Modernizing Construction Of Integrity: A Conceptual Proposal for Technical Means of Anti-corruption

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Abstract. The fourth plenary session of the 19th Central Committee of the Communist Party of China (CPC) pointed out that we should adhere to and improve the socialist system with Chinese characteristics and promote the modernization of the national governance system and governance capacity. The modernization of clean government results from the needs of the times, top-level political design, and other multi-layered factors. The modern characteristics of national governance modernization, such as institutional, scientific, and up-to-date, enhance the level of clean governance, in the era of human-computer integration and universal network, how to improve the integrity of governance modernization has become the proposition of the times. This paper adopts a positivist paradigm research approach to investigate the shortcomings of technological tools in China's anti-corruption system through the analysis and application of relevant data in the field of anti-corruption, and to make corresponding conceptual recommendations for the establishment and application of new technological tools in the field of anti-corruption.

Keywords: Anti-corruption, Integrity Governance, Modernization, People's Republic of China (PRC), Technology applications.

1. Introduction

Since the 1990s, governance theory has emerged in response to the multiple dilemmas of market failure, government failure, and voluntary failure.[1]. Governance is the management of a cooperative network, also known as network management or network governance, which refers to the process by which many public actors, both governmental and nongovernmental, cooperate with each other to share public power and manage public affairs in an interdependent environment in order to achieve and promote the public interest. This definition clearly points out the core feature of governance: the plurality of governance subjects based on resource sharing. This new theory, which emphasizes the government's leading role while encouraging and supporting the market and society to play their due roles, can competently deal with the relationship between government, market, and society. It has gradually formed a new governance pattern of global governance, nation-state governance, and community governance, which has set off a vigorous movement of governmental governance reform in Western countries. The 2021 CPI, published in January 2022, currently ranks 180 countries "on a scale from 100 (very clean) to 0 (highly corrupt)" based on the situation between 1 May 2020 and 30 April 2021.[2]. Denmark, New Zealand, Finland, Singapore, and Sweden are perceived as the least corrupt nations in the world, ranking consistently high among international financial transparency, while the most apparently corrupt are Syria, Somalia (both scoring 13), and South Sudan (11).[3]. Transparency International's 2021 Corruption Perceptions Index China (RPC) ranks the country in 66th place out of 180 countries in the Index, where the country ranked 180 is perceived to have the most corrupt public sector.[4]. There is a map of countries by their Corruption Perceptions Index score in 2021 according to Transparency International (Fig 1.):
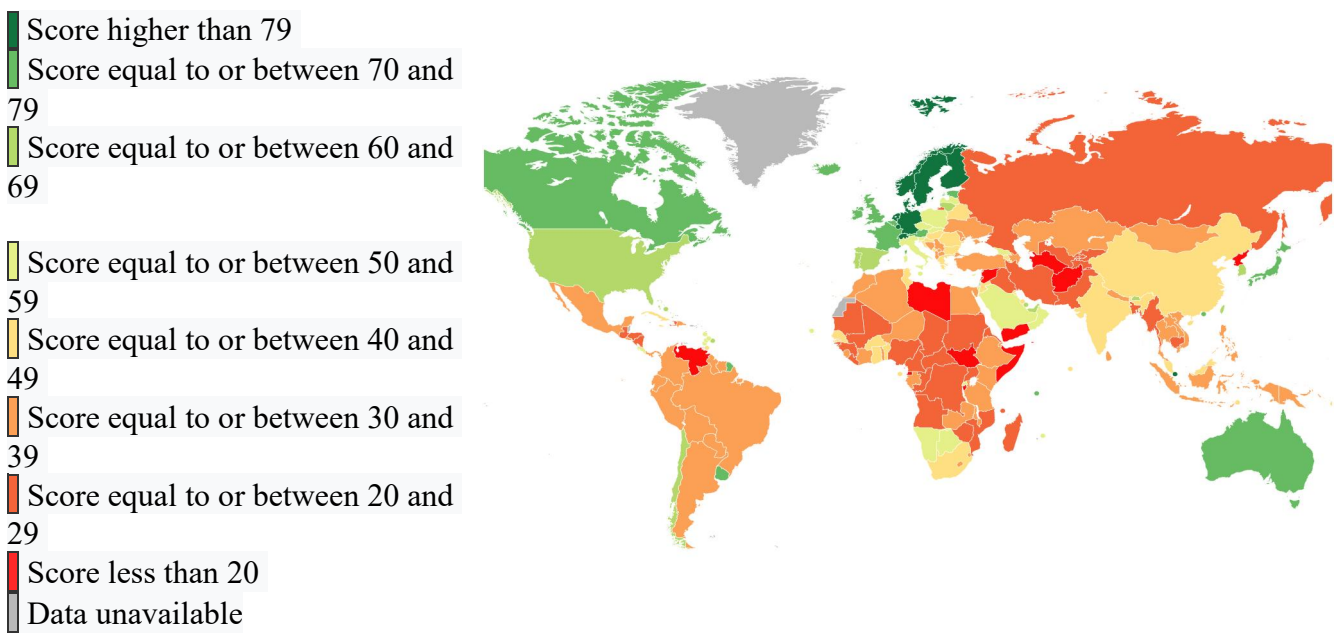
Score higher than 79
Score equal to or between 70 and 79
Score equal to or between 60 and 69

