

Chinese Local Governments' Behavioral Logic of Early-Warning Information Release Regarding Major Epidemic Outbreaks from the Organizational Analysis Perspective*

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Abstract

Based on the three-dimensional 'organizational goal – organizational field – organizational incentive' analysis framework, this paper attempts to conduct a comparative and diachronic analysis of the behavioral logic of Chinese local governments' early-warning information release in major epidemic outbreaks. The results of the research show that the organizational goal, field and incentive are highly relevant to different strategic choices of whether local governments should, will and are willing to perform their governance function; additionally, different combinations of these elements trigger different local government behaviors. The organizational goal, field and incentive are the starting point, turning point, and end point of local governments' behavioral logic, respectively, while the organizational field is a prerequisite for the organizational incentive to work. The organizational goal – organizational field – organizational incentive sequence reflects the sequence and interactive relationship of local governments' behavioral logic.

Keywords: organizational analysis, Chinese local government, major epidemic outbreaks, early-warning information release.

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1. Introduction

In China, the governance of major epidemics falls under the responsibility of local governments. The effect of local governments' 'meta-governance' on major epidemics has a direct impact on the outcome of the overall anti-epidemic efforts (Gao and Yu, 2020). The reactive early warning measures of China's local governments put them in a passive position in the fight against epidemics. However, this situation was later reversed by the proactive warning, prevention and control measures taken by local governments after the intervention of the central government. The drastic contrast of the 'reactive – proactive' behaviors of local governments in disclosing warning information epitomizes the governance logic of Chinese local governments regarding major epidemics. This phenomenon has also aroused the strong interest of scholars around the world in exploring the key variables that caused the sudden change in the behavioral pattern of Chinese local governments. On this basis, this research proposes a three-dimensional organizational analysis framework of 'organizational goals – organizational field – organizational incentives' based on the disclosure of warning information by local governments. This research attempts to extract the key variables that affect the behaviors of Chinese local governments and observe the functioning mechanism of these three factors in order to help researchers around the world understand the administrative management system of China and its governance logic. Additionally, it provides a reference for the governance practices of local governments in other developing countries.

The 'behavioral logic' in this research refers to tracing behavior that happens stably and regularly in the process of local governments' early-warning information release regarding major epidemic outbreaks. Referencing organizational theory, Zhou and Lian (2012) proposed a three-dimensional 'control rights' theory that included the goal-setting right, inspection right, and incentive right. This theoretical model has been recognized as a unified theoretical framework for analyzing the governance structure, authority relationship, and behavioral types of the Chinese government and their changing process. It also describes the top-down rational governance logic that unfolds with the will of the superior governments. However, in real practice, the distribution of various control rights is often not that clear-cut; rather, such rights overlap and are interwoven. In particular, during the governance process of Chinese local governments, the commissioning party (in the commission-agency relationship) has the power to 'interfere with the governance at will' (for example, in 'mobilized governance'), in which the power types and their mutual relations are disrupted. Therefore, the three-dimensional 'control rights' theory faces challenges in interpreting local governments' behavioral logic of early-warning information release regarding major epidemics, and thus, there is an urgent need to search for a new framework of interpretation.

The behaviors of local governments, which are micro-organizations, are restricted by the allocation of organizational elements. Therefore, on the basis of micro-organi-

zational elements, the allocation of organizational elements offers a new perspective for exploring local governments' behavioral logic of early-warning information release regarding major epidemic outbreaks.

2. Three-dimensional organizational analysis and theoretical hypotheses on the behavioral logic of early-warning information release

2.1 Three-dimensional organizational analysis of the behavioral logic

2.1.1 Starting point of the behavioral logic: Organizational goal

Organizational goals are the ultimate value of organizational existence and the starting point of all organizational behavior. In China, the central government has extensive intervention power. The organizational goal is the management responsibility assigned to local governments through the jurisdictional subcontract in the vertical administrative subcontract based on the central government's top-level design, and the aim is to clarify the management responsibilities of the local governments. In the jurisdictional management system, local governments are fully in charge of local affairs, and the central government evaluates and motivates them according to the authority-responsibility relationship. This is the so called 'block management pattern', under which medical and health affairs, including epidemic prevention/control and social stability maintenance, are the organizational goals managed by the government of the jurisdictional area.

