 2018, global GHG emissions have increased with no indication of peaking that would need to occur before a decline. Climate Action Tracker (CAT) has identified that the vast majority of countries have GHG emission targets that are inadequate and, collectively, have no chance of limiting the rise in temperature to less than 2°C and so far, many countries are failing to meet their commitments (CAT, 2019).

The preferred response of incumbent political elites of addressing climate change is economic growth and technological innovation; i.e. business as usual with salvation achieved through the development of cleaner and greener technologies (Warde, 2013). Although in the past natural sciences and technological applications have shown Promethean powers, one does not have to be a pessimist to anticipate that this approach will be insufficient, as it is often growth oriented and creates issues of ecological overshoot and social injustices (Boucher and Loring, 2017). Indeed, governments implicitly admit as much by deeming it necessary to address climate change and unsustainability as a problem of altering individual and collective behaviour.

In recent years, arguments promoting a human-scale perspective on climate change have proliferated (Hoekstra and Wiedmann, 2014; Fawcett and Parag, 2010). This perspective links the behaviour of individuals with GHG emissions. This indicates how individual behaviour influences emissions and the changes required to adjust individual behaviour to align with the required GHG emission reductions as outlined in the Paris Climate Agreement. This has resulted in a focus on individuals and changing their behaviour.

Pro-environmental behaviour, behaviour which consciously seeks to minimise the negative impact of one’s actions on the natural world, largely depends on internal and external influences. Internal influences are those which are unique to the individual such as their values, habits and knowledge while the external influences are those which are found in the environment both physical and social. The current political manner in most democratic and or capitalist countries is for behavioural change initiatives such as policy reforms, carbon offsets and economic incentives to influence industry and consumers, and information-based messaging. The approaches encourage citizens to accept greater responsibility for their choices and lifestyles in the marketplace. Strategies are typically directed towards influencing consumers to make decisions which are more sustainable, and therefore having reduced impact on climate change. The most prominent strategies are social marketing and information campaigns, which are intended to influence consumers to adopt a rational behaviour by identifying how sensible it would be to alter their decisions to limit climate change (McKenzie-Mohr, 2000).

Despite the effort, humans are more complicated than the narrow solutions designed to influence their behaviour. Many people are failing to engage in pro-environmental behaviours required for mitigating climate change. The gap between environmental attitude and action is exacerbated by various barriers both psychological and structural (Blake, 1999; Kollmuss and Agyeman, 2002). The devastating effects of climate change are problematic for human behaviour, given that it is invisible at first. Its large scale, gradual, distant and impersonal characteristics do not trigger humans to react the way other immediate problems might (Weber, 2015; Gigerenzer, 2015). The existence of many cognitive biases systematically causes individuals to diverge from the ideal model of rationality (Thaler and Sunstein, 2009). Humans tend to seek information that validates their existing beliefs while ignoring new
information that contradicts it (Weber, 2015). Nudge policies proposes indirect suggestions and positive re-enforcement as a means of influencing decision making and behaviour. They are often implemented in an attempt to encourage individuals to mimic the way they should behave (Thaler and Sunstein, 2009). These nudges can sometimes be ineffective in achieving the desired result as they are overpowered by social norms and expectations of the behaviours of other individuals (Ormerod, 2012).

These attempts to influence pro-environmental behaviour are typically focused on the individual and his or her internal influences. However, Shove (2010) believes that changes to the practices of the system should also be modified. This is because individual behaviours are, to some degree, enabled or constrained by the social conditions, systems and institutional practices in which they operate (Bandura, 2000). Therefore, creating systems which reduce the number of choices available to the individual and frame decisions in such a way that nudges the individual towards desired behaviours can be useful. (Thaler and Sunstein, 2009). Hence the advocacy of better choice architecture – default settings, infrastructural design, feedback on behaviours and economic incentives – which will steer individuals away from detrimental behaviour as it encapsulates the individual’s limited attention and irrationality and foster behavioural change by prompting them (Verplanken et al., 2008).

Emphasis on altering the social and material environment of action rather than beliefs and intentions of individuals should be welcomed precisely because policies targeting individual behaviour have thus far been limited in success. The most effective intervention strategies are designed for specific groups/households, to a specific behaviour to account for the multitude of barriers limiting mitigation efforts, and employs a combination of intervention strategies to account for the various barriers (Gifford et al., 2011). Therefore, new systems of influencing pro-environmental behaviour which utilises various intervention strategies to take into account the various structural and psychological barriers should be explored. One potential system is perhaps China’s Social Credit System (SCS). This system is being developed to foster change in both individuals and corporations to address the loss of integrity, honesty and moral decay in society through systemised forms of behavioural manipulation. Constructing a similar system with a framework for limiting climate change may be an effective solution to addressing the issue. The SCS builds on and reinforces the basic principle of surveillance, namely that its very existence exerts already an influence on behaviour (Meissner, 2016). The Chinese government is developing an “internet of surveillance” creating “an all-encompassing system penetrating, controlling and shaping society” (Meissner and Wubeke, 2016, p.52). If individuals assume that they are under observation, then they are likely to behave differently: confirming to existing rules encourages people to engage in pro-social behaviour of whatever is deemed “right: (van Rompay, et al., 2009).

### 1.1. Aim and Research Question

Initial examinations of the SCS thus far has been informative and provided some insights. However, little has been done in describing the system thoroughly. As many facets of the SCS remain unexplored, and given the current trend of increases in human related GHG emissions, this thesis aims to contribute to the understanding of the SCS and to what extent this can be used as an alternative and more effective approach for influencing massive and urgent pro-environmental behaviour. Therefore, this paper seeks to provide an analytical review to identify what the SCS is and highlights its prominent features for influencing behaviour, and to determine the ways in which and the extent to which these features are applied for obtaining massive and impactful change. In the discussion, this paper will present whether or not and under what circumstances any of the identified features could be applicable in other social and economic contexts than where developed at present. This aim formulates itself in the following research questions:

1. What is China’s Social Credit System?
   i. How does the system function?
   ii. How does the system influence the behaviour of its subjects (individuals and corporations)?
2. To what extent can this system be used as an alternative strategy for producing pro-environmental behaviour?
i. Is this system capable of producing the massive, global and immediate changes required to meet the urgent challenge of climate change?
ii. Is it applicable in other social, economic, historical and political contexts?

1.2. Thesis Outline
This analytical review seeks to address what the SCS is and highlights its mechanisms for influencing individuals in society and to what extent these can be used in other social, economic, historical and political contexts.

The thesis is structured as follows: Chapter one serves as both the introduction and background. Chapter two, will address the methodology and discusses how the analytical framework will be developed in order to answer the research questions outlined above and how this framework will be applied. Following which, chapter three, the literature review, will highlight the models of environmental behaviour and their implied intervention strategies for creating pro-environmental behaviour. Chapter four, as part one of the analysis, will establish what the SCS is by examining the historical roots and policy development of the system. Chapter five, part two of the analysis, will further explore the SCS by deconstructing the system into its various mechanisms to highlight how the system functions in order to answer the first research question: what is the SCS and how does it function. After the system has been thoroughly described and analysed, chapter six will discuss the system in light of the analytical framework which emerges from the literature review. Lastly, the final chapter will conclude the paper and highlight its limitations and areas for future research.

2. Methodology

Through an analytical review of the literature this conceptual paper presents current models of environmental behaviour, current behavioural intervention strategies and what is currently known about the set-up and implementation of the Chinese Social Credit System (SCS). It attempts to determine the ways in which and the extent to which the SCS can be utilised to obtain the massive and urgent pro-environmental behaviour required. This aim is broken down into 6 the following research questions:

1. What is China’s Social Credit System?
   i. How does the system function?
   ii. How does the system influence the behaviour of its subjects?
2. To what extent can this system be used as an alternative strategy for producing pro-environmental behaviour?
   i. Is this system capable of producing the massive, global and immediate changes required to meet the urgent challenge of climate change?
   ii. Is it applicable in other social, economic, historical and political contexts?

To answer the questions, literature from a wide variety of sources such as government documents, academic articles and newspaper articles, was acquired through several research platforms, mainly Google Scholar, Social Science Research Network, Uppsala University Library and Research Gate databases. On these platforms, the following research phrases were used; “China”, “Social Credit System”, “Social Credit Score”, “State Surveillance”, “Reputation Ranking”, “Rating System”, “Behavioural Change”, “Pro-Environmental Behaviour”, “Environmental Behaviour Models”, “Pro-Environmental Intervention” “Social Manipulation”, “Nudging” and various combinations of these phrases and words. Due to the limited academic research done on the SCS, the main literature identified were policy documents translated from Mandarin into English, edited by Rogier Creemer, a prominent researcher of Chinese media law at the Programme for Comparative Media Law and Policy at the University of Oxford. These documents are available online and are frequently peer-reviewed and constantly updated to improve its accuracy in translation. Additionally, his scientific papers relating to
the SCS, which utilises these translated documents, are published on the Social Science Research Network.

In order to develop a framework to shed light on how the SCS may produce pro-environmental behaviour, a literature review of key environmental behaviour models was executed. These models will highlight the theoretical underpinning of current methods of behavioural change interventions and shed light on how they influence behaviour. These models have resulted in a range of intervention strategies being developed and implemented to influence pro-environmental behaviour. These intervention strategies will be reviewed in light of their ability to effectively and efficiently tackle the massive and urgent challenge of climate change. In this thesis effectiveness is defined as the ability to induce changes in behaviour and the impact these behaviour changes have on climate change. While efficiency relates to the ability to address the urgency and scale (reach) of change required. By doing this, I expect to discover the salient features that determine the success or failure of such intervention. This will assist in further developing a framework which will then be used to describe the SCS and compare it to other behavioural intervention strategies.

3. Literature Review

This chapter contains a literature overview of some of the relevant environmental behaviour models from which current intervention strategies are derived. These models include Rational Choice Model, Theory of Planned Behaviour, Normative Activation Model, Value Belief Norm and Structuration and Social Practices. These models will be briefly outlined and linked to their respective pro-environmental policies and strategies. Additionally, the strengths and weaknesses of these policies and strategies will be examined in relation to their ability to tackle the urgency and scale of climate change. Thus, the effectiveness and efficiency of these intervention strategies will be examined. The information in this chapter helps create the foundation for why alternative systems should be examined and further develops the analytical framework to guide the analysis of the SCS and the general discussion later.

3.1. Key Models of Environmental Behaviour

Since the 1970s, environmental psychologists have developed a wide range of theories and assumptions which predict environment-related behaviour (O’Dwyer et al., 1993; Shinworth, 2000; Kollmuss and Agyeman 2002; Jackson, 2005), a line of research closely linked to climate change (Darnton, 2008). This research has suggested that behaviour is largely predicted by interaction of two general influences: internal and external. Internal variables include knowledge, awareness, values, attitudes, emotion al state, behaviour, habits and rational thought processes all of which vary between individuals and within an individual given its particular context and stage of life. External variables are located in the physical, social and discursive environments (e.g. engagement with environmental concerns) in which a person lives such as rewards, punishment, social norms and social comparison. However, while there is no current model solely sufficient to take into account the complexity of human behaviour, it is possible to identify a multitude of factors, which can influence behaviour.

3.1.1. Rational Choice Model

An early model of pro-environmental behaviour, the rational choice model, which dominates thinking and practices in consumer behaviour (Jackson 2005), assumes a causal progression from environmental knowledge to environmental concern to pro-environmental behaviour (Gifford et al., 2011). Human action is therefore seen as the result of a person logically considering the pros and cons of different choices and selecting the option which maximises personal utility. The underlying assumptions of this model are that individual self-interest determines human behaviour, cognitive deliberation results in rational behaviour, and consumer preferences are external to the model, therefore they are taken as a given without any further elaboration of their origins (Jackson, 2005). Policy decisions derived from this model usually involve, first, disseminating information to consumers so that they may make more
informed decisions and, second, externalities are internalised so that they become apparent. In other words, individuals should be more aware of the consequences of their consumption/behaviour. Hence, the utilisation of price signals and information are crucial mechanisms in the rational choice model.

This model of environmental behaviour assumes that technological solutions are preferred and consumers are understood as autonomous individuals (Moloney, 2009). In the context of climate change strategies, it consequently focuses on the use of command and control (e.g. environmental regulations, appliance and efficiency standards), economic instruments (e.g. renewable energy subsidies and environmental taxes), technological solutions (IPCC, 2001) and an emphasis on communication and diffusion methods (e.g. providing information, education, persuasion, social marketing and person to person contact) to influence individuals’ behaviour (Dietz and Stern, 2002; Stern 2011).

This model has been largely discredited on a number of bases. Firstly, scholars have indicated that individuals make decisions based on emotional responses as opposed to cognitive deliberations (Costanzo et al., 1986; Smith, 2004; Jackson, 2005). Secondly, the assumption that individuals make decisions out of self-interest have also been challenged by critics who suggest that behaviour is also determined by social, moral and altruistic motivations (Schmidt, 2004). And thirdly, the rational choice model fails to see consumption as a form of social and practical activity where decisions are influenced socially (e.g. peer-pressure and reference group) and collectively (collective behaviour) (McMeekin and Southerton, 2012; Shove et al., 2012; Jackson, 2005).

