Research Article

Intelligent Sensor Network Using Internet of Things in Urban Community Network Governance

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Received 16 June 2022; Revised 19 July 2022; Accepted 21 July 2022; Published 3 August 2022

1. Introduction

Governance, social governance, and global governance are ideological trends and theoretical trends emerging and developing in recent years, and their backgrounds are quite complex. Under the influence of governance theory, the topic of urban and rural grass-roots community governance has also been put on the agenda [1]. The current management of urban communities in China is undergoing a historical change from social control to community governance, just as many countries have experienced or are experiencing. However, the environment and problems faced by urban and rural community governance in China are also unique. It is an issue that all subjects of community governance must understand and pay attention to [2, 3]. With the development and wide application of the intelligent Internet of things (IoT), how it can help the modernization of social governance has become an important topic. Under the background of a new round of scientific and technological revolution, intelligent sensor network technology provides new opportunities and challenges for “mobile society” governance and intelligent governance community construction. With its assistance, urban emergency management can be improved, the urban operation can be perceived, and social risks can be predicted. It can also better guide and strengthen the dialogue in the public area and realize the benign interaction among multiple subjects of social governance, which helps form a joint force and promote the modernization of the social governance system and governance capacity [4–6].
intelligent IoT mainly comes from the intensive and changeable control requirements of “material flow.” The reason is that the real-time optimization of “material flow” requires very high management costs, and the traditional manual management method is almost impossible to realize [7, 8]. With the rapid progress and wide application of contemporary artificial intelligence technology, intelligent sensor network technology makes it possible to manage the “flow of things” in real time, greatly improving efficiency and reducing labor costs [9].

Scholars in different fields will inevitably understand “governance” differently based on their own academic backgrounds. Chen et al. integrated the “cooperation concept” with “network governance” and believed that network governance was formed by the cooperative management of the whole society and the government [10]. Hütten studied the relationship between the government and society in network governance and believed that the two have common governance goals and cooperate with each other to achieve the governance goals [11]. Cooper et al. discussed the community governance mode under the cooperative network mode and believed that under this mode, the governance status of the government and society under the unified goal of cooperative governance was equal [12]. Jalali Khan Abadi et al. studied the internal system of network governance and believed that the network was an organization with a motivation orientation, which was related to reasonable institutional adjustment [13]. Khayatzadeh-Mahani et al. explored the goal of network governance and believed that its root cause was the failure of government governance. The network constituted the intermediate link layer between the government and society [14]. Šiugždiniénë et al. studied the importance of citizens to public governance from the perspective of people’s participation in public governance and found that community knowledge activists played an important role in community governance [15]. Brock studied the joint governance of public management departments and some nonprofit organizations and found that cooperative management among organizations provided a direction for improving governance efficiency and interorganizational competitiveness [16]. Gjaltema et al. explored the deficiencies of current community governance in China and found that the root causes were the unity of grass-roots departments of governance and the decentralization of government and society to citizens [17]. Samuels found that network cooperation was a more process-oriented form on the premise of focusing on results when studying the operation mechanism of the US government [18]. da Cruz et al. carried out theoretical practice on urban governance in the United States, put forward the theoretical concept of multilateral governance, and adopted new collaborative activities to manage public conflicts [19].

Most of the above scholars’ studies are in the research stage of governance theory, with few research results. Moreover, there is no corresponding research on community governance under the social development of the information age. This exploration is to conform to the development of the times and study a new way of urban community network governance. First, it discusses the ways of governance, social governance, urban community governance, and urban community network governance. Next, the function of the intelligent sensor of IoT technology is applied to realize the communication between IoT and urban community network governance, and an urban community network governance system based on the intelligent sensor network is established. The system combines Kalman filtering to realize the dynamic monitoring of the mobile Application (APP) of the urban community residents and can update and process the collected information in real time. Finally, this exploration conducts a survey on the satisfaction of residents in a community in Jiaozuo City, Henan Province, in 2019 on community network governance under IoT. It compares and analyzes the efficiency and ability of urban community network governance under different network modes.