The administrative subcontract that contains jurisdictional management allows local governments to have administrative discretion, but it often has associated problems such as excessive administrative power and limited restraints on power; thus, if competitive incentives for promotion lose efficacy, administrative discretion might evolve to the 'right of legitimate harm'. In addition, the functional departments of the central government manage their respective subordinate departments under a vertical compartmentalization management approach. Therefore, a governance network featuring a combination of 'block' and 'vertical compartmentalization management' has emerged in China, with the 'block' being the dominant pattern (Ma, 1998).

2.1.2 Turning point of the behavioral logic: Organizational field

The organizational field refers to the inspection, supervision and appraisal environment across the horizontal and vertical levels of administration. The organizational field is a key turning point for adjusting organizational behaviors. Due to its susceptibility to the influence of various sources, uncertainty has become an essential feature of the organizational field. With the widespread use of the Internet in China in recent years, the level of information transparency on local government websites and online public sentiment on social media platforms have become two important factors that influence the organizational field. When the degree of information asymmetry is high, it works against inspection, supervision, and appraisal by the high-

er-level government and the public. In such a situation, local governments are in an appropriate field, and in the opposite situation, they are in an inappropriate field. Usually, a principal-agent relationship forms between higher and lower levels, and the major feature of the principal-agent relationship is information asymmetry. That is, lower-level government entities have informational advantages, while higher-level entities have informational disadvantages.

To seek profits while avoiding harm, the lower-level government is motivated to aggravate the information asymmetry through a series of unconventional operations. If the higher-level supervisory mechanism fails, owing to the problem of asymmetry in the organizational capability between grassroots and governmental agencies, the supervision of local governments will be extremely limited at both the vertical and horizontal levels.

2.1.3 End point of the behavioral logic: Organizational incentive

The organizational incentive refers to the incentive mechanism in the horizontal political tournaments. It is also the ultimate means for mobilizing organizational behaviors. Organizational incentives are essentially a reward-and-punishment mechanism devised by the central government to assess the governance performance of local governments in their efforts to achieve its organizational goals at the grassroots level. As a result, organizational incentives clearly convey the will of the central government to the local governments. The new research method in organizational theory pioneered by Simon and his followers emphasizes the limitations of human cognition (Rabin, 2006). Based on the bounded rationality of human beings, local officials often make a trade-off in terms of order when facing multiple goals, rather than collectively solving all goals simultaneously.

Developing the economy is the main task of the Chinese target-oriented responsibility system, and appraisal results matter for officials' opportunities for promotion; as a result, medical and health goals are often neglected by local governments because they do not promote rapid economic growth.

A strong negative incentive is a significant management method in jurisdictional management, and the strongest negative incentive is the 'veto right' system. That is, once a goal with the 'veto right' characteristic is not achieved, the responsible officials' achievements will all be erased, and their promotions will also be affected. The original intention of the 'veto right' system is to strongly motivate and urge lower-level government officials to accomplish their objectives, and the system aims to enhance the effectiveness of policy implementation by increasing the costs of violations. However, for certain goals that are difficult to achieve, the strong pressure of negative incentives under the 'veto right' system can easily cause goal displacement (Ai, 2011), i.e., departing from the original goal to pursue a different or even opposite goal. In addition, the incentive mechanism should be designed according to the principle of incentive intensity and effective information because when the appraisal

result does not reflect actual performance, a stronger incentive design will cause goal displacement (Ai, 2011).

When the appraisal and incentive mechanisms lose efficacy and seriously impact social governance due to goal displacement, special governance actions such as ‘campaign-style governance’ will be taken as remedial measures to transform daily multiple governance tasks into a temporary single task and to appraise this single task. Normally, special governance actions target ‘soft index’ subjects that are easy to neglect and postpone, such as the prevention and treatment of diseases.