The extensive critique of rational choice model has motivated a number of attempts to produce alternative conceptual models of consumer behaviour in light of its shortfalls. Despite the opposition to the rational choice model many of these alternatives retained some of the expectancy-value structure (i.e. expectations and values associated with a particular behaviour) of rational choice theory (Jackson, 2005). These alternative models differ from the rational choice model by not treating consumer preference solely in terms of financial values of market transactions. Additionally, they endeavour to analyse the underlying expectancy-value structure of consumer attitudes and adapt this structure to include other factors such as social influences, habits and moral concerns.

3.1.2. Theory of Planned Behaviour

Another often used model of influencing environmental behaviour is the theory of planned behaviour (TPB), which evolved as an extension of the theory of reasoned action (Fishbein and Ajzen, 1975; Ajzen and Fishbein, 1980). Both theories attempt to predict behaviour based on attitudes but also explain the process through which they are connected. The TPB assumes that behavioural intention (i.e., to act pro-environmentally) is causally determined by three factors. First, an individual must have a positive attitude (as determined by their beliefs and values) towards the behaviour in question (climate relevant behaviour). Second, the individual must believe that the social norms and conventions regarding the behaviour (i.e., the subjective norm) is supported (Ajzen, 1991). Third, the individual must perceive to have autonomy over the behaviour. Meaning, the individual must believe that they have sufficient control over the behaviour and that it will successfully promote desired goals. Therefore, individuals may refrain from pro-environmental behaviour if they perceive to have little behavioural control over the outcome (Huebner and Lipsy, 1981). The more these three factors are aligned with a pro-environmental direction, the greater the possibility of an individual engaging in pro-environmental behaviour. This model has been used to successfully explain a variety of pro-environmental behaviours such as recycling (Boldero, 1995) and the use of public transport (Heath and Gifford, 2002; Kaiser and Gutscher, 2003).

One attractive feature of this model is its ability to include additional variables. This increases its explanatory capacity (Ajzen, 1991). This model has thus been supplemented to include belief salience (a salient belief about a behaviour influences the perception of the behaviour), past behaviours/habits, moral norms, affective beliefs, self-identity (people change their behaviour to protect their identity) and behavioural control (the ease or difficulty of the behaviour) versus self-efficacy (one’s perception of
how well can an action be executed) (Conner and Armitage, 1998; Bamberg, 2003; Mannetti et al., 2004; Whitmarsh and O’Neill, 2010). However, as more variables are included in the model, there are diminishing returns to the enhancement in their ability to predict behaviour, and their increasing complexity renders them less susceptible to practical application (Jackson, 2005). Additionally, this theory has also been critiqued on the grounds that it is overly individualistic as it focuses solely on the internal influences and has a rational perspective of behaviour which does not take into account the social contexts of decision making (Lorenzi et al., 2006).

3.1.3. Normative Activation Model & Value-Belief-Norm Theory
Two other commonly used theoretical models for predicting and explaining pro-environmental behaviour are the norm activation model (NAM) and its by-product, the value-belief-norm (VBN) theory (Schwartz, 1977; Stern, 1999; Stern, 2000). The NAM is one of the most widely used applied models of moral behaviour and helped in developing a framework for understanding pro-social and altruistic behaviours. This model proposes that individuals perceives a problem (behaviour’s negative effects on the environment), comprehend the consequences of their action or inaction, and then weigh the pros and cons of acting or failing to act (Dunlap and Van Liere, 1978). When practiced, as with the TPB, studies often restrict their focus to the correlations between personal norm and its psychological antecedents, and assume that the existence of the personal norm translates to the materialisation of the behaviour (Jackson, 2005). This theory has been used to investigate environmental protection, recycling, household energy consumption (Black et al., 1995; Hopper and Nielsen, 1991; Vining and Ebreo, 1990). However, when examining pro-environmental behaviour, the existence of social and institutional constraints appears to affect the variance in predictable behaviour (Jackson, 2005).

The NAM model was later on modified to develop the VBN theory to focus on explaining environmental behaviour (Stern, 2000; Stern, 1999). The VBN builds on the TPB’s causal link by proposing that individual’s values precede environmental beliefs. The model declares that behaviour accompanies personal norms, which are triggered by a belief that environmental conditions will negatively affect something valued by the individual (e.g. wildlife) and the belief that the individual has the ability to take action to reduce this threat (Gifford et al, 2011). However, Stern (1993) contends that in the same individual distinct value orientations can co-exist, which will have an impact on the behaviour. Therefore, the behaviour will be determined by which value or belief the individual is consciously aware of which is usually determined by the given context (Jackson, 2005). This model has been used against other ecological value models in relation to different indicators of pro-environmental behaviour such as private behaviour (recycling), environmental citizenship (e.g. NGO membership) and environmental policy support. It has shown more consistency compared to the NAM in accounting for the variance in behaviours (Stern, 1999). The VBN theory has been applied to explain pro-environmental behaviours, in the field of energy consumption and alternative car use (Steg et al., 2005; Stern, 1999). However, value models of environmental behaviour are not without problems such as a relatively weak correlation between personal norms and indicators of pro-environmental behaviour (Jackson, 2005).

The models described above usually consider behaviour mainly as the result of processes and characteristics that are internal to individuals, such as their habits, personal norms, attitudes and values. These models fail to take into account social structures and treats the individual as an autonomous agent free from external influences. The next models include the external factors beyond their comprehension or control.

3.1.4. Structuration and Social Practice Theory
In contrast to the intervention strategies reviewed above which focuses on the individual and the internal influences (emotions, values, knowledge) unique to the individual, structuration and social practices focuses on social structures and other external influences. Structuration and social practices are products of the relationship between agency (human action) and structure (the social institutions that constitute
the framework for human action) within philosophy and social sciences (Halkier et al., 2011; Warde, 2005; Shove and Pantzer, 2005). This agency-structure debates revolves around whether or not individuals are capable of autonomous and directed social action or whether individuals are locked into social processes in which they have no collective control over (Jackson, 2005). Structuration theory attempts to bridge the agency-structure dichotomy by providing more integrative and complex models of social action (Parker, 2000).

The most notable form of structuration theory was developed by Giddens (1984). This model indicates that individual decisions are formulated through social interactions (Jackson, 2005). Structuration Theory is based on three fundamental understandings about the nature of social interactions: First, reflexivity, the constant monitoring of the continuous flow of social life (Giddens, 1984); second, recursiveness, the continuous reproduction of social practices in which social actors are engaged (Johnston et al, 2000); and third, regionalisation, the spatial and temporal boundaries of the social processes (Giddens 1984).

To understand structuration, it is important to understand the distinction between practical consciousness and discursive consciousness. The former relates to routines, habits and the later to intentional and goal-oriented behaviours (Moloney, 2009). The bulk of human agency rests in using practical consciousness in the context of familiar and routinized behaviour (Giddens, 1984). Most of these actions take place without any conscious deliberation. Simultaneously, human agency is also determined by the ability to engage in such reasoning. This discursive consciousness exists in everything an individual is able to say about the social conditions of their behaviour. It requires that the individual is aware of their action and that this awareness has a discursive form, meaning that the behaviour is pursued through social discourse (Jackson, 2005). This level of consciousness does not describe a process of continual rational deliberation about a decision or action as the intentions or motives of the underlying decision are generally produced during or after the decision or action has been executed, as opposed to prior (Giddens, 1984). Therefore, agency is in part, the process of being involved in the repetitive, habitual practices of everyday life.

In this view, pro-environmental or anti-environmental behaviours are not determined by the result of individual attitudes, beliefs and values but are embedded within and occurring as part of social practices (Warde, 2005). Hence, the performance of pro-environmental behaviour can be seen as part of a routine of what individuals acknowledge as the normal way of life (Shove, 2004). Social practices thus shift focus away from individual decision making, and towards the ‘doing’ of a multitude of social practices and consumption patterns they entail. (Shove and Warde, 2001; Hargreaves, 2011). Additionally, individuals are no longer the focus and instead become carriers of social practices, executing the various tasks and behaviours that the practice necessitates (Reckwitz, 2002). Individuals are considered to be skilled agents who actively navigate and perform a broad range of practices in daily life. Creating pro-environmental behaviour does therefore not depend on changing attitudes or values, but the transformation or creation of new practices (Southerton et al., 2004).

Structuration and social practices have resulted in the development of models for determining pro-environmental behaviour as a set of social practices mainly influenced by social norms, lifestyle choices, institutions and societal structures (Spaargaren and van Viet, 2000). Thus, pro-environmental behaviour requires a shift in routine behaviour from the level of practical consciousness to discursive consciousness (e.g. switching from driving to work to cycling because it is good for the environment), an important element in modifying habit-oriented behaviour. Nonetheless, structuration and social practices models are not without their flaws as there is no unified practice approach (Schatzki, 2001). Scholars debate over the definition of exactly what a practice is as any behaviour can be viewed as a part of a practice. Social practices are underdetermined by empirical facts, as it is impossible to get to the level of the real social world. Thus, social practices, comprise of a particular way of analysing social phenomena, which allows specific empirical and exclude others (Reckwitz, 2002).
3.2. Intervention Strategies

The various behavioural models outlined above have resulted in a range of strategies being developed and employed to produce pro-environmental behaviour. These strategies tend to incorporate a multitude of models in order to have the greatest impact. Intervention strategies can be categorised as informational, consequential and structural all of which focuses on different aspects of influencing behaviour and have varying success.

3.2.1. Informational

Traditionally, strategies aimed at producing pro-environmental behaviour have mainly focused on information communication strategies. This strategy attempts to target an individual’s belief, attitude, motivations, perception of a behaviour and takes the shape of various forms such as information campaigns, social marketing, guilt appeals, social normative information, person to person contact and education programs. Evidence indicates that pro-environmental attitudes, values and personal norms are usually associated with low-impact behaviour (behaviour which have little impact on GHG emissions e.g. switching off lights when not in use) (McKenzie-Mohr et al., 1995; Gardner and Stern, 2002). On the other hand, behaviour which are high-impact (produces a high negative impact on the environment e.g. frequent use of motor vehicles) tend to be ingrained in habits and are based on contextual factors (lack of availability of quality public transport), making it difficult to influence (Stern, 1992).

Information can be an important first step in prompting an individual to change behaviour (Steg, 2009). Informational strategies have shown limited success in altering behaviours which are convenient, low (both in terms of time, effort, money and social disapproval), and have few structural constraints (Messick and Brewer, 2005). Studies generally find that information can increase knowledge but on its own has minimal effects on behaviour (Gardner & Stern, 2002). Mitigation policies risk being ineffective or opposed by the public if individuals lack an understanding of the issue (Stern, 2000). As a result, informational interventions are utilised to increase public awareness of structural strategies (e.g. legal prohibition of Styrofoam) when individuals are forced to act pro-environmentally (Schultz et al., 2007).

Informational interventions are based on at least three assumptions (Fien et al., 2008) First, that the right information will result in the appropriate pro-environmental behaviour. However, information on its own, is unlikely to produce pro-environmental behaviour or sustained behavioural change beyond the life of the information campaign. This is due to a loss in enthusiasm for new behaviours in the absence of continued reinforcement (O’Dwyer et al., 1993). Second, if individuals are given the facts, e.g. how the consumption of beef negatively impacts the environment, they will respond rationally and adopt pro-environmental behaviours. However, it is evident that responses vary in relation to their culture, context, and emotional states. With increasing knowledge about climate change and its impacts, behavioural responses can range from disempowerment and disinterest to fear, anxiety, sadness and scepticism (Watson et al., 1988; APS, 2008; Finger, 1993). Informational and communication campaigns which highlight the impending doom of climate change can produce paralysing effects as opposed to empowering effects (Moloney, 2009). Individuals may reject or distance themselves from information in order to maintain desirable emotion states (Stoll-Kleeman et al., 2001). Moreover, many behaviours are not overtly chosen as they can be identified as habits or practices, which individuals are locked into and are therefore difficult to change (Jackson, 2005). This is evident in activities such as commuting to work where individuals are locked into a routine practice of private car ride rather than a behavioural choice due to having limited alternatives or are limited by infrastructure, economy or time (Verplanken et al., 1997). Similarly, norms, both personal and social, may dictate behaviour such as showering daily and provide limited alternatives to change behaviour without breaking these norms.