Section 1 describes the social and technical background of urban community network governance, quotes relevant scholars to elaborate on community governance in multiple aspects, and leads to the main research content and research framework. Section 2 mainly cites the intelligent sensor communication technology of the IoT to promote community network governance. Section 3 analyzes the satisfaction of urban community governance under the intelligent sensor network, compares and analyzes the efficiency and ability of urban community network governance under different network modes, and puts forward the specific methods and related measures of urban community network governance. Section 4 summarizes the research results of this exploration.

2. Community Network Governance of Intelligent Sensor Network Communication Technology Based on IoT

2.1. Related Concepts and Theories of Urban Community Network Governance. With regard to promoting the modernization of China’s community governance system and governance capacity, 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 and promote the modernization of the national governance system and governance capacity. The report of the 19th National Congress of the Communist Party of China pointed out that socialism with Chinese characteristics has entered a new era. The main contradiction in Chinese society has been transformed into the contradiction between the development and growth of the people and the party’s good life. Social development is unbalanced and insufficient. Figure 1 is a common way of social governance in China.

In Figure 1, the source of social governance is that China has entered a period of frequent social problems and contradictions. There are problems, such as the widening gap between the rich and the poor, unfair income distribution, frequent public security problems, corruption, the frequent occurrence of major and important cases, and the high number of criminal cases. The frequent occurrence of group events has caused many social contradictions, which has
aroused the comprehensive concern of the society to carry out social governance. The purpose of governance is to adapt to the new development environment and needs and establish cooperative relations based on market principles, public interests, and participation. The most advanced good governance theory in governance theory emphasizes “public management of public affairs” and defines public management as a process in which all stakeholders such as government, social organizations, community units, enterprises, and individuals participate and coordinate their actions. It means benign interaction and coordinated governance between the state and society. Therefore, the establishment of collective decision-making and public participation systems, the strengthening of public choice and public game, and the realization of responsibility sharing, benefit sharing, and right coordination are the main demands of the latest governance theory, as well as the public goals of social, community, and other governance stakeholders [20]. Figure 2 shows the characteristics of the new governance model.

Figure 2 shows that the characteristics of the new governance model are mainly multigovernance and common governance. Table 1 is the difference between management and governance.

Community governance refers to the effective management of public affairs of the community’s common interests by the government, social organizations, and autonomous organizations in the community through consultation, coordination, and interaction in accordance with formal laws, regulations and informal community norms, and conventions and regulations. Its purpose is to enhance community cohesion, enhance community members’ social welfare, and promote community development. Figure 3 is the meaning of community governance.

Figure 3 displays that community governance refers to activities or management mechanisms in community public affairs supported by common goals. Its behavior subjects are diverse. The goal of community governance is to complete the specific tasks of economic and social development and pay more attention to the education of the basic quality of community personnel. Public affairs in the community is a behavior direction and a wide range of areas related to the vital interests of members. The running direction of community governance rights is a multidimensional and interactive process. Instead of achieving the management objectives by issuing orders and formulating and implementing policies, it establishes the recognition of the common objectives through negotiation and cooperation, collaborative interaction, and collaborative construction. Then, it is essential to rely on people’s inner acceptance and identification to take joint action to conduct good governance of community public affairs. The multidimensional and interactive process makes the community governance come from people’s consent and recognition, rather than from external coercion and pressure.

