E-government in China: Bringing economic development through administrative reform

Lianjie Ma\textsuperscript{b}, Jongpil Chung\textsuperscript{a}, Stuart Thorson\textsuperscript{a,}\textsuperscript{*}

\textsuperscript{a}Information and Computing Technology Group, The Maxwell School, Syracuse University, 542A Eggers Hall, Syracuse NY 13244-1020, USA
\textsuperscript{b}School of Public Administration of Huazhong University of Science & Technology, China and Fullbright Visiting Scholar at the Maxwell School of Syracuse University, USA, 2002–2003

Available 18 November 2004

Abstract

Within China, government leaders are using information technology to drive efforts both to accelerate decentralized public administration and at the same time to enhance government’s ability to oversee key activities. The concurrent pursuit of these two seemingly paradoxical objectives is, in turn, motivated by an explicit desire to modernize and make more competitive the Chinese economy. Considering what Chinese leaders mean by ‘administrative reform’ is a key to resolving the apparent contradiction between administrative decentralization and government oversight. In particular, this paper provides a number of illustrations of how Chinese e-government initiatives can be best understood as vehicles intended to support economic development through an increasingly transparent and decentralized administration while at the same time providing the central government the information and ability to efficiently monitor and potentially steer economic activity at a more abstract level.

© 2004 Elsevier Inc. All rights reserved.

1. Introduction

Through e-government, China’s leaders expect to foster administrative reforms by transforming government functions, streamlining procedures, and enhancing administrative

\* Corresponding author.
E-mail address: thorson@syr.edu (S. Thorson).

0740-624X/$ - see front matter © 2004 Elsevier Inc. All rights reserved.
doi:10.1016/j.giq.2004.10.001
transparency. This expectation helps to resolve two seemingly contradictory objectives for e-government in China. On the one hand, leaders are striving to use e-government as an engine for economic development, and on the other hand, they want to further consolidate certain roles for the central government. This article argues that understanding what the leaders mean by “administrative reform” provides a key to resolving this seeming contradiction. To accomplish this, the authors will outline some of the e-government applications now being introduced in China. In so doing, we spend some time examining the reasons Chinese leaders have given for wanting to use information and communication technologies (ICTs) within government. In particular, we will provide evidence that administrative reform, Xìngzhèng Guănlí Tīzī Gaìgé [in Chinese three somewhat distinct concepts: (1) transforming government functions; (2) reengineering government process; and (3) enhancing government transparency] has been a driving force behind many of China’s e-government applications at both the national and local levels. This reengineering of the public administration, in turn, is motivated by a desire to stimulate economic progress. More specifically, we will suggest that within China, IT applications in government are intended to concurrently aid economic development by supporting a more decentralized and transparent public administration and to provide the central government with tools to provide the information necessary to high level government monitoring and control.

We then conclude with an overview of some of the major e-government initiatives now underway in China. While we examine applications at both the national and the local level, it is interesting that some of the most innovative projects are occurring at the local level (though sanctioned and funded by the national government). Understanding why there is such vitality at the local level provides a basis for further understanding what Chinese leaders mean by “administrative reform”.

2. Evolving perspectives on the impact of ICTs in China’s political economy

2.1. Policy environment in China for e-government initiatives

Under the leadership of the China Communist Party (CCP), the State Council, the executive body of the central government, consists of 30 ministries and commissions and 18 organizations and six offices. Almost all the local governments including 22 provinces, 8 autonomous regions, and 4 municipalities are involved in the ICT applications. Early in 1992, the general office of the State Council set out implementation plans to develop the office automation system for national administration. The State Council required governments at all level to build an office automation system in support of administrative decision making and public services. In 1993, China initiated the three Golden Projects to build sophisticated information network throughout the country. Based on this information network, the State Council of China has been conducting “Government Online Projects (GOP, Zhengfu Shangwang Gongceng)” since January 1999 to promote the applications of Internet-based technology at all levels of government.
Though many departments and local governments have been involved in diverse IT projects in China, the State Council is in charge of making the master plans, general policies, and standards for China’s e-government initiatives. The National Informatization (Guojia Xinxihua) plan is a long-run strategy for China’s e-government applications that include National Information Infrastructure, Government Online Projects, Enterprise Online Projects, and Family Online Projects. The information office of China’s State Council and Ministry of Information Industry (MII) officially initiates those projects.

