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An evolutionary note on smart city development in China

Key words: Smart city; Urbanization; Driving forces

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Motivation

- ☐ The continuous urban population growth posed significant challenges to limited resources of cities. The traditional governance model cannot solve the problems caused by the additional demands for transportation, medical care, education, environment, and management.
- ☐ Recently, a new urban operational and governance model—smart city, has been adopted by major cities throughout the world, by utilizing information and communication technologies to improve city services, operations, and management.
- We discuss the essence of smart cities, investigate three driving forces of smart city development in China, summarize the key features of smart cities in China and other countries, and raise four big challenges that deserve careful thoughts on building future smart cities.

Key findings

Three big driving forces behind smart city development in China

- □ Urbanization: (1) urbanization and industrialization are the two engines of modernization and economic growth; (2) China needs to shift from its heavy reliance on exports to domestic demands; (3) urbanization can catalyze regional development.
- ☐ Policies: the construction of smart cities in China can be roughly divided into four phases.



Exploration phase



Adjustment phase



Strategic phase



Comprehensive development phase

2010-2014

"Twelfth Five-Year Plan" started to encourage the development of smart cities

The Ministry of Housing & Urban-Rural Development issued the "Interim Measures for the Management of Smart City Pilots"

2014-2016

Eight ministries and commissions including the National Development & Reform Commission and the Ministry of Housing & Urban-Rural Development jointly issued the "Guiding Opinions on Promoting the Healthy Development of Smart Cities"

2016-2017

"Thirteen Five-Year Plan" proposed the concept of "Innovative Smart City"

The State Council issued the "Several Opinions on Further Strengthening the Management of City Planning and Construction"

2017-2021

The 19th National Congress of the Chinese Communist Party proposed the concept of "smart society," expanding the idea of "Innovative Smart City"

In China, all cities at or above the sub-provincial level, 95% cities at the prefecture level, and 50% cities at the county level had smart city projects

Key findings

Three big driving forces behind smart city development in China

☐ Technologies: information and communication technologies provide the essential conditions for the development of smart cities.

Concluding remarks

- ☐ The first challenge in the construction of smart cities is to coordinate the harmonious coexistence of new and old facilities and functional units.
- ☐ The smart city builders must provide alternative services that are accessible to everyone on an equal basis.
- ☐ The technology-centric and top-down features of smart cities in China may result in the sustainability issue in the long run.
- ☐ The fourth challenge is to improve the legal system to ensure that new technologies or services are not used for illegal purposes before they are properly regulated.



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