However, it is difficult for the urban community governance network to predict the public crisis in the traditional way. The main reasons are as follows. On the one hand, the focus of the current community governance network is to find individual (crowd) behavior, rather than mining their ideas. On the other hand, although the community governance network can monitor public opinion, it is difficult for the existing community governance network to accurately
handle conflicts and predict crises, because most people keep silent intentionally or unintentionally, or people with minority opinions speak louder and more frequently. IoT, as an intelligent service integrating public services and civil dispute mediation, is of great significance for early detection of potential social conflicts. Generally, the more homogeneous the dispute is, the higher the potential social risk is. For example, the community residents’ consultation system and even the community residents’ voting mechanism can be introduced in the community-based dispute mediation system. Furthermore, superior appeal channels, a cross-community system, and a resident jury mechanism can be introduced into contradictions and disputes that are difficult to resolve at the community level. This process can also

Table 1: Difference between management and governance.

| Difference                        | Management                  | Governance                                      |
|-----------------------------------|-----------------------------|-------------------------------------------------|
| Different subjects                | Government                  | Governments, social organizations, and individuals |
| Different weight sources          | Authorization of authority  | Some are directly authorized by the people, and some are authorized by organs of power |
| Different operation               | Unidirectional, mandatory, rigid | Compound, cooperative, and inclusive               |
| Different effectiveness           | Difficult to guarantee      | Enhanced effectiveness                           |

Figure 2: Characteristics of the new governance model.

Figure 3: The meaning of community governance.
provide data support for capturing public opinion [21]. A network organization is an institutional arrangement between society and the market, also known as an intermediate organization. Figure 4 shows the structure of community network governance.

Figure 4 shows the network structure of community governance, which mainly refers to the conflicts (interest conflicts, resource conflicts, and goal conflicts) between multiple communities in the process of governance. The conflicts between various community networks have an impact on community governance. Under the environmental control of internal community governance, a complex community network governance structure has been formed.

How to effectively govern this organization has become a special concern in the current academic circles. The key problem to be solved is how to ensure the orderly operation of the network organization and how to turn the expected synergy of all parties' cooperation into reality. Figure 5 is the idea of network governance.

All network governance paths in Figure 5 are complex operating systems with governance objectives as the guide, governance structure as the framework, governance mechanism as the core, governance model as the path, and
Network governance is the governance of network organizations. The theme of governance behavior is multiparty cooperation. The governance object is a new form of network organization. The process of governance is self-governance with the characteristics of self-organization. Figure 6 shows the community network governance mechanism.

2.2. Intelligent Sensor Network Communication Function Combined with IoT. IoT refers to a network that uses Internet technology to realize the communication and interconnection between objects and people to realize intelligent identification, positioning, tracking, monitoring, and management. It is an extension and expansion based on the Internet. From the simple network between people, it has expanded to “the interconnection between people” and “the interconnection of all things.” Table 2 is the characteristic of IoT.

Table 2 reveals that the sensor is the main tool for obtaining information. In the traditional sense, most of the sensor’s outputs are analog signals, which do not have the function of signal processing and networking. They need to be connected with specific measuring instruments to complete signal processing and transmission functions. The intelligent sensor can process the original data internally, exchange data with the outside world through the standard interface, and change the working mode of the sensor through software control according to the actual needs to realize intelligence and networking. Because of the standard bus interface, the intelligent sensor has good openness and scalability, which brings a lot of development space for the system’s expansion. Figure 7 presents the structure of the intelligent sensor network.

Figure 7 displays that the intelligent sensor system is mainly composed of sensors, microprocessors, and related circuits. The sensor converts the measured physical and chemical quantities into corresponding electrical signals, which are sent to the signal modulation circuit, filtered, amplified and analog to digital converter (A/D) converted, and then sent to the microprocessor. The microprocessor uses Read-Only Memory (ROM), Random Access Memory (RAM), and other information processing software to calculate, store, and analyze the received signals. On the one hand, it adjusts the sensor and the signal conditioning circuit through the feedback loop to realize the adjustment and control of the measurement process. On the other hand, after the output interface is processed by the interface circuit, it is output through Digital-to-Analog (D/A) conversion. The digital measurement results are customized according to the output format and interface [22]. Table 3 displays the network functions of intelligent sensors.
According to the functional application of the intelligent sensor network in Table 3, the communication between the intelligent sensor network and urban community network governance is realized. Figure 8 is the networking block diagram of intelligent sensors and community networks.