China makes a “5-year plan” named the plan for “National Economy and Social Development” every 5 years. In the Tenth Five-Year Plan (2001–2005), China emphasized the importance of e-government for economic growth. The State Council also released the “5-year plan” for the construction of China’s national informatization and e-government administration in 2001. This plan provides broad policy guidance together with the general objectives of e-government application, rules and regulations, and importantly the funds for e-administration construction.

2.2. The conflicted perspectives: Economic development vs. administrative control

During the past decade, applications in government of ICTs in China have exhibited the tension between the goal of economic modernization and that of state security. There are two opposing political views on the application of ICTs in China: One sees the Internet and related technologies as vital to the long-term health of the nation’s economy, and the other that views the Internet and its associated domain, cyberspace, as an unparalleled threat to state security. These two opposing perspectives have manifested themselves in government policy, action, and public statements since the late 1980s.

According to Milton Mueller and Zixiang Tan, China’s telecommunications sector is being held back in the ongoing conflict between the old system of government monopoly and the new system based on private enterprise and global competition. On the one hand, China’s leadership wants to embrace the economic development potential of the new technology and the global trading system; on the other hand, they also want to retain traditional levels of control over national industrial policy and communication system associated with the monopoly of the past. Therefore, China has demonstrated an intense and increasing enthusiasm for the Internet, while at the same time attempting to rein in and control those elements it views as contrary to state interests.

Links between technological advances and democratization remain a powerful factor in explaining the impact of technology on the regime. Scholars, such as Geoffrey Taubman, try to put Internet development in a context of social change and threats to government control. Taubman argues that the communist government’s hold over domestic affairs would eventually be diminished by the new emerging technology. Nina Hachigian also emphasizes the threat of Internet to the one-party East Asian states. She writes, “China has so far managed to use IT to benefit its economy but will pay real political costs only during a major economic or political crisis. The truth of events would be very difficult to contain, and networks of citizens are more easily mobilized.”
2.3. The integrated perspectives: Improving economic development and administrative control

While many researchers predict that ICTs threaten and even may vanquish centralized political control, more recently some scholars have emphasized the role of information technology as a tool for simultaneously spurring economic development and administrative control. According to these scholars, China’s leaders are now developing strategies designed to leverage the Internet to strengthen the state’s capacity to govern and maintain its monopoly on power. Instead of considering Internet or related technologies as a threat, Peter Lovelock, for example, argues China’s leadership believes that the growing convergence of computers and telecommunications, and the potential this offers to create a network society, will benefit the central government by allowing it to strengthen its ability to exercise administrative control over the entire country. Dalí L. Yang even go further and argues that through judicious use of the Internet and other technologies to improve the efficiency and transparency of government, the Chinese Communist Party (CCP) may be able to use technology to stay in power.

Scholars, such as Kalathil and Boas, argue that economic development is not the only goal of Internet promotion in China. In their view, some government officials also see informatization as changing the very scope and structure of government processes and their campaign for “reform and openness.” Junhua Zhang also emphasizes the benefit of introducing the Internet into the government sector by arguing that “e-government will not only enable the leaders to monitor the public service but also enhance the information exchange between public servants, so that administrative coordination will become easier and citizens can benefit from the reduction of unnecessary procedures.”

Most of the studies focusing on the impact of ICTs on China link these advanced technologies with economic development or administrative control. ICTs have been argued to offer the tools to support expansion of market forces to bring more economic benefit to the country while at the same time permitting the central government to maintain their control. However, none of these studies provide a precise explanation of how ICTs would bring these two goals into alignment. This article emphasizes the importance of bringing about administrative reform in China’s modernization and shows how e-government could help this process. It appears only through administrative reform that China will be able to simultaneously sustain its economic development while improving its administrative capacity. In the following sections, we will analyze the main problems of the traditional bureaucratic system in China and discuss the ways that e-government might help the Chinese leaders to enhance government performance and promote economic modernization.