Score equal to or between 50 and 59
Score equal to or between 40 and 49
Score equal to or between 30 and 39
Score equal to or between 20 and 29
Score less than 20
Data unavailable

Fig 1. Allice Hunter, Transparency International: CPI 2021

Under the influence of such a wave of governance, the Decision of the CPC Central Committee on Several Major Issues of Comprehensively Deepening Reform, adopted at the Third Plenary Session of the 18th CPC Central Committee, proposed that "the overall goal of comprehensively deepening reform is to improve and develop the socialist system with Chinese characteristics.[5]. It pushes forward the modernization of the national governance system and governance capacity." Modernization of the governance system is the system of managing the country under the leadership of the Party, including institutional mechanisms, laws and regulations arrangements in various fields such as economy, politics, culture, society, ecological civilization, and Party construction. It means modernizing a set of closely connected and mutually coordinated national systems. Similarly, the goal of modernizing the governance system is equally important to the field of anti-corruption and represents an important task for the modernization of the Party and government management system, as well as the construction of a rational, efficient and sustainable anti-corruption system. This article uses correlational data analysis, including a case application of the probabilistic theory of the effectiveness of criminal law sanctions and a normality analysis of Pearson's study methodology as the primary data analysis method for this work. The objective of this paper is to focus on the inspiration and influence of modernizing governance systems in the field of anti-corruption, to analyze the technological tools that can be applied in the field of anti-corruption in the light of the innovations and applications of new technological tools in the context of the information age, and to make corresponding conceptual recommendations in this regard.

2. Background: Modernization of integrity governance in the New Era

The modernization of national integrity governance is the modernization of the national integrity governance system and integrity governance capacity, which is the centralized embodiment of the anti-corruption system with Chinese characteristics and its executive power. The critical value of promoting the modernization of national integrity governance in the new era should be scientifically grasped from three dimensions: theory, history and reality.

2.1 The dangers of the corruption

The corruption is a serious challenge common to modern contemporary states governed by the rule of law, the numerous studies of the capitalist economic system by Western economic schools

have shown that, under the premise of private ownership, capital has a profit-seeking character in the market and that this profit-seeking character gives capital a tendency towards gradual concentration, i.e. monopoly, and in the studies of the political sphere by German sociologists led by Dahrendorf, it has been shown that power, like capital likewise has a profit-seeking character and a gradual concentration, i.e. power is also in a process of movement towards concentration, and the non-publicization of these powers is a cancer that hinders the progress of the state and the development of society. As an instrument of class dictatorship, the state, through its two primary functions of political rule and social management, acts as a "third party force" to reconcile social class conflicts on the surface and represents the fundamental interests of the ruling class in essence. China is a socialist state based on public ownership, and the form and substance of the state are internally consistent, representing the fundamental interests of the broadest people. Thus, the use of public power in society for one's own personal benefit is a typical phenomenon of corruption, which essentially violates the public interest based on the general public, undermining the nature of the state, shaking the foundations of the Party's rule.