### Table 3: Network functions of smart sensors.

| Functions                        | Content                                                                 |
|----------------------------------|-------------------------------------------------------------------------|
| Composite sensitive function     | It can measure various physical and chemical quantities simultaneously and give information that can comprehensively reflect the law of material movement. |
| Adaptive function                | It can prolong the service life of components or devices and expand their working fields simultaneously. It can automatically adapt to different environmental conditions. |
| Information storage function     | It can store massive information (including the historical information of the device), and users can query it at any time. |
| Data processing function         | It can digitize the signal and realize signal adjustment with software. |
| Configuration function           | It can make the same type of sensor work in the best state and do different work on different occasions. |
| Digital communication function   | It can effectively manage the transmission of information so that data are output only when needed. |
| Self-check, self-calibration, and self-diagnosis functions | The online measurement sensor can be calibrated online according to the service time. |

According to the functional application of the intelligent sensor network in Table 3, the communication between the intelligent sensor network and urban community network governance is realized. Figure 8 is the networking block diagram of intelligent sensors and community networks.

#### 2.3. Urban Community Network Governance System Based on Intelligent Sensor Network Communication Technology

The core of intelligent sensor network technology is “perception,” “interconnection,” and “intelligence,” which provides a feasible technical path for improving the level of urban management. An intelligent community governance network is built with IoT technology to achieve higher dimensional goals such as restructuring the public sphere, negotiating public interests, and bridging social cracks. The public service network is optimized through intelligent big data analysis in intelligent sensor networks, and an active management model based on people’s service needs is built to make community governance more efficient. The transformation from individual-based governance to metagovernance based on a smart society is promoted. A new social governance model, supported by multidimensional and multiscenario smart technology, is explored, and a multiparty smart governance community is built. Intelligent sensor network communication technology is adopted to build a service-oriented intelligent IoT detection and early warning platform covering prewarning, in-process disposal, and postreference to improve urban emergency management. It is essential to network the personal factors. Through the data fusion of intelligent IoT, public service networks, and social governance networks, the government can perceive the urban operation, understand the demands of community residents, and predict social risks. Figure 9 is an IoT-based urban community network governance system.

The system supports recommended standard (RS) 485, Transmission Control Protocol (TCP)/Internet Protocol (IP), and other communication methods to meet the selection requirements of community network service items. It provides various standard interfaces downward, opens the docking protocol upward, realizes resource sharing and
information exchange under the unified coordination of comprehensive management, and realizes the unified configuration and monitoring of the system to achieve the purposes of convenient network management, intuitive data, and community business integration. The system requires multiple sensors to conduct information processing. Kalman filtering is used to realize the dynamic monitoring of mobile APP of residents in the urban community, and the collected information can be updated and processed in real time [23].

A linear differential equation can describe the discrete control process, which is affected by additive white Gaussian noise. Equation (1) is the state equation of the system:

\[ x(k+1) = F(k)x(k) + G(k)u(k) + v(k), \quad k = 0, 1, \cdots, n. \]  

(1)

In (1), \( F(k) \) is the state transition matrix, \( G(k) \) is the input control weighting matrix, and \( x(k) \in \mathbb{R}^n \) is the state vector. \( u(k) \) is the known input vector, and \( v(k) \in \mathbb{R}^n \) is the white noise of the zero mean Gaussian process. Equation (2) is the calculation process:

\[ E[v(k)] = 0, E\left[\left(v(k)v(k)^T\right)\right] = Q(k). \]  

(2)

In (2), \( Q(k) \) is the state vector after Gaussian transformation. Equation (3) is the system measurement equation:

\[ z(k) = H(k)x(k) + w(k). \]  

(3)

In (3), \( z(k) \in \mathbb{R}^n \) is the observation vector, \( H(k) \) is the measurement transfer matrix, and \( w(k) \in \mathbb{R}^n \) is the white noise of the zero mean Gaussian process. Equation (4) is the calculation process:

\[ E[w(k)] = 0, E\left[\left(w(k)w(k)^T\right)\right] = R(k). \]  

(4)

In (4), \( R(k) \) is the state vector after Gaussian transformation. The system may change with time, so the noise may
also be nonstationary random noise. If the process noise is uncorrelated with the measurement noise sequence and the initial state, the optimal estimation at time $k + 1$ can be obtained by combining the state prediction results and the state measurement results at time $k + 1$. It is essential to realize the measurement and prediction of status and ensure the update of system status.