3. The expectations on e-government in China

Among the many promises of e-government is its potential to make governments more responsive to the needs of their citizens. In market-based democratic societies such as the
United States, this often involves applying lessons from the private sector to make government more citizen centric and service oriented. According to a report from United Nations (UN) and American Society for Public Administration (ASPA), “e-government will eventually transform the processes and structures of government to create a public administration less hierarchical, empowering civil servants to serve citizens better and to be more responsive to their needs.” E-government potentially empowers individual citizens by providing them with an alternative channel for accessing information and services and interacting with government.

While Chinese leaders also emphasize the importance of providing a better quality of service to their citizens, the major goal of e-government seems to be interestingly different than in western countries. In China, the focus of e-government has mainly been on “administrative reform (Xingzheng Guanli Tizhi Gaige).” As a consequence of a deeply centralized and often inefficient administrative management system, China has faced critical problems including overbloated structures, overstaffing, confusion between government and enterprise management, and the often unhelpful intervention of the central government in the economy. Contradictions arose and became ever more significant as administrative reform lagged behind economic reform. The application of e-government in China was intended, in part, to accelerate the government’s pace of implementing and using information and communications technologies (ICTs) to improve administrative efficiency and effectiveness and, through this administrative reform, to promote economic development and the administrative capacity (Hongguan Tiaokong Nengli) of the central government in China (see Table 1).

<table>
<thead>
<tr>
<th>United States—Management reform</th>
<th>China—Administrative reform</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Improving efficiency of government agencies - reduce costs and layers of organizational processes - restructuring the relationship among state, business, and citizens (more transactions among them) - “One-stop” shopping</td>
<td>1. Accelerating administrative reform - transformation of government functions - reengineering government processes - enhancing transparency</td>
</tr>
<tr>
<td>2. Improving government to business (G2B) - reducing friction of G2B interactions - procurement - streamline compliance practices</td>
<td>2. Promoting economic development - stimulate economic progress - attracting more foreign direct investment (FDI)</td>
</tr>
<tr>
<td>3. Improving service to citizens and enhancing governance - citizen-centric e-government - empowers individual citizens - increase social inclusion and citizen participation - enhance open communication, transparency, and democratic accountability</td>
<td>3. Increasing the supervising capacity of the Central Government - strengthening surveillance and monitoring - putting the local government under the central authority</td>
</tr>
</tbody>
</table>
3.1. “Administrative reform” in China

In China, administrative reform is a systematic innovation that emphasizes standardized behaviors, coordinated operation, transparency, and high efficiency. More specifically, administrative reform includes the following:

- transforming government functions (Zhuanbian Zhengfu Zhineng);
- reengineering government processes (Zhengfu Liucheng Chongzu);
- reorganizing government structures (Zhengfu Jiegou Chongzu);
- clarifying functions of government (Mingque Zhengfu Zhineng);
- reducing administrative examination and approval (Jianshao Xingzheng Shenpi); and
- improving government management (Gaijin Zhengfu Guanli).

Through these reforms, the central and local governments aim to reduce formalism and overly rigid bureaucracy to improve the governments’ capability to support China’s economic development.

In an attempt to keep pace with rapid and expanding social, economic, and political changes, the Chinese government launched a series of institutional reforms (Zhengfu Jigou Gaige) in 1982, 1988, 1993, and 1998. Through these reform activities, Chinese leaders aimed to establish an administrative system that conforms to the so-called “socialist market economy.” According to Mueller and Tan, “socialist market economy” means “using market forces to improve the efficiency of production while retaining a managed, predominantly state-owned economy and authoritarian control over political activity.” Therefore, most of these institutional reforms were designed to carefully manage the introduction of market forces and to balance development goals with the need for control and national protection.

For four decades, under a state planned economic system, the power structure was focused on central government. This produced an extensive bureaucratic structure with overstaffing, functional overlaps, and low efficiency. The central government often intervened in minor details of social activities and tightly controlled economic policy. Provision of raw materials, distribution of funds, the staffing of technical personnel, and allocation of grain, textiles, and even paper all were controlled by the state.