The third assumption of various informational interventions is linked to an assumed importance on individual behaviour change by focusing on influencing internal factors as opposed to the external factors (e.g. as institutional and structural). This assumption shifts the focus away from governmental authorities, politicians and corporations to human nature (Maniates, 2002). This approach to
governance transfers responsibility to the individual to act pro-environmentally by e.g. purchasing eco-friendly goods (Hobson, 2006). This results in informational interventions to assume the form of moral persuasion to encourage the utilisation of more efficient technologies (Productivity Commission, 2005). These approaches effectively disregard the theory of structuration, as described in Section 3.1.4 (and will be further discussed at the level of intervention in Section 3.2.3). Hence, these strategies are only able to influence the kind of behaviour that requires limited skill (Heimlich and Ardoin, 2008).

3.2.2. Consequential

Consequence strategies aim to influence the determinants of an individual’s behaviour after the performance of the behaviour (e.g. rewards, penalties and feedback). This approach assumes that through feedback, positive or negative, these consequences will influence the probability of the behaviour being repeated or avoided in the future. Over the past few years, the number of consequential programs has dramatically increased (Allcott, 2011). They are usually quick to implement and easy to scale up and evidence indicates high economic returns and negative net carbon abatement costs (Allcott and Mullainathan, 2010). The form and structure of incentives or disincentives have greater impact on influencing pro-environmental behaviour as opposed to the size (Gallagher and Muehlegg, 2011). Consequences which are soon and certain are more effective than those which are distant and uncertain (Geller, 2002).

Rewards are more effective than penalties in producing behavioural change because rewards are associated with positive emotions and positively influence attitudes and support for the behaviour being advocated (Geller, 2002). However, the positive effects of the rewards diminish if the reward structure ceases to exist. Additionally, in order for rewards to be successful the individual must already have the goal to make the required behavioural change. This behaviour must be more attractive than the environmentally harmful action (e.g. rewarding people for using public transport may not be attractive enough to persuade people from using their personal vehicle) (Garling and Schuitema, 2007). Therefore, rewards are usually accompanied by other methods to counter the additional barriers it may face.

Penalties typically make an undesired behaviour more costly to perform and results in limiting the freedom to behave as desired. This perceived loss of freedom can result in individuals to act in ways counter to the intended behavioural intervention (Brehm, 1966). In some instances, individuals react in a negative way towards the administrator of the punishment (Geller, 2002). This can result in citizens losing trust in government if policy makers utilise penalties heavily in order to promote pro-environmental behaviours (Bolderdijk, 2012). Governments tend to utilise penalties more than rewards as rewards usually cost money while penalties generate revenue. Additionally, penalties dictate behaviours to be mandatory whereas rewards are voluntary (Mulder, 2008).

Rewards can take the form of financial incentives which can produce the mindset where personal norms and moral obligations are supressed as the decision to act becomes a business decision, rather than a moral or ethical issue (Lindenberg & Steg, 2007). Therefore, financial rewards and penalties can result in the absence of the moral aspects of pro-environmental behaviour rather than their own conviction and can result in less of the desired behaviour (Heyman and Ariely, 2004). Thus, individuals who feel more of a moral obligation towards sustaining the environment are more likely to partake in pro-environmental behaviour. Consequently, the possibility exist that financial rewards and penalties may remove the moral obligation of action pro-environmentally (Frey and Jegen, 2001). In light of this, pro-environmental behaviour can be promoted through non-monetary consequences e.g. praise, compliments, public recognition which are less likely to produce a business mindset (Heyman and Ariely, 2004).

Feedback interventions whether immediate or frequent have yielded positive results in influencing energy consumption. For example, saving 5%-12% in home energy use often lasts for a prolonged period of time (Fischer, 2008). Its effectiveness varies with the frequency, mode (self-monitoring, prompts or detailed billing) and combination of feedbacks with customised advice (Ehrhardt-Martinez

9
et al., 2010). Feedback strategies tend to be more effective than information interventions as they are usually tailored to the individual and the frequency enables an individual to learn overtime (Stern, 2011). Additionally, feedback connects behaviour to its tangible rewards (financial incentives). Recent developments in technology have increasingly made giving immediate feedback easy, allowing it to become more practical as a large-scale policy option as it can now be applied to various equipment such as fuel consumption on vehicles, and ‘emoticons’ to signal praise or disapproval via online (Stern, 2011).

3.2.3. Structural

The previous intervention strategies are mainly focused on the individual and their internal influences. They do not take into account the external influences and the social and structural embeddedness of decision making. Fundamental changes in society are seen as necessary and desirable for achieving desired emissions reduction targets. This form of influencing pro-environmental behaviour aim to alter the circumstances under which the behaviour related decision is being made. This involves changes in the contextual factors such as the availability, pricing, legal regulations, social structure or physical or technical systems (Messick and Brewer, 2005). These strategies are most effective when external factors render the performance of the pro-environmental behaviour difficult or costly or when they facilitate the performance of pro-environmental behaviour. In light of this, changing the costs and benefits associated with behavioural alternatives are necessary in order for the pro-environmental behaviour to become more appealing and easier to execute (Stern, 1999; Thøgersen, 2005). These strategies may indirectly influence the perceptions, motivations and attitudes in an individual towards pro-environmental behaviour (e.g. attitudes towards public transport may become favourable if prices decrease).

The effectiveness of structural strategies has been seldomly studied (Abrahamse, et al., 2005; Schultz et al., 1995). Changing the behaviour or attitudes of an individual without accounting for the influence of technology on behaviour does not automatically lead to behaviour change (Slob and Verbeek, 2006). Changes to the physical or technical systems alone will not produce pro-environmental behaviour if it does not take into account the social context in which technologies emerge and are used (Guy, 2006). Studies are indicating the importance of context and technology in shaping behaviour and routine relating to the use of energy related technologies and vice versa (how the role of behaviour and routine shapes the use of technology) (Shove et al., 2008; Chappells and Shove, 2005). This highlights a shift from an economic-technical approach (consumers will rationally adopt energy efficient technology if available) to a socio-technical approach. In this field of research, the individual is no longer the focus of analysis, instead it explores how and why a society shapes or generates technologies. Thus, the focus shifts towards the relationship between consumption and convention, and technology and practice (Shove, 2003).

In socio-technical interventions, behaviours are seen as socially constructed by the technical systems from which they emerge and are reproduced. Consequently, the way an individual utilises technology is shaped by the context and guided by common practices (Strijbos, 2006). Therefore, in order to better
understand the relationship between behaviour and technology, it is important to take a look at the concept of practice (Strijbos, 2006).

The focus on practices indicates that behaviour is influenced at the level of the collective or social context, which frames daily decisions or actions as opposed to individually focused behaviour change. These practices are embedded within the socio-technical systems comprising regulations, institutions, technologies and infrastructures. Additionally, practices are also structured and formed by the values and norms of the societies and context in which they take place (Moloney, 2009). Shove (2006) focuses her analysis on the cultural aspects of domestic consumption practices; specifically, on how practices are constructed and reproduced. This is largely ignored by the intervention strategies discussed earlier. Framing practice in such a manner has uncovered that to direct interventions and policy instruments at the individual expecting that it would produce pro-environmental behaviour or reduce the environmental impacts of consumption is ineffective (Chappells et al., 2000).

The factors influencing social practices, as identified in the preceding paragraphs, can take some time to change. Therefore, they may not be sufficiently effective in addressing climate change with the urgency that is required. Therefore, framing decisions in such a way that they limit individuals’ choices or prompts individuals towards a desired behaviour might be necessary. One strategy that attempts to do this is referred to as nudging.

3.2.4. Nudging
Governments have been hesitant to implement strict climate-related policies and regulations due to the fear of losing public favour, challenge vested interests, upset powerful corporations nor the political will to intervene authoritatively (Warde, 2013). Consequently, governments and companies are resorting to nudging as a means to produce pro-environmental behaviour (Cialdini, 2006; Thaler and Sunstein, 2009). Nudging alters an individual’s behaviour in a predictable way without restricting choices or significantly changing economic incentives (Hansen, 2016). Nudging works on the premise that individuals are not rational and do not consult with their values, attitudes and beliefs. Behaviour is derived from rapid responses to influences and cues from the external environment, generated from habits and intuitions based on the context of the situation (Warde, 2013). Most behaviour as highlighted in the theory of structuration (see section 3.1.4), occurs in the practical consciousness and therefore generates automatic responses which are uncontrolled, effortless, associated and unconscious which is far more important as a great deal of behaviour is governed by this (Giddens, 1984). This results in biased judgements, inability to resist temptation, and social conformity (Thaler and Sunstein, 2009). With this in mind, nudging does not view individuals as independently minded, rational and self-aware agents.

Nudging implies that in order to produce pro-environmental behaviour, interventions should focus on changes to the environment of action as opposed to addressing internal influences (e.g. placing fruit at eye level at buffets). Nudging strategies usually take the form of choice architecture, feedbacks, economic incentives which are purposefully aligned (e.g. increases in excise tax on meat to reduce consumption) and default settings. Although individuals may respond positively towards communication, incentives and persuasion interventions, it is usually due to how these interventions are communicated and framed (Kamencia, 2012). The relevance of the person communicating the information, e.g. a pro-athlete suggesting cycling, will be more effective as opposed to the Dalai Lama making this suggestion. Furthermore, Changing the context in which a decision is made can produce pro-environmental behaviour and discourage anti-environmental ones. Individuals are increasingly motivated to maintain pro-environmental attitudes and achieve their goals if commitments to the goals are requested by the authority seeking to produce change (Byerly et al., 2018). Additionally, individuals tend to follow the status quo and may not change the default settings i.e. accept what is given, thus designing good default settings is important in influencing pro-environmental behaviour e.g. reducing buffet plate size, printer settings, menu offerings and organ donations which can result in a decrease in consumption. Furthermore, the source of information or messenger, suggesting the behavioural change,
and conveying social norms, such as peer comparisons and social norms can influence how an individual behaves (Byerly et al., 2018).

Nudging has been utilised and produced positive effects in areas such as dieting and lifestyle decisions (Downs et al., 2009), pension funds (Thaler and Benartzi, 2004) and organ donation (Johnson and Goldstein, 2003). However, with regards to promoting pro-environmental behaviour, nudging has mainly focused on recycling, resource efficiency and energy consumption and remains under-utilised in many policy domains (Reddy et al., 2017). Nudging offers a relatively low cost and socially acceptable approach with the political benefit of changing behaviour in a low-impact manner without the requirement of regulations and without consumers perceiving that their autonomy has been compromised (Hinchliffe, 1996).

Although nudging has recently entered the domain of policy making (Dolan et al., 2010) it may be deficient in several regards (Food Ethics, 2011). Nudging tends to target low impact behaviour. Policymakers anticipate that these low-impact behaviours, such as. Replacing incandescent bulbs with fluorescent or LED bulbs, will result in the adoption of additional pro-environmental behaviour through positive spill-over effects (switching lights off when not in use) (Thøgersen, 2003). However, it is often the case that pro-environmental action in one area can result in inaction in others, resulting in no net positive effect on GHG emissions. For example, switching to a fuel-efficient car may result in more driving (this is also known as the rebound effect) (Herring and Sorrell, 2008). Additionally, social norm-based messaging is only effective if the individual identifies with the reference group with which they wish to be associated, if not, it may have the opposite effect as the individuals may attempt to differentiate themselves from the group. (For example, messages which inform an individual that others are eating healthier, plant-based diets may consume more meat in order to not associate themselves with the ‘other’ if they do not identify with them) (Rabinovich et al., 2010). In addition to questions around effectiveness and efficiency, its ability to produce pro-environmental behaviour and its ability to address the urgency and scale of the problem respectively, there are also ethical concerns. The most important being, the exploitation of cognitive biases and heuristics (mental shortcuts as opposed to rational decision making) having an implication on human agency (Gandy, et al., 2018) through forms of paternalist nudging (Oliver, 2013). The lack of transparency makes nudging unethical as the individual can rarely identify that they are being nudge (Sunstein, 2016); there is a thin line between being nudged and being manipulated. Certain forms of nudging can be seen as the initial step for a sequence of regulations which will result in more coercive measures (Amir and Lobel, 2008). Nudges such as financial disincentives (e.g. taxes) move into this paternalistic form where behaviour change is coerced. On the other hand, if transparent, individuals may experience negative feelings when their sense of freedom of choice is being threatened (Brehm, 1966). This may produce negative feelings and a desire to act against what the individuals feel is being imposed on them (Arad & Rubenstein, 2017). Once an action, object or freedom has been threatened or eliminated it becomes more attractive and the desire for that action or object will increase. However, this is dependent on the relationship between the leader/authority (choice architect) and the citizens/subjects whose change is sought as individuals are influenced consciously or unconsciously by their feelings towards the authority or whoever is perceived to be the ‘nudger’ (Thaler and Sunstein, 2009).

Given that these interventions function better where people have generally positive rather than negative feelings towards the ‘nudger’, it follows that the relationship between the authority (choice architect) and citizens/subjects who change is sought is an important factor determining the success of the intervention strategies. Additionally, accountability is important as it can determine the trust in the authority having an impact on the relationship between the ‘nudger’ and its subjects. This trust can influence the openness or susceptibility towards being influence. If interventions are done in the dark, this will have an implication on an individual’s autonomy and create an accountability deficit. Therefore, transparency is also an important aspect that determines the success of these interventions.