3. Result Analysis

3.1. Investigation and Analysis of the Satisfaction of Urban Community Network Governance in the IoT Era. A survey is conducted on the satisfaction of residents of a community in Jiaozuo City, Henan Province, in 2019 on community network governance under the IoT. Overall, 150 community residents in the community are surveyed. According to the community environment, community service, community health, community culture, the relationship between community and residents, and the relationship between the street where the community is located and residents, the satisfaction survey of community residents on the IoT urban community network governance is mapped. Figure 10 shows the satisfaction results.

Figure 10 shows that the residents of this community are satisfied with the results of IoT-based urban community network governance services. Moreover, the community residents have the highest satisfaction evaluation on the community environment, community service, the relationship between the community and residents, and the relationship between the street where the community is located and the residents. The average satisfaction evaluation is 30.30%, 29.43%, 30.10%, and 32.63%, respectively. The evaluation of the satisfaction of community culture is the lowest, with an average of 19.80%. Generally, the community has improved the needs of community residents through IoT network governance in many aspects, but the service level of community culture is not high. The community needs to strengthen the network publicity of community culture to improve the cultural level of the community.

3.2. Analysis of the Ability of Urban Community Network Governance under Different Governance Modes of IoT. This exploration compares the efficiency and ability of urban community network governance through three network models: public participation, community-led, and network organization management. Figure 11 is the capacity analysis
of urban community network governance under different governance modes based on IoT.

Figure 11 shows that the average comprehensive governance capacity of the public participation network governance model is 34.10%. The comprehensive governance ability of the community-led network governance model is the lowest, with an average of 22.35%. The network governance model under network organization management has the highest comprehensive governance ability, with an average of 50.93%. It suggests that the network organization management model supported by IoT is superior to other network organization models in terms of residents’ participation in community network governance, recognition of network governance objectives, trust between community networks, and network capabilities.

3.3. Suggestions on Urban Community Network Governance.

To innovate new ways of urban network governance and open up new paths for community services, Jiaozuo should actively create a “IoT+party building+N” service model and upgrade offline services to “smart services at the fingertips.” Moreover, it is essential to promote and run the “handheld smart village and community” service applet in different city districts, counties, and communities. Online highlighting of “family treasures,” online talking and discussion, and online linkage solutions can timely respond to and solve residents’ water supply and heating, property services, environmental sanitation, and transportation problems. It is essential to focus on improving party building, leading grassroots governance, and comprehensively improving community residents’ sense of security and happiness.

In the community network governance in different regions, according to the requirements of “regional layout, equal tasks, convenient management, and clear definition,” communities are divided into different types according to the actual situation of the community, such as self-management and unit-based management. Community unit leaders and community police are responsible for the implementation of various works within the network governance. The team leader and the community police take the lead in contacting each unit’s heads and coordinating the provision of various services for residents between the community and the heads of units.

In network security management, each community should strengthen community residents’ awareness of network security, popularize network security knowledge to community residents on time, and create a healthy and civilized network environment. The community can conduct network security publicity activities. During the activity, the community can invite the community police to popularize the network security knowledge, teach the network security protection skills to the residents, and carry out the national network security publicity and education in the form loved by the public.

In terms of community network operation, each community should constantly improve the community network operation mechanism and strive to create a community network governance model with Jiaozuo characteristics. It is essential to take different community networks as the per-
ception tentacles for collecting information and discovering risks, the frontier for resolving contradictions and hidden dangers, and the service window for people to benefit and solve problems and improve the level of community network governance.