2.2 Theoretical hypotheses of the behavioral logic

2.2.1 Local governments’ behavior of not releasing

Local governments face a multitarget institutional environment. As a ‘self-oriented unit’, a local government will pursue self-interest (informal target), but as an ‘agent’, it should achieve the organizational goal (formal target). The goals of the two attributes may partially or completely conflict, and different behavioral strategies of the local government based on the objective utility function may appear, giving rise to behavior that prioritizes self-protection to the detriment of public interest, as suggested by the hypothesis of the rational economic human in public choice theory. To ensure that organizational goals are implemented by local governments, higher-level governments, on the one hand, emphasize supervision of the lower level and, on the other hand, emphasize incentives to the lower level. That is, the organizational field and organizational incentives are the energy sources that encourage local governments to achieve their organizational goals.

Under the condition that the organizational goal is clear, an appropriate organizational field leads local governments to selectively execute their organizational goals. Since the release of early-warning information will make it difficult to cover up misconduct and illegal acts (Rourke, 1960), it will not only bring potential restrictions on the realization of goals but also increase the risk of uncertainty in social governance. That is, the release of early-warning information will increase the risk of local government officials being ‘vetoed’ on the basis of ‘incompetence in maintaining social stability’, which might bring their career to an early end and severely threaten their personal survival in officialdom. However, the damage to the public interest caused by not releasing the early-warning information could be irresponsibly ignored. Therefore, based on public choice theory, officials may use their discretion to make decisions that make survival more probable and not release early-warning information. We propose the following hypothesis:

H1: With a clear organizational goal and appropriate organizational field, regardless of whether the organizational incentives are strong or weak, a local government will choose not to release early-warning information.

2.2.2 Local governments' behavior of partial release

Under the condition that the organizational goal is clear, an inappropriate organizational field weakens the problem of information asymmetry caused by a lack of supervision. Besley and Burgess (2002) found that an effective institution for information transmission can restrain the behaviors of a malfunctioning incumbent government. Choi (2018) also argued that the use of information technology will reduce the exercise of discretionary power by civil servants, thereby narrowing their opportunities for non-disclosure. The reason is that the central government and the public can notice local governments' departure from the objective utility function and thus effectively supervise local governments' behaviors based on the organizational goal requirements. Thus, it is rather wise for local governments to disclose early-warning information under such circumstances.

The limited objective utility return caused by a weak organizational incentive will limit local governments' enthusiasm for releasing early-warning information and may narrow the range of information released. Therefore, partial release may be the resulting behavior. Thus, we propose the following hypothesis:

H2: With a clear organizational goal, inappropriate organizational field, and weak organizational incentive, a local government will choose to partially release early-warning information.

2.2.3 Local governments' behavior of full release

The positive correlation between political competition and information disclosure has been verified by many previous studies (Laswad, Fisher and Oyelere, 2005). Political competition exerts a great impact on the disclosure of information in all forms by public office holders (Alcaide Munoz, Rodriguez Bolivar and Lopez Hernandez, 2017). The fiercer the political competition is, the greater the motivation for relevant personnel to disclose information (Baber, 1983).

Under the condition that the organizational goal is clear, the organizational field is inappropriate, and the organizational incentive is a strong 'veto right', due to the fierce political competition or the high objective utility expectation associated with the 'lock-in' effect – i.e., the executor of the local government cannot quit at will because of a closed 'internal labor market' in which, if he or she is recalled or expelled, it will be difficult to find another job outside the organization – the executor will attach enough importance to scheduling resources to guarantee that the organizational goal is achieved. Therefore, the corresponding behavior may be full release. Thus, we propose the following hypothesis:

H3: With a clear organizational goal, inappropriate organizational field and strong organizational incentive, a local government will choose to fully release early-warning information.

3. Case validation of the behavioral logic of early-warning information during the coronavirus disease – 19 (COVID-19) outbreak

This research focuses on the multiple factors and the micro-interaction mechanisms between them that affect the behavior of Chinese local governments' early-warning information release. Therefore, it inevitably requires answering some qualitative 'what' and 'how' questions, which demands an exploratory qualitative research strategy. In particular, a diachronic case study process that involves sets of event timelines and materials of causal relationships that are based on behavioral tracing and observation is needed. Therefore, we have followed the practice of previous researchers and adopted a case study approach.