In spite of the widespread concern about climate change, many individuals are failing to engage in pro-environmental behaviour required to mitigate climate change. This problem is related to the gap between environmental attitudes and behaviour (Moloney, 2009). Informational intervention strategies
are low in effectiveness and efficiency. When used on their own they tend to produce minimum change in behaviour. They are usually focused on changing low impact behaviour with few structural constraints. In most cases any changes in behaviour are limited to the life of the information campaign. Consequential intervention strategies (see section 3.2.2.) are very efficient as they are quick to implement and easy to scale up. They tend to take the form of rewards or punishments. Rewards are effective in producing pro-environmental behaviour as they are associated with positive feelings towards the behaviour. However, they are costly to implement. Rewards strategies are underutilised while punishment & sanction strategies are favoured, because they generate revenue. Reward strategies tend to fail if the reward structures cease to exist. On the other hand, punishments reduce an individual’s freedom and can produce negative feelings towards the sanctioning authority. Individuals may develop a lack of trust, and this will negatively affect the authority’s accountability thus limiting the effectiveness of these strategies. Consequential interventions are usually more successful if supported by informational interventions as a means to increase the public’s awareness and knowledge as to why they are being forced to act pro-environmentally. However, both informational and consequential strategies sometimes fail due to lack of considering the social and structural embeddedness of decision making. But structural interventions do exactly that. Although they are effective in producing lasting pro-environmental behaviour, they are inefficient as it may take a long time to implement or produce an effect. Moreover, they can be rather costly.

Overall, producing pro-environmental behaviour through interventions is faced with the challenge of overcoming various barriers some of which are psychological e.g. cognitive biases, heuristics, social comparisons and norms, conflicting values and goals, mistrust, and others that are structural e.g. poverty, lack of infrastructure, accessibility to eco-friendly technology and lack of awareness. The various intervention strategies attempt to break-down these barriers; but the complexity of human nature only permits limited success. The most effective interventions are specifically tailored to particular individuals or households; they are meant to influence a particular behaviour and usually utilise a combination of strategies given the variety of psychological and structural barriers.

Now that the key models of environmental behaviour and the deriving intervention strategies have been reviewed, various elements which influence the success of intervention strategies have emerged. These include: effectiveness, efficiency (reach), authority, trust/accountability, transparency, structures, and social norms. Now that the framework has been established it will be used to describe the SCS in the following sections.

**Table 1. Summary Table of the Main Factors which Influence Pro-Environmental Behaviour**

<table>
<thead>
<tr>
<th>Key Factors</th>
<th>Description</th>
<th>As Discussed In</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effectiveness</td>
<td>The ability to influence behaviour</td>
<td>Chapter 2, paragraph 3</td>
</tr>
<tr>
<td>Efficiency (Reach/Scale)</td>
<td>How quickly can it produce change and how many people can it reach</td>
<td>Chapter 2, paragraph 3</td>
</tr>
<tr>
<td>Transparency</td>
<td>Transparency in nudging can produce negative emotions as individuals become aware of how they are being influenced. On the other hand, transparency may create trust and positively affect the chances of being influenced.</td>
<td>Section 3.2.4., paragraphs 4 and 5</td>
</tr>
<tr>
<td>Authority</td>
<td>The relationship between the authority seeking to insight behavioural change and the individuals who’s change is being sought. If there is a positive relationship then individuals will be more open and susceptible to change.</td>
<td>Section 3.2.4., paragraph 2, 4 and 5</td>
</tr>
<tr>
<td>Trust</td>
<td>Trust impacts the relationship between the authority and the individual who’s change is being sought.</td>
<td>Section 3.2.2., paragraph 3 Section 3.2.4., paragraph 5 and 6</td>
</tr>
</tbody>
</table>
| Structures | The ability to address social and organisational structures which confines the ability to act pro-environmentally | Section 3.1.4., paragraph 3  
Section 3.2.3., paragraph 1 |
|-----------------|----------------------------------------------------------------------------------------------------------|-----------------------------|
| Personal and Social Norms | The ability of an intervention to create/influence pro-environmental norms | Section 3.1.2., paragraph 1  
Section 3.1.3., paragraph 2  
Section 3.2.1., paragraph 3  
Section 3.2.3., paragraph 5 |

*Table 1: Summary of key factors influencing pro-environmental behaviour*
4. Analysis – Part One

This chapter describes China’s Social Credit System Plan, the policy framework guiding the system’s development. The SCS is currently being developed and has not yet been fully implemented. There are many pilot projects, which are executed by various bodies, both private corporations and public agencies, each operating differently. However, they are all guided by the policy framework described in this chapter. The aim of this section is to provide a description of the Social Credit System and the historical roots and the context in which China is developing this system.

4.1. Historical Overview of China’s Social Credit System

For many years in China, the ascension to officialdom required a thorough examination of Confucian texts which regarded virtue and morality as the critical aspects of governing individuals, regions and the empire (Eno, 1990). Confucius stated that for a ruler to govern a country, 信 (credit, faith or sincerity); 食 (food); and 兵 (an army) would be required, however, if only one could be selected it would be 信. This character was later translated to be known as “credit” indicating its importance as a core concept of governance in China (Chorzempa et al., 2018). In the context of China, the concept “credit” has a complicated meaning as the meaning in English does not connote as broadly. It can be used to demonstrate a variety of ideas such as Xinyong (credit), Xinren (credence), Chengxin (integrity), or Xinyu (reputation) (Shi, 2007). The term was initially adopted to express moral concepts, in particular, personal ethics (Chengxin) (Lin, 2003). Today, the term “credit” implies a wider range of aspects such as financial, legal and social (Shi, 2007; Yu, 2016).

The triangle debt – when a default occurs between one party and another because a third party is unable to pay – during the 1990s created a demand for a credit system in China as it would address the issues in the commercial and financial sectors. Economic reform was required for banks to be able to evaluate individuals seeking mortgages or business loans. The lack of data and information sharing between banks resulted in fraud and excess borrowing as it was impossible to know whether an individual had an existing mortgage or defaulted (Chorzempa et al., 2018). Credit scoring companies were established during the 1990s to evaluate corporate credit, and during the 2000s state-owned enterprises started the process of assessing consumer credit (Yu, 2016). The first mention of the social credit system came from General Jiang Zemin, the President of the People’s Republic of China, in 2002 at the 16th Party Congress stating, “China must establish a social credit system compatible with a modern market economy.” The following year the idea reached the highest level of government, when the Third Plenum of the 16th Central Committee proclaimed, “We must strengthen society’s credit awareness and constitute a social credit system with morality as its support, property rights as its foundation, and law as its guarantor.” At this point, the concept of social credit was still very indistinguishable from other credit systems across the globe as it could have been seen as a way for the Chinese Government to build a capitalist framework within China’s socialist market economy (Chorzempa, 2018). Nonetheless, already various elements of the SCS were present: credit referring to the financial creditworthiness as well as the idea of establishing trust and moral conduct in the marketplace (Creemers, 2018).

In 2007, the State Council established The Inter-Ministerial Joint Meeting System for the construction of the SCS, researching and drafting policies, and policy implementation. This began with eighteen central government departments, including the National Development and Reform Commission (NDRC), the People’s Bank of China (PBC) and the Ministry of Commerce. Local governments including, Shanghai, Jiangsu, and Zhejiang, were also involved in the development of the SCS as they were tasked with developing a credit information platform at the provincial level, enabling data sharing between agencies (Meissner, 2017). In addition to government agencies, both national and privately-owned corporations in the field of credit investigation were incorporated into the committee (Yu, 2016). The membership of this committee is an indication of the economic nature of the system. In 2011, the State Council produced a policy document furthering the development of the SCS with the aim to promote ‘integrity in government affairs’, ‘commercial sincerity’, ‘social integrity’ and ‘judicial public trust’, indicating that the system was aimed towards individuals, companies, judicial organs, and other governmental authorities. Also, it marked the development of the SCS expanding from the economic
field to the ethical field (Tao and Mengwei, 2014). Subsequently, in 2012, 35 government departments, including the Central Discipline Inspection Committee, Central Propaganda Department and associated Ministries such as Finance, Justice and Publicity, joined the Inter-Ministerial Joint Meeting System. (Liang, 2018).

The initial efforts and early motives surrounding the SCS were solely focused on economic matters and disregarded the social sphere (Zhang, 2016). The SCS addressed issues of commerce and finance by improving accounting and loan lending activities. Internet platforms for data gathering and sharing, such as online payment systems were created to form a sufficient base of data to establish financial creditworthiness. However, the government was not able to garner adequate information for credit ratings as half of China’s population did not have access to the internet, excluding them from the data information collection effort. (China Internet Network Information Centre, 2017; Liang and Kostyuk, 2018).

4.2. The Social Credit System Plan (2014 – 2020)

In 2014, the State Council issued a ‘Notice concerning Issuance of the Planning Outline for the Construction of a Social Credit System’ (2014 – 2020). This aimed at further developing the SCS, building on previous local schemes such as the Suining experiment. This formed the foundation of the development of the system and remains the most authoritative blueprint to date (Creemers, 2018). This new blueprint goes beyond the economic aspects of credit and incorporates not only the evaluation of financial and commercial activities but also the more comprehensive plan to enhance social harmony and discipline government. Consequently, this system is regarded as a “broad social credit system” (Han, 2014). First, China committed to a project schedule until 2020 for the completion of its SCS, where it will become mandatory for every citizen and business to have an exclusive Social Credit Score. According to Wang Lei, Vice Secretary of China Society Administration for Industry and Commerce, once finalised, credit references, disclosures and punishment and reward systems will be linked. The plan outlines the critical objectives of creating a legal and regulatory framework for the SCS, building credit investigation and oversight, fostering a market built on credit services, and completing incentive and punishment mechanisms. These objectives are aimed towards improving governance and creating a flourishing market order by combatting some of the problems faced in both the social and economic spheres, ranging from corruption within the government, to fraudulent behaviour such as counterfeiting, to professional and academic misconduct, and compliance with court rulings. The plan establishes four main policy domains.

First, it seeks to promote ‘integrity in government affairs’ by addressing transparency, corruption, lawful administration, official dereliction, and promoting the government as being trustworthy.

Second, it addresses ‘commercial sincerity’: the SCS will foster trust throughout several sectors such as taxation, the environment, e-commerce, and international economic cooperation. Third, it identifies ‘social integrity’, intending to promote trust in the healthcare sector, enhance scrutiny in social conduct both online and offline and curb unethical behaviour in professions such as teachers, doctors and lawyers. Lastly, it aims to promote ‘judicial public trust’: the SCS would enhance the ability for courts to execute court judgements, strengthen the legal profession and increase the sharing of information amongst individuals involved in lawsuits. This translates itself into individuals and organisations being rated in four main areas (administrative affairs, commercial activities, social behaviour and law enforcement), with the social credit rating being connected with the individual’s identity card number or business registration. The social credit rating is not only a reflection of one’s financial credibility but also one’s integrity and trustworthiness.

Third, the policy indicated an increase in actors involved in the development of the SCS. The Inter-Ministerial Joint Meeting System delegation grew to 47 central government departments. In addition, technology firms offered assistance by sharing data with the government (Zhang, 2016). Companies such as Alibaba are assisting the NDRC by sharing company data, Blacklists of small companies, highlighting firms with bad credit in order to establish a commercial credit system and national credit
platform (Liang et al., 2018). Additionally, Alibaba’s Sesame Credit is developing its platform for individual and commercial credit ratings (Meissner, 2017). And Baidu is offering technical support and to the NDRC to develop an overarching ‘Credit China’ platform (Liang et al., 2018).

The plan outlines the construction of the underlying data infrastructure to collect, store, share and gather population-wide data required for successful implementation of the system. It establishes methods of recording credit-related information in various segments of administration, databases to save information at various levels including both central and local government, standardising credit reporting procedures to allow public access to information, and also, procedures for information sharing to counter the hoarding of data within agencies (Creemers, 2018). For example, in 2015, the NDRC initiated plans to establish a National Credit Information Sharing Platform (NCISP) which will integrate with a multitude of central agencies, local governments and market actors (Liang and Kostyuk, 2018). In addition to this, ICT and other technology firms such as Alibaba and Baidu, are involved in the gathering, analysing and sharing information with the NCISP (Liang et al., 2018). A fundamental component in the functionality of the SCS revolves around the ability to access vast quantities of big data and information on the individuals included in the system (Maurtvedt, 2017). The national platform and the supporting ecosystem of platforms, agents and activities have already accumulated 10.7 billion data points with regards to commerce, individuals and government affairs. (Liang et al., 2018).