"The problem of corruption, if allowed to intensify, is bound to end the party and the country."[6]. The governance of national integrity, which is centered on curbing corruption, constitutes an important element of national governance. The governance of corruption is a systematic project. In our country, specialized anti-corruption agencies under the Party's leadership, the government's judicial system, the media, various social organizations, and individual citizens who report corruption are all important forces in the fight against corruption. Among them, the fundamental role is played by the anti-corruption system and its enforcement capacity... To promote the modernization of national integrity governance is to establish and improve the system of anti-corruption system with Chinese characteristics, to improve the ability of the Party and the State to prevent and punish corruption, and to push the anti-corruption struggle to a new stage in the new era. The anti-corruption system with Chinese characteristics is an important element of the socialist system. The standardization, systematization and systematization of the anti-corruption system will certainly increase the completeness, scientific and operational effectiveness of the socialist system, which will in turn form a powerful impetus to promote the modernization of state governance. Therefore, whether in terms of content or manner, promoting the modernization of national integrity governance will promote the modernization of national governance. Thus, the existence of the corruption phenomenon reflects the poor governance of the integrity of the State. The fight against corruption, like those countries that have endeavored to implement it, plays an important role in the modernization process of a sovereign state, and for this reason it is important to avoid, as far as possible, the contradiction between the modernization of the state and the ossification of the system, judging adequately by historical experience and lessons learned, that only a thorough adherence to and modernization of the state's integrity building system can guarantee the long-term security of the state.

2.2 The current situation of corruption in China

Since the 18th Party Congress, the Party Central Committee, with Comrade Xi Jinping at its core, has punished corruption precisely and vigorously, insisted on no-go areas, full coverage and zero tolerance in the fight against corruption, won an overwhelming victory in the fight against corruption in the new era, and pushed China's clean governance to an unprecedented new level. At the same time, we should see that China is in a period of social transformation towards modernization. Under the realistic conditions that the productivity has not yet reached the level of modernization, there are still remnants of feudal exploitation ideology of thousands of years in history, the institutional mechanism of the Party and the State is not yet perfect. At the historical intersection of achieving the goal of "two hundred years", it is crucial to enhance the awareness of risk prevention, improve the effectiveness of corruption control, consolidate and develop the overwhelming victory in the fight against corruption, and promote the modernization of national integrity governance. Problems arising from modernization will eventually need to be solved by

modernization. In the new era, the game of corruption and anti-corruption in China presents new features.[7].

On the one hand, the corruption problem is becoming more and more concentrated in the deep, increasing the difficulty of anti-corruption. "The problem of corruption that does not converge and does not close its hands since the 18th Party Congress and that seriously hinders the implementation of the Party's theories and policies and seriously damages the Party's ruling base still exists. Micro-corruption occurs from time to time; corruption in the financial field has significantly increased the harm to the socialist economic order and market security, etc. These phenomena have posed serious challenges to anti-corruption. On the other hand, the continuous advancement of the anti-corruption struggle has curbed the spreading momentum of corruption. More and more corrupt elements, inspired by high-pressure deterrence and policies, are surrendering voluntarily, which has become a highlight of the anti-corruption with Chinese characteristics. Therefore, only by unswervingly following the road of anti-corruption with Chinese characteristics, consolidating and developing the anti-corruption system with Chinese characteristics, and constantly improving the ability and level of the Party and the State to punish corruption, can we continuously seize new victories in the fight against corruption.

3. Study Methodology

3.1 Time Line

The Pearson study method will be selected datas from Transparency International's Corruption Perception Index 2021, which is illustrated in Fig. 1. Based on the timeline, the article selects the last ten years period 2012-2021 transparent internationally collected data for SPSS 26 data analysis and the related reference equations are as follows.(1).[8].[9].

In 2021, for example, China's CPI score is 45, ranking 66th globally, and the combination of data sources includes nine forms, as well as a standard error 1.77 based on the previous year given by Transparency International. In the Table 1-4 below, the get file command is used to load the data into SPSS26. By default, SPSS26 does a pairwise deletion of missing values. This means that as long as both variables in the correlation have valid values for a case, that case is included in the correlation.

$$\text{Pearson } r = \frac{\sum_{i=1}^{n}(x_i - \bar{x})(y_i - \bar{y})}{\sqrt{\sum_{i=1}^{n}(x_i - \bar{x})^2 \sum_{i=1}^{n}(y_i - \bar{y})^2}} \qquad (1)$$

3.2 Data Sample

Table 1. Listed Corruption Perceptions Index China 2012-2021				
Year/Date	CPI Score	Rank [o]	Sources	Standard error
2021	45	66	9	1.77
2020	42	78	8	1.63
2019	41	80	8	2.10
2018	39	87	8	2.02
2017	41	77	9	1.96
2016	40	79	8	2.39
2015	37	83	8	2.34
2014	36	100	8	2.17
2013	40	80	9	2.90
2012	39	80	9	2.90

3.3 Results

Table 2. Tests of Normality						
	Kolmogorov-Smirnova			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
CPI Score	.147	10	.200*	.965	10	.844
Rank º	.247	10	.086	.875	10	.113
Sources	.381	10	.000	.640	10	.000
Standard error	.145	10	.200*	.928	10	.425
*. This is a lower bound of the true significance.						
a. Lilliefors Significance Correction.						