To address the problems of lack of representativeness, reliability, and validity that are commonly found in case studies, this paper selects a local government with both typicality and universality for analysis. H Province was the most severely affected province during the COVID-19 epidemic (its capital city, W, was the worst hit sub-provincial city in China). In addition, H Province is one of the numerous local governments nested in the Chinese unified organizational environment and administrative system; thus, its organizational behavior has wider replicability and universal meaning than that of other local governments of China. Second, this research adopts the material collection model featuring validation through multiple stages and dimensions. Through the collection of extensive and detailed reporting of the COVID-19 outbreak by official government media at all levels and the authorized media as well as supplementary interviews and backtracking investigations on the critical juncture of early-warning information release, this paper seeks to ensure the objectiveness and preciseness of the materials for analysis. The names of people and places in the case study are anonymized in accordance with academic ethical requirements and common practices.

Furthermore, since the Emergency Response Law of the People's Republic of China stipulates that after entering the early-warning period, local governments should release early-warning information in a timely manner, thus, exploration and discussion are more meaningful after the emergency response has been activated. Therefore, this paper applies the above three-dimensional analytical framework to the behavior of early-warning information release by the local government of H Province during the COVID-19 outbreak after the national Center for Disease Control and Prevention (CDC) activated the emergency response, with the purpose to explore and analyze the behavioral logic of Chinese local governments' early-warning information release on major epidemic outbreaks.

3.1 Behavioral analysis of early-warning information release

3.1.1 Phase one (6–10 January): Local governments' behavior of not releasing

The number of confirmed cases is critical for the public to judge the risk of epidemic outbreaks, and it will affect the degree of public epidemic prevention, so it is part of early-warning information.

As shown in Table 1, after the national CDC activated the second-level emergency response procedures, i.e., from 6th to 10th of January, which corresponded exactly to the NPC and CPPCC sessions in W City, the Health Commission of W City did not confirm any cases during these days. Thus, the early-warning information release behavior in W City at that time was ‘not releasing’ (in an interview with CCTV, the mayor of W City also admitted that there was an untimely release of early-warning information in his city) (Gao and Yu, 2020).

Table 1: Timeline of critical events no. 1

Time	Event	Source of information
6 th Jan.*	The national CDC activated the second-level emergency response procedures; the National People's Congress (NPC) and Chinese People's Political Consultative Conference (CPPCC) met in W City; the Health Commission of W City released no information about the outbreak.	China Business Network
7 th Jan.	Dr. Lu of W City tested positive for coronavirus; the NPC and CPPCC met in W City; the Health Commission of W City released no information about the outbreak.	China Business Network
8 th Jan.	The central hospital of W City reported 9 cases of unexplained pneumonia; the NPC and CPPCC met in W City; the Health Commission of W City released no information about the outbreak.	China Business Network, China Youth Daily
9 th Jan.	The central hospital of W City reported 4 cases of unexplained pneumonia; the NPC and CPPCC met in W City; the Health Commission of W City released no information about the outbreak.	China Business Network, China Youth Daily
10 th Jan	The central hospital of W City reported 1 case of unexplained pneumonia; the NPC and CPPCC met in W City; the Health Commission of W City released no information about the outbreak.	China Business Network, China Youth Daily

* January and February refer to January and February 2020.

Source: The authors

3.1.2 Phase two (11 January –12 February):

Local governments' behavior of partial release

The number of new deaths and the number of recoveries are important information for judging the severity of a virus and the capability of resisting it, which will affect the degree of public epidemic prevention; thus, both are included in early-warning information. As shown in Table 2, the local government's early-warning information release behavior transitioned from ‘not releasing’ to daily timely release. Because the nucleic acid testing capability could not meet the need, many actual COVID-19 cases were not confirmed in a timely manner; thus, the daily announcements of the numbers of new confirmed cases and deaths did not reveal the actual situation.

According to the standard in article 38 of the Law of the People's Republic of China on the Prevention and Treatment of Infectious Diseases, which states that it is necessary ‘to release information about epidemic outbreaks in a timely and accurate manner’, at that time, the early-warning information release behavior of H Province was ‘partial release’.