The 2014 plan established a comprehensive layout for the development of the data, bureaucratic and financial support ecosystems and the integration of these separate platforms into a centralised infrastructure required for the SCS. Its principal function would be to support a complex of incentives and punishment in an effort to encourage trustworthiness and curb untrustworthiness while tackling issues relating to governance and regulatory issues within the social and economic spheres, such as corruption, scamming, counterfeiting and the enforcement of court decisions (Chen and Cheung, 2017; Dai, 2018). This plan enables the state to govern, monitor, predict and manage the individuals in both the economic and social sphere with the use of data and technology.

5. Analysis – Part Two

This chapter aims to address the first research question: What is the Social Credit System and how does it influence behaviour? The SCS will be deconstructed into its various mechanisms that aid the functioning of the system. Once its elements have been identified and an understanding of how the system functions are deduced, an analysis will be made of how the SCS intends to influence behaviour.

5.1. The Mechanics of the Social Credit System

In order to understand how the SCS may elucidate behavioural change within society, we must first understand how the system operates and its key mechanisms. These include surveillance in the form of data gathering and data sharing, labelling which manifests itself as Blacklist, Redlists and Social Credit Scores and joint sanctioning (Joint Punishment System), a reward and punishment mechanism. This section will discuss these aspects of SCS in order.

5.1.1. Data Gathering

“Allow the trustworthy to roam everywhere under heaven while making it hard for the discredited to take a single step” (The State Council, People’s Republic of China, The Social Credit System’s Construction Plan Outline 2014-2020).

The SCS can be seen as a process of informatisation in governance whereby the actions of individuals and corporations are transformed into data mainly for analysis and processing by computers. This utilises information technology for both state and social management through information sharing both vertical and horizontal, alleviating principal-agent problems where e.g. corporations are motivated to
act in their own interest and chase profits at the cost of the consumer, and establishing a digital database (Creemers, 2018). In order for this system to function the technical infrastructure must facilitate the identification of its subjects (individuals, corporations and government agencies) and the collection, storing and processing of data which can be accessible and used by everyone.

The first requirement of the SCS is the identification of each and every person and business subject to it. This occurs on two levels: first, guarantying that a central database or system assign unique identification numbers to the subjects of the system. Second, preventing subjects from functioning in society anonymously. This first requirement was accomplished through the assignment of a new identity card with a “social credit unified code” (“SC Unicode”) (State Council, 2013). For individuals, the new identity card carried an 18-digit code, which combines information about the issuing local authority, personal data such as date of birth, income, taxes, insurance payments and individual sequencing (Meissner & Wubbeke, 2016). For corporations, NGO’s and other social groups various identification systems are now integrated into a unified 18-digit code which consists of financial, business registration and tax information (State Council, 2015). The new SC Unicode functions as an index to aid the process of digitizing and storing data on everyone subject to the SCS. Nevertheless, the digital landscape still suffered from the inability to identify everyone (Creemers, 2018). To negate this anonymity, the Government escalated attempts to implement real name registration for obtaining a cellular phone, online account-based system, and social media accounts (Ministry of Industry and Information Technology, 2013; Cyberspace Administration of China, 2015). Although one can still operate online under a pseudonym, this name is linked to one’s registered real name which links one’s data double (digital identity) to one’s physical identity (Lyon, 2006). Moreover, biometric technologies such as facial recognition surveillance cameras are being introduced in an attempt to further improve individual identification for data collection (Denyner, 2018). The combination of the SC Unicode, real-name registration systems for online activities, biometric and AI enabled surveillance cameras assists in connecting collected data to its subject.

The main objective of the SCS is to identify individuals and corporations whose actions are regarded as trust breaking by violating established laws, regulations and business standards for social management (Chen, 2018). Consequently, the system’s primary focus is on gathering data about such contraventions, in addition to data concerning administrative approvals and punishments. Furthermore, individuals or corporations breaching the law as well as regulations and business standards are documented. This includes non-fulfilment of court judgments and civil sanctions including jaywalking, littering and traffic infringements (Liang and Kostyuk). Violations in any area by an individual or corporation is regarded as “trust breaking” and will be assigned to a “Blacklist” whilst those who are regarded as “trust keeping” will be assigned to a “Redlist”. This data signifies the nucleus of the credit information required by the SCS for the purpose of reputation guided rewards and punishments which will be discussed in a section below.

Data gathering in China prior to the introduction of technology was conducted through a variety of method and policies such as the Hukou and Dang’an which kept household and personal information respectively (Creemers, 2018). This information held by the State could considerably compromise an individual’s ability to function in society as it has direct consequences on employment, welfare and securing loans (Sun, 1992). The shift away from the traditional Hukou and Dang’an to more advanced systems such as CCTV, biometric technology and the internet allows the SCS to encompass a larger portion of society therefore expanding its range of influence and social management. Additionally, these technologies have created the foundation for the collection and integration of information regarding “trust breaking” and “trust keeping” behaviour and interactions of individuals and corporations.

5.1.2. Data Integration and Sharing

The second mechanism critical to the functioning of the SCS is the active consolidation and sharing of data from different sources which can then be affixed to individual identifiers such as the SC Unicode. By endeavouring to remove “credit information barriers” the Chinese Government is establishing five central data platforms, including National Credit Information Sharing Platform (NCISP), Credit China,
Credit Reference Center, National Enterprise Credit Information Publicity System (NECIPS), and the List of Dishonest Persons Subject to Enforcement, to store and evaluate credit related data from various agencies, regulatory bodies and judicial systems. The central government requires these separate platforms, each with heterogeneous components to share and exchange data consequently, creating a centralized data infrastructure to support the SCS (Xinhua, 2017).

Of the data platforms identified in the diagram above, the backbone of the SCS is the NCISP. This platform began functioning in October, 2015 and shares data from 32 local governments, 42 central agencies (including courts, tax departments, police, treasury customs etc.), pilot SCSs, and 50 market actors such as Alibaba and Baidu (State Council, 2016c; CCTV, 2016). Additionally, in June 2015, the NDRC and the State Information Centre jointly developed a data platform, Credit China, in collaboration with Baidu. The purpose of this platform is to concentrate all credit related information to allow individuals and corporations to inspect their credit information and Blacklists and Redlists. Credit information in this regard includes general data on subjects, criminal records, compliance with...
government regulations, tax obligations and welfare. In addition to this general information, data on a corporation’s investment activities, government projects, annual reports, product safety, environmental protection, unfair business practices and registered capital (Creemers, 2018) is also included.

Excluding the government financed data platforms (NCISP and Credit China), several agencies and corporations develop data platforms of their own such as the Credit Reference Center, established in 2006 and maintained by the People’s Bank of China (PBC) (Meissner, 2017). This data platform mainly gathers data on finances and credit reports. In addition to government-led initiatives, some companies are building and operating commercial credit rating platforms, but are increasingly coerced to facilitate the creation of a centralised data platform through cooperation with government and public private partnerships (Chen, 2018). These commercial credit data platforms also utilise data from government. For example, Alibaba reported that more than 80% of its data are collected from government data platforms whilst the remaining data comes from Alibaba itself (Caixin, 2016). All data platforms established can be searched on or connected from Credit China, thus creating a dense network of information. (Chen, 2018; Credit China, 2019). The data platforms are publicly available and accessible to a significant extent online. Approximately 75% of all data collected can be viewed whilst the remaining 25% is qualified as data for limited sharing or inter-government sharing (Meissner, 2017). From a technical perspective, these data platforms can be searched via the use of the SC Unicode or Company’s name (NDRC, 2015).

The NCISP and its supporting ecosystem of data platforms has amassed more than 10.7 billion data points to date on individuals, corporations and government affairs (Liang et al., 2018). The integration of the data platforms into an all-encompassing infrastructural system is evident of the government’s intention to modernise its surveillance system, facilitating the ability of the government to manage, monitor, predict and govern the political, economic and social domains (Liang et al., 2018). The sharing of information is critical for the objective of implementing “joint sanctions” and “joint rewards” for behaviour considered “trust breaking” or “trust keeping” (State Council, 2016c).

5.1.3. Labelling – Blacklists, Redlists and Social Credit Score

**Blacklists and Redlists**

As indicated above, the government has made tremendous efforts in establishing the data gathering capacity and integrating various data platforms. The SCS is intended to address the decay in trust in society and build a culture of sincerity. As stated in the 2014 Social Credit System Plan, “It will forge a public opinion environment where keeping trust is glorious. It will strengthen sincerity in government affairs, commercial sincerity, social sincerity and the construction of judicial credibility.” Consequently, a critical mechanism of the SCS, is the identification and labelling of behaviour that is deemed trust breaking.

The 2014 SCS Plan highlights a list of behaviour deemed trust breaking and is closely linked to contraventions of law and regulations e.g. corruption, scamming, failing to meet industry standards, professional misconduct etc. However, some types of trust breaking behaviour are more ambiguous therefore precipitating considerable levels of uncertainty, such as disseminating fake news or rumours on the internet (Chen, 2018). In addition to interpretable behaviour, the list also includes behaviours which are not considered to be illegal. For instance, over consumption of alcohol, gambling habits or extensive internet usage is seen as a trust breaking act (Sithigh and Siems, 2019). These sanctions addresses “serious trust breaking behaviour” in certain priority areas including (1) “behaviour that seriously damages people’s health, lives and security;” (2) “behaviour that seriously damages the market order of fair competition and normal order in society;” (3) “refusal to fulfil legal obligations, thereby seriously affecting the credibility of judicial and administrative organs;” and (4) “refusal to fulfil national defence obligations” (Chen, 2018; State Council 2016b). Violations in these areas result in the subject being included on a Blacklist and will be faced with joint sanctions (Chen, 2018).
In polarity with the blacklist there is a Redlist. This list identifies subjects, whether individual, government agency or corporation, acting in accordance with the government’s rules and political goals, displaying acceptable social conduct and obeying the laws and regulations are labelled as “trust keeping”. They will therefore be awarded with incentives and rewards (Creemers, 2018; NDRC and PBC, 2017). As it stands, Redlists are maintained individually by various corporations and government agencies. Consequently, rewards are not standardised. Nonetheless, the government are currently building “Green Channels” for trust keeping subjects with Redlist status. This will give prioritized access to public services, optimize administrative services (fast-tracked application for visas including the European Schengen visa, expedited housing applications and other bureaucratic procedures) and reduced transaction costs (deposits, collateral or guarantees) (Creemers, 2018).

Equally important to the functioning of the SCS are the blacklists which, just as the Redlist, are executed by various entities both government (judicial, tax, customs, environmental protection, social services, public transportation, educational institutions etc.) and private (Alibaba and Tencent), therefore lacking a standardised list (Chen, 2018). Consequently, subjects are placed on blacklists for “serious trust breaking” behaviour in their respective policy spheres (Sithigh and Siems, 2019). With regards to Corporations which disobey pertinent regulations, not only is the entity placed on the blacklist list but also its employees with direct responsibility (State Council, 2016). As mentioned before, these blacklists are distributed to central government agencies and publicised through the data platforms, NCISP and Credit China. The NCISP will immediately share applicable data of subjects who exhibit serious trust breaking behaviour. If subjects demonstrate trust breaking behaviour but have not met the requirements for being placed on the blacklist are placed in a Focus Group List where they are monitored more closely (Creemers, 2018). If the subjects are mentioned by three government agencies or other authorities, they will be placed onto a Big Data Warning List (Creemers, 2018). Subjects on this list will be under investigation by their relevant authority for inclusion into the blacklist. The NCISP functions as the data gathering and evaluation platform is shared with Credit China, which is tasked with making the blacklists and Redlists public (Meissner, 2017).

The process of blacklisting commenced with a Supreme People’s Court ruling against subjects who defied and failed to comply with legally binding judgements (Creemers, 2018). All courts were tasked with providing list of these subjects to the Supreme People’s Court which became known as the Defaulters Lists and is uploaded to their database and publicised on national websites (Creemers, 2018). Subjects on this list will continue to remain on this list for a duration of two years with the possibility of an extension based on circumstances. However, if the required obligation determined by the court decision is executed, the court can remove the subject from the list (Supreme People’s Court, 2015). Regulations require the Supreme People’s Court to make the relevant government agencies and other institutions responsible for sanctioning aware of the list and to ensure that the subject’s personal data, name and photos are published in mass media (newspapers, television, billboards) and online (Creemers, 2018; Botsman, 2017).The Supreme People’s Court also advocates the use of public shaming as a mechanism to force subjects to abide by their obligations as described by the court decisions. In some provinces, local governments are collaborating with telecommunication companies to play a unique ringtone for subjects on blacklists so that they may be identifiable in society (Vanderklippe, 2018). In addition, callers to subjects on a blacklist are notified that “the subject you are calling is on the central credit blacklist” (Vanderklippe, 2018). Additionally, In Shenzhen, jaywalkers caught by facial recognition CCTV cameras are publicly listed (Lucas and Feng, 2018). The implementation of the system has resulted in 2.2 million of 9.59 million subjects settling on their court decisions by the end of 2017 and has been declared a success by the People’s Supreme Court (Chen et al., 2018).