Results of normality test: S-W test was conducted for variables,

All P values were > 0.05, and the variables met normal distribution, so Pearson correlation coefficient was suitable for correlation analysis.

Table 3. Correlations					
		CPI Score	Rank º	Sources	Standard error
CPI Score	Pearson Correlation	1	-.886**	.424	-.456
	Sig. (2-tailed)		.001	.222	.186
	N	10	10	10	10
Rank º	Pearson Correlation	-.886**	1	-.528	.185
	Sig. (2-tailed)	.001		.116	.610
	N	10	10	10	10
Sources	Pearson Correlation	.424	-.528	1	.331
	Sig. (2-tailed)	.222	.116		.350
	N	10	10	10	10
Standard error	Pearson Correlation	-.456	.185	.331	1
	Sig. (2-tailed)	.186	.610	.350	
	N	10	10	10	10
**. Correlation is significant at the 0.01 level (2-tailed).					

Correlation analysis can determine the relationship between the two. In the process of analysis, we follow this order, first look at significance and then look at correlation, and then analyze correlation after significance. Here, we first check whether "Sig. (two-tailed)" is less than 0.05. If it is less than 0.05, it indicates that there is a significant relationship between them, and then conduct the following analysis.
Pearson correlation coefficient r=-0.886, P<0.001, indicating a negative correlation between Rank º and CPI Score.

Table 4. Correlations						
			CPI Score	Rank º	Sources	Standard error
Spearman's rho	CPI Score	Correlation Coefficient	1.000	-.892**	.323	-.614
		Sig. (2-tailed)	.	.001	.363	.059
		N	10	10	10	10
	Rank º	Correlation Coefficient	-.892**	1.000	-.504	.449
		Sig. (2-tailed)	.001	.	.138	.193
		N	10	10	10	10

	Sources	Correlation Coefficient	.323	-.504	1.000	.143
		Sig. (2-tailed)	.363	.138	.	.694
		N	10	10	10	10
	Standard error	Correlation Coefficient	-.614	.449	.143	1.000
		Sig. (2-tailed)	.059	.193	.694	.
		N	10	10	10	10
**. Correlation is significant at the 0.01 level (2-tailed).						

China's Corruption Perception Index global ranking score has become smaller in recent years (based on statistical data from 2012-2021) and its ranking has risen. As the score increases, the ranking figure becomes smaller, i.e. the integrity ranking rises, so the article speculates that anti-corruption should actively increase the score.

4. Discission: The dilemma of integrity governance

Although the anti-corruption initiative has made considerable achievements with the help of new technologies and means, there are still real dilemmas in the modernization of integrity governance at the current stage of development, at the same time, based on empiricism and positivism, rational attention should be paid to the shortcomings and inadequacies of the application of technical means to combat corruption at this stage.

4.1 Deficiencies in the anti-corruption system

The so-called anti-corruption system, explained from the perspective of social science, refers to a social structure that regulates individual actions by rules or modes of operation. Integrity governance modernization system is the state in the process of promoting integrity governance modernization in order to adapt to the integrity governance modernization of a series of anti-corruption initiatives for the direction of standardized management and rationalization guidance. A social structure promotes the integrity of the governance modernization process, and this social structure is set up for people's mutual relations and some artificial constraints as the main axis. The modernization of the integrity governance system is used to manage people and things, thus removing obstacles. It is imperative to introduce the modernization of integrity governance into the fast track of institutional development with the system's guiding, binding, normative and procedural nature. At the same time, by drawing on previous relevant studies in the field of anti-corruption, it has been shown that the effectiveness of anti-corruption criminal law sanctions is constituted through four main components, namely 1) discovery, 2) imputation, 3) adjudication and 4) enforcement.[10]. As the primary purpose of this theoretical model is to detect and expose corruption, it is also the main principle behind the subsequent steps, and if the administrative system is unable to detect corruption in a timely and effective manner through sophisticated technical means, then the probability of effective sanctions is directly reduced. However, an important factor that cannot be overlooked in this study is the fact that the main force in the fight against corruption is the public scrutiny of society, and that individual citizens are an important part of the whole process of detection and denunciation. Therefore, when the anti-corruption system lacks measures to encourage and facilitate the participation of individual citizens in anti-corruption activities, it leads to fundamental deficiencies in the anti-corruption system and, according to previous studies, there is a conflict between effectiveness and proportionality in the probability of effective sanctions and, in the case of individual citizens, their decisions are influenced by the conflict between the costs and benefits of anti-corruption activities, which negatively results in a low willingness of the public to report corruption and an inefficient anti-corruption system, which is

also accompanied by a loss of government credibility. The practical phenomenon described above can be analyzed by taking the approach of rational choice theory in political science.