Table 2: Timeline of critical events no. 2

Time	Event	Source of information
11 th Jan.	Opening session of the NPC and CPPCC in H Province; the Health Commission of W City announced 41 confirmed cases of COVID-19.	China Business Network, official website of the Health Commission of W City
12 th –21 st Jan.	The Health Commission of W City announced the number of confirmed new cases, the number of new deaths and the number of recoveries (excluding the number of clinical cases). The Chinese president and prime minister issued important instructions about the outbreak, and the news program News 1+1 reported the outbreak for the first time.	Official website of the Health Commission of W City, xinhuanet, English.gov.cn, CCTV news
22 nd Jan. –12 th Feb.	The Health Commission of H Province announced the number of confirmed new cases, the number of new deaths and the number of recoveries (excluding the number of clinical cases). Regarding problems in the prevention and control work of the relevant governments and departments, the General Office of the State Council announced that it was collecting clues from the public on the 'Internet+supervision' platform of the State Council; News 1+1 started to broadcast daily analyses of the outbreak; the central guidance group dispatched a supervision group to H Province; an investigation team appointed by the state supervision commission went to H Province to investigate.	Official website of the Health Commission of H Province, CNR News, CCTV news, the Chinanews online service, People's Daily Online

Source: The authors

3.1.3 Phase three (beginning 13 February):

Local governments' behavior of full release

When numerous patients in H Province developed symptoms at the same time, but nucleic acid testing could not meet the need in a timely manner, the number of clinical cases was the critical information for detecting the bottom line of the severity and the actual situation of the outbreak; this information affects the degree of public epidemic prevention, so it is part of early-warning information. As shown in Table 3, after releasing the number of clinical cases, the government of H Province announced the number of new confirmed cases, new deaths, and new recoveries on a daily basis in a timely and accurate manner. In contrast to the previous phase, it stepped forward with daily, timely and accurate information.

Based on article 38 of the Law of the People's Republic of China on the Prevention and Treatment of Infectious Diseases, we deem that the corresponding early-warning information release behavior of the local government was then 'full release'.

Table 3: Timeline of critical events no. 3

Time	Event	Source of information
10 th Feb.	The party secretary of the Health Commission of H Province was removed from office; the director of the Health Commission of H Province was removed.	Guangming online
11 th Feb.	A new director of the Health Commission of H Province has been appointed.	Guangming online,
13 th Feb.	A new secretary of the Provincial Committee of H Province has been appointed; a new secretary of the Municipal Committee of W City has been appointed; the Health Commission of H Province announced 14,840 confirmed cases of COVID-19 (including 13,332 clinical cases) and announced the number of new deaths and recoveries.	Southern Metropolis Daily, official website of The Health Commission of H Province
From 14 th Feb Onwards	The Health Commission of H Province announced the number of confirmed new cases (including the number of clinical cases until the day when the nucleic acid testing met all clinical requirements) and the number of new deaths and recoveries on a daily basis.	Official website of The Health Commission of H Province

Source: The authors

3.2 Exploration and discussion of the behavioral logic of early-warning information release

By exploring the local government's early-warning information release in the three phases of the COVID-19 outbreak, which was caused by different combinations of the organizational goal being clear or unclear, the organizational field being appropriate or inappropriate, and the organizational incentive being strong or weak, we can explore the behavioral logic followed by the local government.

3.2.1 Phase one: Behavioral logic of local governments' not releasing

First, the organizational goal was clear. Epidemic outbreaks are emergency events. The Law on Response to Emergencies specifies a system of emergency management in which emergencies are managed 'mainly by the government of the jurisdictional area'; thus, it specifies local governments' legal jurisdictional management responsibility, or the organizational goal, in major epidemic outbreaks. That is, local governments are fully in charge of major epidemic outbreaks in their jurisdictional areas. After the national CDC activated the second-level emergency response procedures, based on articles 44 and 45 of the law, local governments were responsible for releasing early-warning information about the epidemic outbreaks.

Second, the organizational field was appropriate. During the second phase, the State Council collected clues of omission or concealment about the outbreak; therefore, we know that the central government encountered information asymmetry. Meanwhile, the local government stipulated that 'without authorization, no unit or individual is allowed to release treatment information to the public' through administrative discretion, and administrative discretion aggravated the information asymmetry between the government and the public through unconventional operation. Because of information asymmetry, both vertical and horizontal supervisory mecha-

nisms lost efficacy; then, the government of H Province was in the appropriate organizational field, so there was a lack of impetus to release early-warning information.