However, despite the strong emphasis on centralized decision making, Deng Xiaoping’s remarks from 1980 suggest that the weaknesses of this approach did not go entirely unrecognized by China’s elite. In a speech, “On the Reform of Party and State Leadership,” to the enlarged meeting of the politburo of CCP on August 18th 1980, Deng Xiaoping criticized the inefficient and corrupt central and local government in China:19

Standing above the masses; abusing power; divorcing oneself from reality and the masses … overstaffing administrative organs; being dilatory, inefficient, and irresponsible; failing to keep one’s world; circulating documents endlessly without solving problems; shifting responsibility to others … deceiving superiors and subordinates; being arbitrary and despotic; practicing favoritism, offering bribes, participating in corrupt practice in violation of the law; and so on.

Under such circumstances, China’s administrative reforms, particularly since 1987, have been centered on transforming government functions, streamlining the structure, and enhancing
administrative efficiency. The government wanted to create conditions that would gradually harmonize the relationships between the central government and enterprises, social organizations, and local government, as well as internal relationships within government departments.20

3.2. E-government and administrative reform in China

Proponents of e-government, particularly in the United States, suggest that this information-related project will bring more efficiency and effectiveness to the government. Bonham, Seifert, and Thorson argue that a related efficiency goal of many e-government initiatives is “to reduce costs and layers of organizational processes by reengineering and streamlining operating procedures.”21 The application of “One-Stop Service” in e-business to the public sector is a good example. A “One-Stop Service” center is an umbrella organization that operates on top of existing functional departments and is intended to maximize the convenience and satisfaction of users through service integration.22 Jane Fountain goes further and argues that these technologies could restructure the relationship between state and citizen to be simpler, more interactive, and more efficient.23

As we have seen, administrative reform is still one of the most difficult and important issues facing Chinese leaders. Since many previous reform projects were not that successful, an increased amount of attention has focused on the application of e-government in administrative reform. In the 16th Party Report in 2002, Jiang Zemin emphasized the importance of e-government in administrative restructuring:24

We should further change the functions of the government, improve the methods of management, introduce e-government, uplift administrative efficiency and reduce costs so as to form an administrative system featuring standardized behavior, coordinated operation, fairness and transparency, honesty and high efficiency. We should standardize the functions and powers of the Central Government and local authorities according to law and properly handle relations between the departments directly under the Central Government and the local governments … we will continue to promote the restructuring of government departments, standardize their functions in a scientific manner, rationalize their set-ups, …

In Zhu Rongji’s speech, the importance of e-government application became clearer. On February 27, 2002, in the lecture held by the National Leading Group for Sciences and Technology, Zhu Rongji said:25

Along with the rapid development of information technology, especially the universal application of Internet technology, in the entire world, the development of e-government administration has become one of the most important spheres of informatization in the contemporary era. In order to suit the international situation and the requirements of China’s economic construction and social development … it is necessary to integrate development of e-government administration with the transformation of government functions, and quicken the pace of reforming the administrative examination and approval system in a bid to create conditions for the practice of e-government administration. … Emphasis should be laid on the use of information means to enhance government’s management efficiency, so that government’s supervisory work will be more meticulous and efficient and its services more convenient and expedient. …

As we can see in Jiang and Zhu’s speeches, Chinese leaders are trying to achieve three major administrative reforms: (1) transforming the government functions
(Zhuangbian Zhengfu Zhineng); (2) reengineering government processes (Zhengfu Liucheng Chongzu); and (3) enhancing transparency. Particularly, it is crucial for the Chinese government to separate government functions from those of the enterprises. For long a time, the Chinese government managed too many issues relating to enterprises through special departments of governments and this resulted in problems such as management abuses, needless inefficiencies. Therefore, Chinese leaders seek to transform its government functions from a focus on direct management to a focus on macroeconomic regulation, control, and supervision.

By using information technology to transform how government operates, China hopes to clarify the role of government in society in the context of both central and local government relationships (G2G) and government and enterprise relationships (G2B). Through e-government, the Chinese government wants to readjust the functions and scope of responsibility and clearly divide the functions among the various governmental units. The information can be disseminated, transmitted, and shared among different departments and then to the public. China’s “Government Online Project (Zhengfu Shangwang Gongcheng),” discussed in the next section, is a good example. This project illustrates government efforts to publicize each department’s functions, duties, and rules to other departments, business firms, and public.