4. Conclusion

This exploration studies the construction of urban community network governance by using intelligent sensor network technologies and conducts a satisfaction survey of a community resident in Jiaozuo City, Henan Province, on community network governance under the IoT in 2019. The results reveal that residents of the community have the highest satisfaction rating on the community environment, community service, the relationship between the community and residents, and the relationship between the neighborhood where the community is located and residents. Most of the community residents are satisfied with the results of IoT urban community network governance services. Frey and Ramirez studied the urban community network governance, which is joint governance from the government, community, society, and other organizations, using the function of network self-learning. They found that the urban community network governance has entered a virtuous cycle, improving the level of community interaction [24]. The results are consistent with the results of this exploration, which have improved the satisfaction of community residents with community network governance. However, the difference between this exploration and other studies is the use of intelligent sensor network technology for urban community network governance, which highlights the technical advantages of community network governance.

The urban community network governance with different network organization modes is carried out in urban community governance. It is found that the network organization management mode supported by the IoT is better than the public participation and community-led network organization mode on residents’ participation in community network governance, recognition of network governance objectives, trust between community networks, and network capability. Tansel studied the transformation of the urban community governance model and found that the multiparty joint governance model was conducive to promoting urban community governance [25]. This exploration uses intelligent sensor network technology and multiparty resources to carry out community network governance, which is better than single-party dominated community governance, and highlights the governance result advantages of this exploration’s community network governance.

This exploration provides direction for IoT urban community network governance and constructs an IoT-based urban community network governance system. However, in the process of urban community network governance, this exploration mostly considers the multiple participation of communities, society, and individuals and less considers the impact of the local government governance system. Therefore, the community network governance in different regions also needs to be analyzed and studied in combination with...
the local government governance system. Future research can integrate the information of community networks in different regions and conduct further research on urban network governance.

Data Availability

The dataset used in this paper is available from the corresponding author upon request.

Conflicts of Interest

The authors declared that they have no conflicts of interest regarding this work.

References

[1] L. O. Gostin, S. Moon, and B. M. Meier, “Reimagining global health governance in the age of COVID-19,” American Journal of Public Health, vol. 110, no. 11, pp. 1615–1619, 2020.

[2] N. J. Bennett, A. Di Franco, A. Calò et al., “Local support for conservation is associated with perceptions of good governance, social impacts, and ecological effectiveness,” Conservation Letters, vol. 12, no. 4, article e12640, 2019.

[3] J. Xie, W. Nozawa, M. Yagi, H. Fujii, and S. Managi, “Do environmental, social, and governance activities improve corporate financial performance?,” Business Strategy and the Environment, vol. 28, no. 2, pp. 286–300, 2019.

[4] R. Hao and K. Jiang, “System implementation and optimization strategy of social governance modernization—taking Chengdu as an example,” Frontiers in Economics and Management, vol. 2, no. 9, pp. 77–86, 2021.

[5] M. Liu, B. Zhang, and J. Bi, “Appreciating the role of big data in the modernization of environmental governance,” Frontiers of Engineering Management, vol. 9, no. 1, pp. 163–169, 2022.

[6] K. Liu, “Research on the modernization of national governance in response to public health emergencies,” Scientific and Social Research, vol. 3, no. 3, pp. 123–128, 2021.

[7] A. Zielonka, A. Sikora, M. Wozniak, W. Wei, Q. Ke, and Z. Bai, “Intelligent internet of things system for smart home optimal convection,” IEEE Transactions on Industrial Informatics, vol. 17, no. 6, p. 4308, 2020.

[8] L. Nie, Z. Ning, M. S. Obaidat et al., “A reinforcement learning-based network traffic prediction mechanism in intelligent internet of things,” IEEE Transactions on Industrial Informatics, vol. 17, no. 3, pp. 2169–2180, 2020.