Third, the organizational incentive was weak. In the control and prevention of the COVID-19 outbreak, a strong or weak organizational incentive for the local governments of H Province refers to the strength or weakness of the negative incentive of the 'veto right', not a 'positive' incentive. In the first phase, local governments' early-warning information release took place under a weak organizational incentive condition, which means that early-warning information release was not taken as the 'veto right' index for the performance appraisal of local government officials. Thus, because the early-warning information release might have increased the uncertainty and complexity of social governance in a later period, the local governments were inclined to not release early-warning information.

Rationally speaking, local governments should have no motivation to hinder others from releasing information, but in fact, the opposite is true. From the local government perspective, releasing early-warning information about major epidemic outbreaks is extremely likely to lead to social instability, and maintaining social stability has long been an important target for local governance in China. In local government performance appraisal systems, the incentive is strong owing to the 'veto right'; thus, local governments are burdened with 'infinite responsibilities'. Therefore, to avoid unknown political risks and responsibilities, they will hinder others from releasing early-warning information. With a clear organizational goal and appropriate organizational field, maintaining social stability displaces the goal of epidemic prevention and control. That is, a strong organizational incentive displaces a weak organizational incentive, and the local government's early-warning information release behavior is still 'not releasing'. Thus, H1 is validated.

3.2.2 Phase two: Behavioral logic of local governments' partial release

First, the organizational goal was clear. The organizational goal was still that the local government should manage the major epidemic outbreak in its jurisdictional area, and it was the local government's responsibility to release early-warning information.

Second, the organizational field was relatively inappropriate. State leaders issued important instructions, the higher-level government departments took special governance actions, and the media and public gradually intensified their supervision of the control and prevention work of the local governments (see Table 2). At that time, the local governments were unable to monopolize the early-warning information, the degrees of vertical and horizontal information asymmetry were weakened, and the supervisory mechanism operated effectively. Although the release of early-warning information might have increased the later uncertainty and complexity of social governance, based on the abruptness and exogeneity of epidemic outbreaks and the fact that the central government had already fully intervened in epidemic prevention and control, the release of early-warning information transitioned to neutral behavior

that would not add additional political risk to the local government. Thus, it released early-warning information under the requirement of the organizational goal for a major epidemic outbreak.

Third, the organizational incentive was relatively weak. Although the goal was clear and the field was inappropriate, the local governments released only partial early-warning information. The most important reason was that whether the early-warning information was released in detail had less effect on political achievement and the promotion of officials, and local governments exhibited ‘partial release’ behavior. Thus, H2 is validated.

3.2.3 Phase three: Behavioral logic of local governments’ full release

First, the organizational goal was clear. The organizational goal was still that the local government should manage the major epidemic outbreak in its jurisdictional area, and it was the local government’s responsibility to release early-warning information.

Second, the organizational field was extremely inappropriate. COVID-19 had been spreading across the world, and some relevant papers had been published in top international journals, which attracted worldwide attention. The epidemic outbreak had gradually evolved into a global public health event. The World Health Organization paid more attention to the outbreak and joined the control and prevention efforts in China. The central government exerted increasing pressure on local governments to undertake epidemic prevention and control work. Faced with cross-supervision from both inside and outside China, the local governments dared not conceal epidemic information.

Third, the organizational incentive was relatively strong. The party secretary of the Health Commission of H Province was removed from office, and the positions of the director of the Health Commission of H Province, the secretary of the Provincial Committee of H Province, and the secretary of the W City Municipal Committee were adjusted in succession. This meant that the central government took a special governance action – appraisal on the basis of a single task – and the control and prevention of the outbreak became a ‘veto right’ index for appointing and removing local officials. As an important aspect of control and prevention, officials risked a ‘veto’ if they did not fully release early-warning information; thus, the local government was inclined to release early-warning information fully and in detail. Thus, H3 is validated.

The early-warning information release behavior of local governments in H Province in the three phases validated the three hypotheses (H1, H2 and H3). The behavioral logic is shown in Figure 1.