Social Credit Score
On top of the Blacklist and Redlist systems, the government intends to have everyone subject to the system, both individuals and corporations, to have a Social Credit Score which will be a direct indication of their “creditworthiness” and “trustworthiness”. The entire SCS expected to function in this manner by 2020 with a systematic scoring mechanism from a central government authority. The government
has authorised over forty pilot programs, each with a unique evaluation criterion supported by municipal or provincial legislations, to experiment with different forms of social credit and explore the boundaries of the system (Botsman, 2017). For instance, the most reported pilot programs are found in Suining and Rongchen in the Jiangsu and Shandong provinces respectively. In both pilot programs, subjects begin with a score of 1,000 social credit which will then fluctuate based on the subject’s behaviour. Points can be deducted for infractions of legal, administrative or moral and social norms. For example, driving under the influence results in the deduction of 50 points, conceiving a child without the required permission from the family planning authority results in a loss of 35 points, and failure to repay loans 30 to 50 points varying based on size of loan and financial circumstances (Creemers, 2018; Botsman, 2017). In contrast, subjects are also able to recover lost points by demonstrating “trust keeping” behaviour for example, caring for aged family members, and making prominent contributions in the forms of donations to organisations and charities. One’s total Social Credit Score will correlate to a rating varying from A to D which will determine the level of rewards or sanctions a subject will experiences in society. Subjects rated A will receive preferential consideration for employment opportunities, access to subsidies, welfare, and fast track process for many bureaucratic procedures including obtaining household registration. This has wide-ranging social implications (Sheehan, 2017). On the other hand, subjects with a low rating will be restricted in areas such as governmental support (welfare, housing application, etc.), business procedures (licensing, permits, tax matters etc.), and procurement and employment opportunities (Mistreanu, 2018).

In addition to government-led programs, the PBC has issued licenses to several private companies to develop algorithms for analysing collected data for calculating and evaluating Social Credit Scores in real time (Zeng, 2018). One of the more influential of these programs is operated by Seasame Credit, developed by the Ant Financial Group, a subsidiary of Alibaba (Zeng, 2018). Differing from the previously mentioned government led program, this system rates their subjects on a scale ranging from 350 to 950 based on data regarding five factors, gathered through its mobile phone app Alipay. The first category is financial credit records, which, examines whether subjects are punctual with their financial obligations. Second, a subject’s capacity to fulfil these financial obligations is examined. The third area looks at assets and personal information, which will seek to verify one’s personal information, phone number, address etc. The fourth category examines a subject’s behaviour and preferences. Here, one’s consumption is analysed and rated. A subject that frequently purchases alcohol, a behaviour deemed unproductive, will experience a reduction in their Social Credit Score. On the other hand, an individual who purchases diapers, is seen a responsible and Social Credit Score will be positively affected. Lastly, the fifth category examines one’s social relationships: displaying polite behaviour on social media and maintaining relationships with subjects with high a Social Credit Score will positively affect one’s score whilst posting fake news or spreading rumours will have a negative effect (State Council, 2014).

Subjects are enticed into participating in the system through the allure of special privileges and rewards for those who demonstrate trust keeping behaviour. High scores on the Sesame Credit platform will grant: easy access to loans of up to ¥5,000 (€650) for shopping on Alibaba; waiving security deposits when renting an apartment, bicycle or car; faster check-ins and access to VIP lounges at hotels and airports; and cash loans of up to ¥50,000 (€6,500). High Social Credit Scores on Seasame Credit is seen as a status symbol, subjects are displayed more prominently on the dating website Baihe. This will affect the probability of a subject establishing a romantic relationship. (Botsman, 2017). Seasame Credit rewards are also connected to the state, as this score being a direct indication of a subject’s trustworthiness. It allows for applications to travel without supporting documents such as proof of employment, and prioritised access to schools and hospitals. (Botsman, 2017). Additionally, Seasame Credit provides the State with data on non-compliance of payment obligations by individuals. Furthermore, if individuals are placed on blacklists, Seasame Credit facilitates the sanctioning by declining transactions using Alipay (Sithigh and Siems, 2018).

At present, it is not understood how the Social Credit Score will be applied as its not transparent which tools and algorithms are used in its calculation. In 2018, the PBC declined the renewal of the licenses issued to the private Social Credit Score programs as they were unable to fulfil expectations with regards to developing a fair rating system, ensuring data privacy, data security and institutional independence.
However, Sithigh and Siems (2018) speculate that the PBC believed the data gathered by Alibaba and others places them at a conflict of interest as the data can be used for commercial benefits. Due to these scoring projects limited implementation thus far, the core of the SCS currently functions mainly on a Blacklist and Redlist system.

5.1.4. Joint Sanctioning – Joint Punishment System

“There are two kinds of people in this world: good people and bad people. Now imagine a world where the good ones are rewarded and the bad ones are punished” (Zhang Zheng, Advisor for the Social Credit System)

Data sharing and publicization represent the nucleus of the “credit information” of the SCS. They are a foundation for reputation-driven sanctions and rewards in order to force compliance. The required cooperation between various actors for sanctioning “trust breaking” behaviour resulted in the signing of a Memorandum of Understanding (MOU) in 2016, between 45 different actors including the NDRC, PBC, other government, judicial departments and non-governmental agencies including the China Railway Company and All-China Federation of Industry and Commerce. This MOU resulted in the establishment of the Joint Punishment System. The centralization of information and collaboration between various authorities such as government departments, and financial and technological corporations facilitates joint sanctions, meaning that a violation of the law in one area can result in numerous sanctions (Hoffman, 2017; Chen et. al., 2018). Thus, the failure to comply with court decision may result in sanctions in other areas not associated with the specific violation. The MOU ensured that all parties involved would utilise blacklist status when exercising their authority. According to the MOU, there are several classifications of sanctions, the first being economic opportunities. This includes restrictions in the subject’s ability to establish a company or social organisation, access to financial sector (stock market, loans, bonds, etc.) and procurement schemes. Second, restrictions to government services or support including customs authentication, welfare and subsidies. Third, restrictions to employment in the civil services, social organisations, political parties and military. Fourth, restrictions in participating in specific sectors, for instance, the production and trading of food and drugs. The fifth category restricts blacklisted subjects from receiving honorary titles, whilst lastly, the sixth category places restrictions on a subject’s consumption (Creemers, 2018). Penalties in this final category include the denial of using transportation services, high-speed trains and air-services. According to the NDRC, as of March, 2018, over 9 million subjects were denied access to air services whilst, over 3 million were refused train tickets (NDRC, 2018; Yong, 2018). Additionally, subjects are also denied purchasing luxury items or using of luxury services (first class transportation, star rated hotels, golf courses, foreign vacations, car and home purchase (Sithigh and Siems, 2019; Creemers. 2018). All the more serious, subjects on the SPC Defaulters List may implicate their children. Children of blacklisted subjects may be denied access to better private schools and potentially access to better quality of education (NDRC and People’s Supreme Court, 2016). The MOU mainly facilitated the mechanism of joint sanctions, as just a small quantity provided joint rewards, a less developed mechanism.

As numerous bodies are responsible for maintaining their own Blacklists and Redlists including the component of joint sanctioning, the NDRC and PBC published a document outlining what information can be used to ensure consistency of their decisions amongst the various systems established by the various bodies. The information includes: (1) registration information held by government, (2) information on criminal and administrative punishment, licences, inspections and other administrative processes, (3) information on compliance with court verdicts, (4) information on potential honorary titles and awards received, and (5) information that specific laws and regulations may define (NRDC & PBC, 2017).

Due to the drastic repercussions and implications on everyday life of being blacklisted, subjects are notified in advance. Additionally, the system also includes a credit repair and withdrawal mechanism.
in some areas. For Instance, the State Administration of Taxation with its own blacklists provides the opportunity for subjects to correct their trust breaking behaviour under specific conditions (Sithigh and Siems, 2019). Furthermore, subjects also have the right to appeal to court. However, the effectiveness of this mechanism is questionable (Creemers, 2017).

Having deconstructed the system into its various mechanisms to conceptualise how it functions, it is evident that shows much similarity with the environmental models and intervention strategies reviewed in Chapter Three, including the use of rewards, punishments, feedback and choice architecture. However, one distinct feature that emerges from the analytical description and which has not previously been touched upon, is surveillance. The functioning of the SCS is reliant on the system’s ability to execute surveillance i.e. to gather, store and share data about the behaviour of individual citizens. Extensive surveillance plays a crucial part in this aspect as data is gathered in a multitude of ways on various platforms each focusing on distinct data and surveilled subjects. Its intention is to monitor every aspect of its subject’s life from its financial transactions, online interactions and social conduct in order to identify trust breaking behaviour. All data collected will be aggregated and analysed. The subsequent assessment of these data will result in a Social Credit Score, which will be placed in a Blacklist or Redlist. This label will aid the functioning of the joint punishment system enforced by both private corporations and public agencies. The system is meant to reward trust keeping behaviour and punish trust breaking behaviour. It does not only investigate behaviour through surveillance but it also shapes it by nudging the subjects away from trust breaking behaviour. Surveillance was not previously identified in the environmental behaviour models or interventions reviewed therefore; the following section will seek to explore the implications surveillance might have on influencing behaviour.

### 5.1. Surveillance Theory

Surveillance can be used for both protecting and controlling individuals. Subjects of the system can be nudged or disciplined into a set of behaviour or norms, but also, can be used for protecting its subjects (Lyon, 2006). Surveillance in the SCS takes the form of data gathering, identification of subjects, data sharing and the development of databases for data storage. Access to massive data bases of personal information is a prerequisite for social manipulation (Stalder, 2002). Since the SCS is built upon the foundation of surveillance (Meissner and Wübbeke, 2016), understanding surveillance theory is critical in understanding how the SCS might influence behaviour in society.

The Panopticon has become metaphorically and sometimes synonymously used with the term surveillance (Schofield, 2009). Bentham’s Panopticon is an institutional design and system of control developed in 1785 for the purpose of monitoring and controlling population within a prison. This was later modified and utilised for a multitude of social areas and various purposes as seen by the pauper-panopticon (created for housing the destitute) and chrestomathic-Panopticon (designed for day schools, where one inspecting master could supervise pupils without being seen) and the prison-Panopticon (designed for overcrowding prisons and limitations in surveillance at the time). The prison-Panopticon portrays an annular building, later modified to an octangular design, with an observer situated in a central tower with oversight over all spaces, thus all subjects (Bentham, 2010). Through specific architectural design, an illusion of constant surveillance is created, enabling the panoptic disciplinary power (Božović, 2010). In contrast, in all transparent prisons, the subjects are never able to observe the observer; therefore, the subjects develop an omnipresence perception of the observer (Božović, 2010). The observer’s omnipresent nature enables perfect discipline, giving the observer an omnipotent dimension (Galič et al., 2017). The principle idea behind Bentham’s prison-Panopticon was for the subjects under observation to be reformed through internalising the discipline, eventually, exhausting the need to be observed and punished (Schofield, 2009).

Foucault built on and extended Bentham’s prison-Panopticon taking into a broader perspective, projecting it into parts of society to understand power relations, networks and models of governance in modern societies (Foucault, 1991a). Foucault conceptualised the discipline or disciplinary society,
given that all subjects of the system are under surveillance, subjects will internalise control, morals and values. Therefore, discipline is a form of power. Power is distributed and concealed in the courses of conformity existing in various parts of society. The disciplining process allows for the process of normation – the processes that coerce and produces habits, rituals and practices, resulting in the establishment of norms of behaviour. (Foucault, 2007). The norm represents a standard, a way in which all subjects should conform to as it is regarded as being normal, if not, subjects may be considered as abnormal or inferior with reference to the norm (Dalibert, 2013). Foucault states that through discipline, the subjects are transformed into docile bodies as they are subjected to normation (Foucault, 1991b). These docile bodies’ only role is to perpetuate the existing social system (Newell et al., 2017).

Disciplinary societies represent a shift in the mode of governance as well as the object from population to individuals (Valverde, 2008). The processes of implementation focuses on the individual rather than the collective actions and behaviour of society resulting in the de-diversification of behaviour as the subjects are compared individually against the norm (Galič et al., 2017). These docile bodies allow for more predictive and plannable societies as the subjects are no longer a collective with whom they communicate with but as units of information whose behaviour can be modified and manipulated (Galič et al., 2017).