[9] D. Del Gaudio and P. Hirmer, “A lightweight messaging engine for decentralized data processing in the internet of things,” SICS Software-Intensive Cyber-Physical Systems, vol. 35, no. 1, pp. 39–48, 2020.

[10] B. Chen, J. Ma, R. Feiock, and L. Suo, “Factors influencing participation in bilateral interprovincial agreements: evidence from China’s pan pearl river delta,” Urban Affairs Review, vol. 55, no. 3, pp. 923–949, 2019.

[11] M. Hütten, “The soft spot of hard code: blockchain technology, network governance and pitfalls of technological utopianism,” Global Networks, vol. 19, no. 3, pp. 329–348, 2019.

[12] T. Cooper, C. Stavros, and A. R. Dobele, “The levers of engagement: an exploration of governance in an online brand community,” Journal of Brand Management, vol. 26, no. 3, pp. 240–254, 2019.

[13] T. Jalali Khan Abadi, S. M. Alvani, R. Vaezi, and V. Ghordanizadeh, “Designing a network governance model in Iran’s health care system,” Iranian Journal of Management Studies, vol. 15, no. 58, pp. 1–30, 2020.

[14] A. Khayatzadeh-Mahani, A. Ruckert, R. Labonté, P. Kenis, and M. R. Akbari-Javar, “Health in all policies (HiAP) governance: lessons from network governance,” Health Promotion International, vol. 34, no. 4, pp. 779–791, 2019.

[15] J. Šiugždinienė, E. Gaulė, and R. Rauleckas, “In search of smart public governance: the case of Lithuania,” International Review of Administrative Sciences, vol. 85, no. 3, pp. 587–606, 2019.

[16] K. L. Brock, “Government and non-profit collaboration in times of deliverology, policy innovation laboratories and hubs, and new public governance,” Voluntas: International Journal of Voluntary and Nonprofit Organizations, vol. 31, no. 2, pp. 257–270, 2020.

[17] J. Gjaltema, R. Biesbroek, and K. Termeer, “From government to governance… to meta-governance: a systematic literature review,” Public Management Review, vol. 22, no. 12, pp. 1760–1780, 2020.

[18] D. Samuels, “Government procurement and changes in firm transparency,” The Accounting Review, vol. 96, no. 1, pp. 401–430, 2021.

[19] N. F. da Cruz, P. Rode, and M. McQuarrie, “New urban governance: a review of current themes and future priorities,” Journal of Urban Affairs, vol. 41, no. 1, pp. 1–19, 2019.

[20] F. Jiang and K. A. Kim, “Corporate governance in China: a survey,” Review of Finance, vol. 24, no. 4, pp. 733–772, 2020.

[21] J. Pang, Y. Huang, Z. Xie, J. Li, and Z. Cai, “Collaborative city digital twin for the COVID-19 pandemic: a federated learning solution,” Tsinghua Science and Technology, vol. 26, no. 5, pp. 759–771, 2021.

[22] H. Zhang, W. Han, K. Xu et al., “Metallic sandwiched-aerogel hybrids enabling flexible and stretchable intelligent sensor,” Nano Letters, vol. 20, no. 5, pp. 3449–3458, 2020.

[23] H. Ahmed, S. Bircik, and M. Benbouzid, “Linear Kalman filter-based grid synchronization technique: an alternative implementation,” IEEE Transactions on Industrial Informatics, vol. 17, no. 6, pp. 3847–3856, 2020.

[24] K. Frey and D. R. C. Ramirez, “Multi-level network governance of disaster risks: the case of the Metropolitan Region of the Aburra Valley (Medellin, Colombia),” Journal of Environmental Planning and Management, vol. 62, no. 3, pp. 424–445, 2019.

[25] C. B. Tansel, “Reproducing authoritarian neoliberalism in Turkey: urban governance and state restructuring in the shadow of executive centralization,” Globalizations, vol. 16, no. 3, pp. 320–335, 2019.