We can infer that without responsibility in places within its jurisdiction or the organizational goal, a local government may be exempted from the obligation to release early-warning information. Regardless of the organizational field and organizational incentive, local governments will not release early-warning information. In conclu-

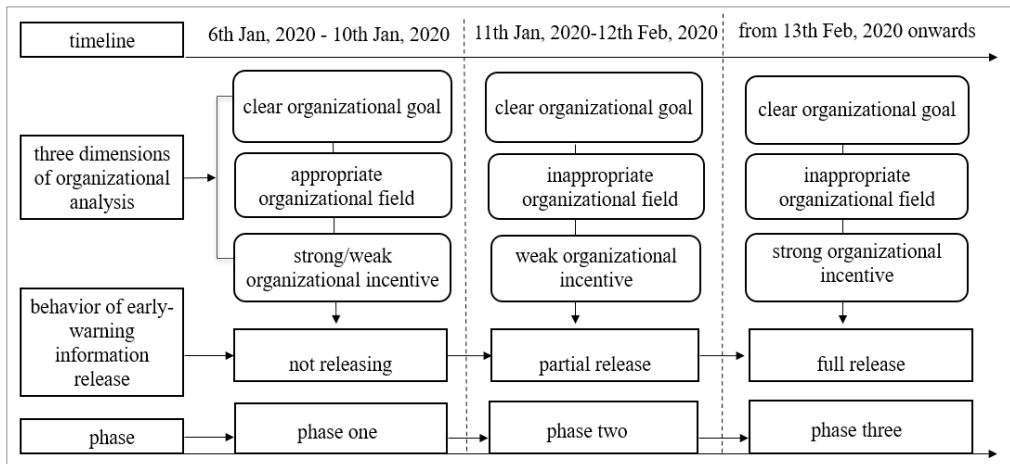


Figure 1: Behavioral logic of local governments' early-warning information release regarding major epidemic outbreaks in the three-dimensional organizational analytical framework

Source: Authors' own work

sion, Chinese local governments' behavioral logic of early-warning information release is shown in Table 4.

Table 4: Chinese local governments' behavioral logic of early-warning information regarding major epidemic outbreaks

Hypothesis Code	Organizational goal	Organizational field	Organizational incentive	Behavior	Phase
/	unclear	appropriate; inappropriate	strong; weak	not releasing	/
H1	clear	appropriate	weak	not releasing	Phase one: release for the purpose of control and prevention
H1	clear	appropriate	strong	not releasing (& impeding the release)	Phase one: release for the purpose of maintaining social stability
H2	clear	inappropriate	weak	partial release	Phase two: release for the purpose of control and prevention
H3	clear	inappropriate	strong	full release	Phase three: release for the purpose of control and prevention

Source: The authors

Further analysis shows that, first, whether the organizational goal is clear determines whether a local government 'should' release early-warning information. The legal basis of local governments' behavior is provided by legally clear-cut jurisdictional area management responsibility, or the organizational goal, and local governments' rights and obligations are specified as well. Second, whether the organizational field is appropriate determines whether a local government 'will' release early-warning information, and a three-dimensional supervisory environment is not

only a significant effective institutional safeguard for local governments but also an external condition that encourages local governments to release information. Third, whether the organizational incentive is strong will influence whether a local government is ‘willing’ to release early-warning information because an appropriate organizational field directly determines that early-warning information will not be released. Therefore, we do not have the foundation for discussing whether local governments are ‘willing’ or ‘unwilling’, and only in the inappropriate organizational field does it make sense to discuss this issue.

Thus, the organizational goal is the logical starting point of early-warning information release, the organizational field is both the critical juncture of the release and the prerequisite of the organizational incentive, and the organizational incentive is the logical end point of the release. Based on the whole organizational analysis process, we find that the organizational goal-organizational field-organizational incentive sequence reflects the sequence and interactive relationship of the behavioral logic of early-warning information release regarding major epidemic outbreaks.

4. Conclusion and discussion

4.1 Conclusion

Focusing on Chinese local governments’ organizational behavior of early-warning information release regarding major epidemic outbreaks, from the perspective of organizational element allocation, this paper constructs a three-dimensional organizational goal – field – incentive framework, including their sequence and interactive relationship, to explore Chinese local governments’ behavioral logic of early-warning information release regarding major epidemic outbreaks.