The Panopticon has faced a magnitude of criticism since its development and scholars have advocated discarding the Panopticon when theorising surveillance today in the wake of new developments in technologies and surveillance assemblages (Boyné, 2000; Haggerty, 2006; Lyon, 2008). The diversification of methods of surveillance has developed to allow the subjects to observe the observer, bringing the camera down to the human level through mobile cameras as opposed to higher authorities, and architectural designs creating bottom-up surveillance (Monahan, 2006). Also, mass media and social media has created a Synoptic, where the many are now able to observe the few (Boyné, 2000). The development of commercial computers, databases, networks, mobile phones, social media have shifted society away from Foucault’s disciplinary society to a control society. While disciplinary societies focus on de-individualisation, control societies focus on de-humanisation (Deleuze and Guattari, 1987; Deleuze, 1992). In a disciplinary society, the subjects are still recognised as human subjects through the representative norm, and their behaviour is shaped in relation to it. In contrast, on in a control society, subjects are not identified as humans, but rather through representations (Galič et al., 2017). It is the subject’s representation, which is disciplined and no longer the actual person. It is the subject purchasing behaviour which has become the focus of surveillance and control, the purpose is no longer to make bodies docile (Deleuze, 1992).

This thesis utilises the Panopticon to elucidate how surveillance might influence behaviour. Foucault’s analysis of the Panopticon resonates well with the SCS, an objective observer with the ability to discipline its subjects through the reward and punishment mechanism. Also, under the SCS, the observers cannot be seen by the subjects, similar to the observer in the central watchtower. A constant mediated gaze is created through the multiple forms of data gathering (surveillance) mechanisms utilised such as CCTV, biometric technology, financial transactions and online activities to state a few. Normation and internalisation of trust keeping behaviour are achieved through surveillance, and subjects in all aspects of life and can consequently be manipulated into behaving according to the norm and what is deemed right by the State. All data is recorded, stored and share, creating the effect of the observer being omnipresent.

In view of the similarities between the Panopticon and the SCS, it appears that the SCS is intended to influence behaviour by ensuring that its subjects are aware of their behaviour and how it conforms or deviates from the social norms created by the government and as a result, this generates an internalised gaze and self-disciplining system. This influences society by producing in the subjects of the SCS, a state of constant conscious awareness of their surveillance, which ensures the panoptic disciplinary power. Power in the SCS is obtained through the identification of subjects and affixing them to information relating to their conduct in society. Power is then demonstrated through the reward and punishment mechanism, mainly by limiting its subject’s ability to function in society through denial of state and market services. Technological advancements in the ability to record, store and share data aids the automatic functioning of this power. The use and publicizaton of Blacklists, Redlists and Social
Credit Score functions as a prompt to the subjects of the system that they are under surveillance. As specified by Foucault, the awareness of the surveillance in combination with a disciplinary mechanism, will influence behaviour.

Having now developed a comprehensive view of the system, how it functions and what the implications of surveillance on influencing behaviour are, the following Chapter will seek to apply the framework which emerged from the literature review (Chapter three) in order to answer the second research question: To what extent can the SCS be used as an alternative strategy for producing pro-environmental behaviour?

6. Discussion

This chapter will examine the findings from Chapter five in response to the research aim: understanding what the SCS is and to what extent this can be used as an alternative or more or less effective approach for influencing massive and urgent pro-environmental behaviour. Additionally, areas for further studies will be highlighted.

6.1. To what extent can this system be used as an alternative strategy for producing pro-environmental behaviour?

6.1.1. Is this system capable of producing the massive, global and immediate changes required to meet the urgent challenge of climate change?

The SCS utilises a wide range of mechanisms which are capable of influencing behaviour. The overarching mechanism for influencing behaviour is the aspect of surveillance. This enables the system to be all encompassing and gives it the ability to govern all aspects of its subject’s life. Thus, it enables the system to be efficient. It is not only capable of influencing all aspects of social, economic and cultural behaviour, but also has a reach of possibly influencing the 1.4 billion Chinese citizens. Surveillance enables the functioning of data gathering for the purpose of providing feedback to allow for the execution of a reward and punishment mechanism. Electronic communication allows for feedback in the form of a Social Credit Score, to be applied on a large scale which can also be considered a sign of social praise. This labelling of a Social Credit Score allows for the execution of rewards and punishments which can be quickly implemented and easily scaled up, increasing its overall reach and efficiency.

Surveillance also allows for subjects to be aware of their behaviour, when deviating from or conforming with the social norms formulated by government. This conscious awareness and deliberation over one’s actions indicates a shift in behaviour from the practical consciousness to the discursive consciousness. This shift in consciousness is effective in breaking habitual and routine behaviours which tends to be associated with environmental behaviours which are high impact and are difficult to influence (See Section 3.2.1., Paragraph 1). This conscious deliberation can be seen as a self-disciplining process which allows for normation to occur, creating new habits, rituals and practices.

This awareness of surveillance indicates that the SCS is transparent in how data is gathered. In addition to knowing how data are collected, individuals are also aware of the purposes and use of this information. This transparency allows for individuals to be aware of how their freedoms are being restricted. Although this can produce negative feelings towards the authority, which can reduce the success of the desired behavioural change, and in some cases produce the opposite effect, as far as currently known, this has not occurred. This reaction is largely dependent on the relationship between the authority and individual as the individual may be influenced by their feelings toward said authority.

A recent cross regional survey of 2,209 Chinese citizens, conducted by a Berlin-based survey company,
shows that the system is favoured by citizens for its rewards and its ability to improve their quality of life (Kostka, 2019). This can be explained by the positive emotions and support typically associated with the use of rewards. However, whether or not these feelings would remain, even after removal of the rewards, is unknown. It should also be noted that the accuracy of this survey is hard to gauge: the interviewees may not have expressed their true opinions in fear of being punished. Individuals coerced or repressed by disciplinary power often may create an illusion of obedience by following the expected behaviour in order to avoid punishment. For example, in the Soviet Union, individuals often exaggerated their accomplishments manifesting an illusion among the supervisors that the economy was expanding, while, in reality, it was in deep stagnation (Bakken, 2000).

Overall, the SCS makes use of many factors which can potentially influence pro-environmental behaviour. However, the changes produced through these mechanisms may only last as long as the determining characteristic of the system, surveillance, is in effect. And how long is that? The Panopticon theory did not take the possible resistance and rebellion by its subjects into account (Bakken, 2000). Individuals can resist systems and society may resist control while being forcefully disciplined by the authority in charge (Bakken, 2000). The conclusion seems to be warranted that the coerciveness of the SCS ensures it effectiveness in influencing behaviour and that its surveillance aspect ensures that it reaches everyone. Thus, the system seems to have the potential to be both effective and efficient at producing the behaviour change required to tackle climate change. However, how easily and without resistance, and for how long remains a question.

6.1.2. Is it applicable in other social, economic, historical and political contexts?

According to the Social Credit System Policy Plan, China’s SCS is being developed to tackle deficits in trust, moral decay and lack of credit information in society (see section 4.2.). Even though there may also be other motives, that is not the focus of this thesis. This thesis focuses mainly on the mechanisms utilised by the system to influence behaviour. Many of which are currently being utilised to promote pro-environmental behaviour in other parts of the world. This section will examine the various mechanisms of the system and draw similarities between currently applied methods across the globe in an attempt to understand whether the system can be applicable in other contexts.

A System for Pro-Environmental Behaviour

The SCS intends to steer behaviour mainly through a reward and punishment mechanism. Penalties dictate mandatory behaviour whereas reward related behaviours are voluntary. In order to increase the effectiveness of these strategies, information interventions are sometimes utilised in an attempt to explain why certain behaviours are being constrained by penalties and to promote the behaviours associated with the rewards. Information intervention is frequently used across the globe to promote pro-environmental behaviour. This usually takes the form of information campaigns, moral persuasion, social marketing and education programs. The SCS makes use of this strategy in the form of ancient Chinese fables promoting self-concepts comprising virtues of being a morally good citizen (Engelmann, 2019). These fables seek to promote trustworthy behaviour and justify the restrictions on untrustworthy behaviour.

Rewards in the SCS are mainly non-financial and aim to enhance the quality of life through expedition of administrative services (quick access to social services, access to better schools and business permits), ease of accessing finances (no collateral required or deposits in some instances) and honorary titles (moral approval). On the other hand, the punishments focus on restricting ‘miscreants’ ability to function in society. Punishments include restricting access to financial, public and administrative services and public shaming through being placed on a Blacklist that is publicly available and advertised. In a study analysing over 700 potential Blacklist individuals, the threat of being placed on
the Blacklist and being publicly shamed resulted in a compliance of corrective action in over 40% of these individuals (Engelmann, 2019).

Across the globe, rewards and punishments typically make use of financial incentives such as increasing taxes on environmentally harmful goods, subsidising renewable energies, monetary rewards (cash for recycling bottlings) and fines. This use of financial incentives can result in norm-guided behaviour being turned into a commodity which can then be bought, as a result, fewer individuals will engage in pro-environmental behaviour since the result/consequences of acting/failing to act can be compensated with money. For example, the recycling of bottles can be financially motivated, therefore if the financial reward is removed the behaviour will cease to exist. However, if the behaviour was motivated by pro-environmental values or morals it is more likely to continue. This can also be a concern with the SCS. It counters this transformation of moral behaviour into market transactions by limiting the monetary rewards and providing reputational gain through the use of honorary titles. Additionally, although individuals are aware of the types of behaviour in which they are rewarded for, the weight of these actions are unclear. For example, individuals are not certain of how many hours of volunteering is required in order to be placed on the Redlist. Perhaps the system is meant to be this way to prevent the system from being gamed as there is a finite amount of resources which can be rewarded. For example, there is a limit on the availability of first-class seats on public transport, or limited capacity in high reputation schools.

Nudging is also a commonly applied method. Nudging in the SCS takes the form of choice architecture, whereby in this instance, a restriction in choice and establishing social norms. Western Europe and North America utilises a more diverse form of nudging. Choice architecture is utilised not only in the form of restricting choices, but also through default options and opt in/opt out options. Additionally, social norms and changes to the environmental are also utilised. Nudging in the SCS can be considered to be transparent as individuals are aware of exactly which kinds of behaviour are considered to be trust breaking and will affect their Social Credit Score or status on Blacklist/Redlist. Although this can be considered coercive and restricting to one’s freedom and can be received negatively, qualitative studies have identified that many citizens of the United Kingdom would like the government to enforce strict regulations to make them act pro-environmentally (Darier and Schule, 1999). This is due to their belief that collective action is an effective response to climate change (Hinchcliffe, 1996).

Contrastingly, just as choice is restricted in the SCS, other countries have laws which does exactly the same. For example, in some countries there are bans on drinking alcohol in public and smoking indoors in public spaces. Additionally, in Western Europe and North America nudging can sometimes lack transparency. This non-transparent nature of some methods of nudging can be considered manipulative as it exploits human cognitive biases. This is due to the tension between restricting freedom and the negative emotions which coincides with this (Section 3.2.4 paragraph 4).

Finally, feedback is another mechanism of the SCS which can be found in other models and interventions. Feedback in the SCS takes the form of the Social Credit Score and Blacklist/Redlist status. The Social Credit Score is a direct reflection of one’s behaviour which is publicly available for everyone to see. This public knowledge of the score can produce a gamified effect whereby the score might incite competition between individuals to achieve higher scores. This method is also applied in Western Europe and North America but not for the promotion of pro-environmental behaviour but for financial behaviour.

Financial markets such as Fair, Isaac and Company Inc, (FICO) scores in the United States or the German Schufa have developed credit rating systems of their own. Credit scores plays an important role throughout an individual’s life as it affects not only if you qualify for loans but also employability, reward programs, and interest rates. These scores are calculated by examining areas such as payment history, credit history and new credit. This score functions as a feedback mechanism typically resulting in a change in financial behaviour (Homonoff, 2019). These personal credit scores, which have been around for decades, have long played a major role in restricting individual liberty (Isackson, 2019).
Additionally, social rating systems are also present across the globe in the likes of Uber, Airbnb and eBay. These services function based on ratings, which also reflects the level of trustworthiness. Social media platforms such as Reddit, LinkedIn, Instagram and Facebook are also social rating systems in that the content provided by its users are “liked”, subsequently may result in individuals being assessed based on their digital double. Newly adopted rules under the Trump Administration indicates that applicants for United States of America Visas will have to submit their social media profile details (BBC, 2019), which indicates early stages of digitising reputation as seen in the SCS. This can have an impact on free speech as people will be hesitant on how they express themselves for fear that a government official may misconstrue it. Additionally, these rating systems may generate conditions where the subjects are rated by standards out of their control, which may be permanently present as it is stored digitally (Botsman, 2017). The ability to forget is vital for psychological health as it allows you to filter out memories to align with what you want to believe in (Freud, 1980). It would be interesting to study how technology, data gathering, storage of events impact’s human behaviour as we will be constantly reminded of various instances.

As expressed above, the SCS is a rating mechanism aimed at unlocking financing, creating social trust and increasing quality of life. SCS can be utilised to aid the functioning of a sharing economy which can help reduce consumerism by facilitating collaborative consumption between individuals (Heinrichs, 2013), allowing for reciprocity, cooperation and increased consumption. Reciprocity and cooperation are traits necessary for the long-term success of large-scale cooperation in societies (Bowles and Gintis, 2011). Transactions within such a system will also more quickly occur, as it is easier to identify whom to trust to do business with. Furthermore, sharing economy systems such as Airbnb and eBay, users are reviewed by other users and given a rating which indicates their trustworthiness. However, the issue with this is that these reviews are subjective to the individual reviewing; therefore, the requirements for a high rating will vary across reviewers. At the moment, he different sub-systems of the SCS currently have differing rating systems. However, the policy document indicates that the evaluation process will eventually be centralised. Thus, ratings are standardised, allowing it to be more reflective of how trustworthy a subject is as everyone is measured against the same set of values and not standards unique to each reviewer.