4.2 Lack of Anti-corruption talents

The anti-corruption database serves as a "storage box" for anti-corruption information, which is an explosion of fragmented and hidden information. More is needed to sort, refine, polish and arrange it. The professional and technical personnel of the anti-corruption database become the key to anti-corruption on the Internet. Whether it is to remove the dross and extract the essence of the complicated data, or to conduct professional analysis, whether it is to design data analysis system or to conduct information query, data analysis and system alert of anti-corruption information, all need professional technical personnel. Otherwise, anti-corruption data is just a string of numbers and words piled up as electronic garbage. Only under the technical analysis of professional analysts of anti-corruption data and information can data and information give full play to their own anti-corruption mission. However, at present, because of the severe shortage of professional analysts of the anti-corruption information database, the utilization of the anti-corruption database is inadequate, and its anti-corruption function has not been fully released. The difficulty of talent has led to uneven technical updates, resulting in overlapping old and new platforms, and functional conflicts are inevitable, bringing obstacles to the organization, linkage and simplification of data and information of the anti-corruption information database. On the other hand, the pool of personnel in the field of anti-corruption plays an important role in the modernization of the anti-corruption system. Whether it is the application of new detection techniques or the development and diffusion of electronic information technology today, the professionals in the field of anti-corruption are key to the efficiency of the implementation of the system and should therefore be encouraged and developed to make the modernization of the anti-corruption system work.

4.3 Deficiencies in technical means

The technical shortcomings of the anti-corruption system are mainly reflected in the lack of communication between the various evidence-generating departments and in the lack of hardware for electronic offices, the most typical feature of which is the information lag. The information lag is the difference of Internet usage, Internet technology, Internet thinking and information barriers of some government departments brought by the unbalanced economic development. Some units have perfect information, reasonable structure and timely update in data establishment, while others are still stuck in the paper-based era with disordered information and missing severe materials. Some units have incomplete information and serious lag in updating despite establishing an anti-corruption database. Some units actively cooperate with anti-corruption agencies in data collection, but some departments resist using information databases and appear to be uncooperative or misrepresenting and concealing. The differentiation in developing information databases has formed "anti-corruption information islands", which cannot be integrated, checked and screened through horizontal comparison and vertical information tracking. It not only reduces the credibility and validity of network anti-corruption but also hinders the accuracy, convenience and scientific nation of anti-corruption.

5.   Conclusion

The fight against corruption never stops. As one of the inescapable contradictions in the modernization of the country, corruption can only be prevented and sanctioned through a firm attitude and constantly innovative technical means, which is why it is particularly important to uphold and implement a national integrity system. At the same time, it is equally important to establish a rational, efficient and public-interest platform for cooperation in the fight against corruption. The establishment of a system of open, fair and transparent cooperation with the people in the fight against corruption can effectively increase the probability of prevention and sanction of

the whole system and can also promote and facilitate the positive development of the credibility of the government. As for the application of technical means in the anti-corruption system, in addition to ensuring the effectiveness of its entire operation, it is a priority to strengthen the support and guidance of the special talent pool and to promote the popularization of advanced technical means. It is also necessary to emphasize that the innovation of technical means is one of the principles of preventing and combating advanced criminal means, just as the continuous development and popularization of science and technology in modern society has provided the corrupt with advanced criminal means, so ensuring the technical innovation of the anti-corruption system is aimed at better preventing and sanctioning this criminal act. Since the 18th Party Conference, China has moved rapidly into a new period of distinctive socialist development. The important directives of the conference have determined the future direction of development and modern institutional construction in the field of anti-corruption in China. The author believes that the Party-led state organs, public officials and the general public should seriously study and follow the Marxist concept of clean government. Likewise, government agencies should be clear about their responsibilities and missions, conscientiously fulfil the development directions and tasks clearly set out at the conference and serve the people wholeheartedly. For the modernization of the anti-corruption and integrity system to make a remarkable and positive contribution and strive to develop the innovation and application of anti-corruption technical means, and work from the practical point of view to achieve the great rejuvenation of the Chinese nation.

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