This research suggests that different combinations of the three factors (i.e., a clear or unclear organizational goal, an appropriate or inappropriate organizational field, and a strong or weak organizational incentive) result in Chinese governments’ different early-warning information release behaviors and determine different behavioral strategies, such as whether Chinese governments should or should not, will or will not, and are willing to or unwilling to release information. In Chinese local governments’ early-warning information release, the organizational goal and organizational incentive are the starting point and end point of the behavioral logic, respectively, while the organizational field is both the critical turning point of early-warning information release and the prerequisite of the organizational incentive. The sequence of the three organizational factors reveals the sequence and interactive relationship of the behavioral logic of early-warning information release.

The specific combination of organizational goals, organizational fields, and organizational incentives can continuously construct the governance behaviors of local governments in a relatively stable manner. Thus, when the organizational field is appropriate and organizational incentives are absent, the behavior of not releasing or partially releasing information will continue to exist during other major epidemic

outbreaks in the future. However, a reasonable organizational design can ensure the full release of early-warning information by local governments.

4.2 Implications for organizational design

Although China has had some federalist features in very few institutions, such as the fiscal system, at this stage, the vast majority of Chinese institutions (including those in the medical and healthcare sector) are characterized by a close combination of centralization and decentralization (Zhou, 2014). It is widely believed in the academic community that owing to their faster forecasting, absorption, adaptation to, and recovery from the hazardous effects, decentralized governance gives local governments greater flexibility and thus stronger resilience or better restoration capacity when faced with the disruption of major public health events. However, given the significant asymmetry between the organizational goals and organizational incentives, local governments lack sufficient incentives to respond positively to the demand of early-warning information release, leading to exponential increases in the magnitude of public health hazards and delayed recovery. China's governance structure gives it the advantage of being able to concentrate all resources on major tasks, which means it can recover from and gain control of an existing public health emergency relatively faster through top-down campaign-style governance (a reactive post-event compensation mechanism). However, it is imperative to proactively improve the adaptive governance capacity of local governments in dealing with major public health events from the fundamental level of organizational design.

First, a strong incentive system of 'incentive compatibility' should be designed. The central government and local governments are in a top-down principal-agent relationship, with the central government delegating organizational goals through a vertical administrative subcontract while governing officials through the power of appointment, appraisal, and removal of personnel. Therefore, a strong incentive system featuring 'incentive compatibility' can be designed to guide the behavior of local governments. For example, the central government can adopt a 'veto right' system based on major epidemic governance that makes the governance performance of local government officials during a major epidemic mandatory for promotion, so that officials who are concerned about their career would be guided to competently perform the task of major epidemic governance by treating it as an important organizational goal.

To prevent the phenomenon of goal displacement as a result of strong incentives, the intensity of incentives should be coordinated with information effectiveness. An incentive-matched appraisal system capable of providing enough information for performance appraisal should be established. In addition, the central government should offer help to local governments to enhance their capability of goal realization and to better cope with the pressure they face during major epidemics.

Second, the information asymmetry between the central and local governments should be reduced. To address the lack of constraint on and supervision of local gov-

ernments' behavior due to the information disadvantage of the central government under the principal-agent model, a negative feedback mechanism and a dynamic information monitoring mechanism with the participation of multiple subjects should be established. For example, a vertical bottom-to-top feedback mechanism can be established by taking advantage of the vertical compartmentalization between higher-level functional authorities and their local subordinate departments to bypass the information intervention of local governments and achieve the timely communication of information and real-time management.

Third, it is necessary to properly restrain the discretionary power acquired by local governments along with the organizational goal through jurisdictional subcontracts and then deposited in local governments. Although discretionary power can improve the adaptability of local governments at the grassroots level, it also increases the possibility of choices adverse to organizational interests that are driven by personal interests or pressured by 'guanxi' in Confucian culture. By rolling out relevant laws and regulations that promote the standardized adaptive response behavior of local governments and formulating exoneration clauses based on such behavior, the central government can gradually narrow the discretionary space of the local governments.

The three-dimensional organizational analysis framework proposed in this research is applicable only to explaining behavior regarding the release of early-warning information about major public health emergencies by local governments (especially in developing countries) that are embedded in a governance structure featuring the principal-agent relationship, vertically decentralized authoritarianism, or a close combination of centralization and decentralization.

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