One mechanism of the SCS which is distinctly different from current intervention strategies for promoting pro-environmental behaviour is the aspect of surveillance. Surveillance gives this system its all-encompassing and omnipresent abilities which plays a part in the system being perceived as freedom restricting, but amplifies its effectiveness and efficiency. However, surveillance is also executed in Western Europe and North America and used for influencing behaviour but in most cases without the knowledge of the individual. This following section will explore surveillance in the context of China and other parts of the globe.

A System of Surveillance

Surveillance in Chinese society has been ongoing for decades in the form of the Dang’an and grid-management. Comparisons to these systems were drawn to show China’s attempts to achieve automated social management to ensure state security (Creemers, 2018; Hoffman, 2017). Hoffman (2017) indicated that state security in the context of China connotes national security, governing the party (government officials are not excluded from the system) and maintaining social order. The Dang’an resulted in a shift from the governance of individuals to the governance of things, as the files became the person, transforming the way in which social order is maintained (Yang, 2011). Yang (2011) further describes the Dang’an as a bureaucratic system and power structure regulating the existence of people in China. The application of new forms of technology allowed for the Dang’an to be upgraded into the SCS, as opposed to an entirely new system (Hoffman, 2017). A survey of 2,209 Chinese citizens expressed high degrees of approval for the SCS even amongst the more educated and wealthier individuals (Kostka, 2019), who according to Pan and Xu (2018) have stronger preferences for liberal and democratic views. Accordingly, one would expect that liberal and democratic views would correlate with the scepticism of the SCS as opposed to approval. This can perhaps be explained by the normalisation of surveillance.
Global Normalisation of Surveillance

The normalisation of surveillance is occurring globally. British citizens have expressed an interest for surveillance cameras and requests that they are placed in more public spaces due to the perceived effect of fending off criminal activities thus, providing a sense of security (Wood and Webster, 2009). Video cameras are also present in private spaces such as commercial establishments, workplaces, retail stores, and sports events, to name a few. However, the intrusiveness of this is not felt (Dorfman, 2014). This acceptance of surveillance can be identified in schools where students are equipped with tracking technology and biometric bracelets to track attentiveness, a project funded by Bill Gates (Whitehead, 2012; Simon, 2012). This normalisation of physical surveillance of individuals does not indicate a normalisation of all forms of surveillance. However, participatory surveillance may validate this point further. Personal information is willingly given up by individuals seeking to participate in social media and other online platforms (Giroux, 2015). Social media users voluntarily sacrifice their liberty and privacy regularly, while sharing with third-party applications, their consumption habits and private messages (Dorfman, 2014). This willingness to disclose personal and private information is experienced as joyful and empowering as social media provides its user with a voice (Albrechtslund, 2008). Additionally, society’s perspective regarding what information should be private and what should be public is slowly shifting (Bauman, 2013). A study of users of the social media platform, Facebook further supports this notion of normalisation where the users expressed that disclosing personal information is necessary in order to participate online (Fulton and Kibby, 2016). Surveillance and its implications are also being trivialised by transforming it into entertainment in the form of reality TV shows and live streaming (Stuever, 2010). Additionally, normalisation of surveillance is also occurring in the media where it is rationalised as national security and for the greater good (Jorgensen et al., 2017). From this perspective, surveillance through the SCS can be perceived as restraining its subjects, and ensuring that it guides morality, and prevents people from acting without considering the implications of their behaviours on other individuals. However, this normalisation of surveillance can be misinterpreted as willing acceptance. Studies conducted in western countries indicate that people do not willingly participate in surveillance but instead feel powerless and thus resign (Andrejevi, 2014; Turow et al., 2015).

In Western Europe and North America, where private corporations mainly execute surveillance it has severely impacted our beliefs associated with such practices. Acxiom, a data aggregation firm, collects data on individuals such as age, address, the value of homes, family status, marital status, health status, patterns of consumption and many more (O’Harrow, 2005). Additionally, individuals are not aware as to who has access to this data. This information is sold to other corporations and political groups and is then used for marketing campaigns to influence the decisions made by individuals (O’Harrow, 2005). Additionally, Cambridge Analytica, a political consulting firm, working for the Trump electoral administration in the 2016 elections in The United States of America, built a psychological profile of individuals from the data collected through their use of Facebook. This profile was used to influence the elections through targeted adverts on the Facebook platform. The ensuing marketing campaign aided Trump’s election for presidency by energising Trump supporters and discouraging the voters of the opposition (Persily, 2017). Furthermore, the anonymity and lack of accountability allowed Russia to also inject its influence (Benkler et al., 2018). Thus, this use of surveillance and data gathering technology has resulted in the destabilisation of institutions and can undermine an individual’s freedom and democratic values (Benkler et al., 2018).

7. Conclusion

This thesis aimed to identify what the Chinese Social Credit System is, how it functions and to what extent it can be used as an alternative strategy for producing pro-environmental behaviour as compared to the usual environmental behaviour change models and strategies. The first part of this thesis was executed by analysing various literature on environmental models and their implied intervention...
strategies to identify the salient features which influence pro-environmental behaviour (see table 1). These identified features were used to create an analytical framework to describe the SCS and assess its effectiveness and efficiency. Information regarding the SCS was gathered from various government documents and existing literature. Out of this, surveillance emerged as a new feature not previously identified in currently used intervention strategies. To understand the influence of surveillance on behaviour, surveillance theory and in particular the Foucault’s Panopticon was examined and applied to the SCS case. Thus, having an extensive understanding and description of the SCS the second part of the thesis compared this system against current intervention strategies to draw out similarities and dissimilarities to identify to what extent the SCS can be applied in other contexts.

Climate change is a global crisis of tremendous scale and absolute urgency. Current strategies aimed at addressing the issue at hand do not engage with the reality on ground, that there is approximately ten years remaining to achieve a 45% reduction in GHG emissions, if not there will be irreversible consequences. Appealing to the rational nature of humans, structural changes and nudging have thus far proven insufficient and inefficient at producing the impact which is required. GHG emissions are still on the rise.

Influencing pro-environmental behaviour is difficult due to many social and psychological barriers which exist. No one method is capable of addressing all of this. Therefore, a combination of strategies taking into account these barriers will prove to be the most effective solution. It is evident that the SCS has the potential to influence pro-environmental behaviour as it employs several elements identified in key environmental models and has many similarities with intervention strategies. The SCS intends to influence individuals through establishing social norms, providing rewards, punishments, feedback, and nudging. These similarities in some regards demonstrate that some aspects of the system are applicable in other contexts. However, what stands out to be distinctly different from other intervention strategies currently utilised is the overarching aspect of surveillance.

The constant gaze created through the surveillance mechanism creates a state of constant conscious deliberations over one’s action and how it conforms to or deviates from the behaviour demanded by the authority. This is effective in breaking habits and rituals associated with behaviour impacting on the environment (see sections 3.1.4. and 3.2.1.). Surveillance in combination with the reward and punishment mechanism makes the SCS coercive, mainly by limiting its subject’s ability to function in society through the denial of state and market services. It is this coercive nature of the SCS that ensures its effectiveness in influencing pro-environmental behaviour and the use of technology which allows it automatic functioning and gives it its ability to reach everyone and thus ensuring its efficiency. Whether or not these effects would remain without the system is unknown.

This thesis contributes to the field of scholarly work on pro-environmental behaviour, and on the SCS, which at the moment is nascent. However, the SCS is still incomplete and not fully implemented. Therefore, it is not yet that clear how it might influence changes in behaviour. Currently the SCS exists in several forms, each with their own unique set of rewards and rating systems. Determining which system will be an accurate representation of what the SCS is intended to be is difficult. These pilot projects are currently trial and error approaches to identify which aspects of the system suits the objectives of the policy framework. Future research on the subject of the SCS may be able to utilise more empirical data about the system, in order to draw more accurate conclusions, as it is expected to be fully implemented in 2020.

8. Final Remarks

Societies in Western Europe and North America hold democracy in high regard. The concepts of democracy and human rights have created a culture of individualism (Beck, 2012). This contrasts with the collectivist culture in China, where individuals are largely defined by their sense of connection and belonging to their social group, network and nation. The difference between individualistic and
collectivist cultures could perhaps have significance on how a system like the SCS is received. An area for future research would be to examine the extent to which views on democracy and individualism can impact the acceptance of a surveillance system.

Due to the central aspect of surveillance in the SCS, there are many moral and ethical implications concerning the use of this system. The purpose of this thesis was not to identify and address these issues, but to highlight how the system may influence behaviour, and to what extent it can be used to change behaviours required for addressing the massive and urgent issue of climate change. Further studies will be required to highlight these concerns such as privacy as it relates to human rights, freedom of speech and democratic values. Nonetheless, the following paragraphs will briefly address the issue of privacy.

One of the biggest critiques emphasised in the current literature on the SCS relates to the intrusion of privacy. The protection of privacy has always been justified on moral grounds. Privacy is sometimes treated as an interest with moral value to be protected by law (DeCew, 1997). Disagreements regarding what is considered morally permissible prevail throughout time. Looking at human history, it is fairly clear that variations in conceptions of morality exist. For example, the Vikings valued military power and regarded rape and pillaging of their enemies to be perfectly acceptable, practices that the majority of people in our culture and society today would consider to be barbaric and not tolerated. Humans have the capacity for morality; however, we allow for fluidity in what we deem to be moral (Bloom, 2010). Morality in part, is developed through the challenges faced by society.

According to Kostka (2019) the SCS, in the case of China, is seen by the citizens as a benefit generating mechanism, enhancing their quality of life. The objective of economic gain in China has resulted in various forms of malpractices and decay of trust in society. For example, in 2008, melamine was consciously placed into baby formula, which resulted in the death of six babies and 300,000 ill babies (Dickinson et al., 2018). Additionally, approximately 63% of all counterfeit goods are manufactured in China, making it the largest producer of counterfeit foods in the world (OECD, 2017). Failing to abide by regulatory mechanisms, scamming, counterfeiting, and food security are prominent in China and thus a real issue for its citizens (Creemers, 2017). In China, it is believed that the lack of trust is the most prominent issue in society (Hao, 2012). Additionally, the quality of life in China is being increasingly affected by environmental degradation, and the SCS aims to address this by focusing on pollution created by industries (Volkskrant, 2017). If the SCS is capable of preventing environmental mismanagement, pollution, production of counterfeit goods and ensure food security, its applicability to sustainability will be even more relevant. The SCS will be used to attract investments to specific sectors through its rewards and punishments, such as incentivising investment in green technology and punishing carbon emissions. If morality is indeed developed in context of the challenges facing humanity and if surveillance is identified and understood as a solution for solving climate change, the views regarding privacy may change.

Throughout this research, my fascination with the SCS, surveillance, and how systems can influence society has increased. Initially, I had doubts about it. But now I understand that under certain circumstances a system like the SCS can be appealing and perhaps practical. Having discovered in the SCS the ability to influence society with the use of data gathered through various forms of surveillance, this thesis is raising one of the most important socio-political questions faced by society today: How do we regulate the ownership and use of data? If we mandate governments to ‘nationalise’ data in order to curb the power of big (data) corporations and their ability to influence citizens’ behavioural decisions, as demonstrated by Cambridge Analytica and Acxiom, it may result in the establishment of a totalitarian regime, where the government has control over all aspects of society.

**9. Limitations**

Despite conclusions, this thesis is not without its limitations. Firstly, all policy and government documents used in this study are translated from Mandarin. Although peer-reviewed the accuracy of
any conclusions drawn in this thesis will depend on the accuracy of these translations. Secondly, the SCS is currently being rolled out and has not been fully implemented. At the present moment, many pilot projects exist, each with their own unique set of rewards/punishments and rating systems. Therefore, no pilot program is an exact representation of what the system will look like. Finally, this thesis is constrained in time and size and does not explore in depth the moral and ethical implications which accompany this system. Additionally, if time had allowed, additional models of environmental behaviour could have been examined which could have provided further insight into the functioning of the SCS and its potential as an alternative to more common models and interventions for pro-environmental behaviour change.

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11. Reference


Chorzempa, M., Triolo, P. and Sacks, S., (2018) China’s Social Credit System: A Mark of Progress or a Threat to Privacy?


Dalibert, L., 2013. Posthumanism and soma-technologies—exploring the intimate relations between humans and technologies (PhD thesis). University of Twente.


Ormerod, P., (2012). Networks and the need for a new approach to policymaking. COMPLEX NEW WORLD, p.28.