By reengineering government processes, China hopes to make its public institutions and processes more transparent and the procedure of examination and approval more streamlined. The examination and approval system (Xingzheng Shenpi Zhidu) is the main administrative process through which local governments and state enterprises must obtain approval before making any decisions. It requires the local governments to visit different departments in the central government and, at each point, wait for the answer.

In the current era of globalization, transparency has become of particular value as the audience for information has moved well beyond a country’s geographic boundaries. By transparency, we mean “reasonably accurate information about the workings of the system are easily and cheaply available and that the quality of that information does not depend in any significant way on one’s position in that system.” By applying the e-government project, Chinese leaders, such as Zhu Rongji, believe that e-government could help the Chinese government to establish a more transparent system and to build a clean and honest government. Kalathil and Boas also emphasize that the e-government plan in China could address the widespread problem of corruption and reduce kickbacks by increasing transparency.

Promoting economic development is the long-term fundamental goal of the Chinese government. Administrative reform is the driving force behind economic development, and only by intensifying these reforms can China address the deep-seated contradictions impeding its economic and social development. As we have seen, Chinese leaders, such as Jiang Zemin and Zhu Rongji, recognize the importance of applying e-government and consider this project as an engine for future administrative reform in China. In the following section, we will focus on how the leaders actually applied e-government on the national level and various cities in China.
4. The application of e-government in China

E-government in China started with a serial of “Informatization (Xinxihua)” plans. The State Council launched the “National Informatization (NI, Guojia Xinxihua)” plan in 1997, which aimed to spur industrialization and modernization by adopting information technology. The NI plan was accepted as the main objective of the Tenth Five-year plan of the National Economy and Social Development in 1999. In January 2001, the State Council released the “Five-year Plan for National Administration Informatization (NAI, Zhengwu Xinxihua)” and in October approved “China E-Government Application Model Project (Zhongguo Dianzi Zhengwu Yingyong Shifan Gongcheng)”.

“Golden Projects (Jinzi Gongcheng)” and “Government Online Project (GOP; Zhengfu Shangwang Gongcheng)” are the main foci of China’s informatization. Golden projects include several key initiatives to develop a national information infrastructure. GOP focuses on promoting office automation via government Web sites in order to cut down on excessive bureaucracy. The “Enterprises Online Project (Qiye Shangwang Gongcheng)” and the “Family Online Project (Jiating Shangwang Gongcheng)” are the supplementary measures to implement GOP.

4.1. National level: “Golden projects” and “government online project”

4.1.1. Golden projects

China’s first move in the direction of building e-government was the initiation of the “Golden Projects.” The Chinese central government and the former Ministry of Electronic Industry (currently, part of Ministry of Information Industry; MII) launched the “Golden Project” in 1993 as a series of separate information infrastructure initiatives aimed at developing an information economy and promoting administrative capabilities. The three goals of this project are as follows: (1) to build a national information highway as a path to modernization and economic development; (2) to drive development of information technology in China; and (3) to unify the country by tying the center to the provinces and by allowing the government to act across ministerial and industrial demarcation lines.

The three goals overlap but differ significantly in nature. The first focuses on an information infrastructure over which data can flow. At its core is a project to build the infrastructure backbone over which other information services will run [“Golden Bridge (Jin Qiao)”]. The second is a call for the country to develop an economic infrastructure. The project aims at setting up a credit card verification scheme and an interbank, interregional clearing system [“Golden Card (Jin Ka)”] (Lovelock, 1999; Lovelock and Ure, 2002). And, the third is to enable the central government to reacquire administrative control by acting as information gatekeeper for the country. The government established specialized data networks for the management of trade, tariff collection, import–export licenses, and exchange settlement [“Golden Customs (Jin Guan)”].

Although the “Golden Projects” were just regarded as the first step of national economy informatization, this initiative provided the construction of infrastructure for China’s informatization and online information sharing among banks, foreign currency institutions,
and customs in some extent. It aimed to disseminate data to the main industries and governmental departments related to the economy. With the development of telecommunication technology and the Internet, Chinese leaders continue to streamline many of its government operations through network information management and also facilitate the state’s goal of intragovernmental communication.

4.1.2. Government Online Project (GOP)

Since January 1999, China has been conducting its “Government Online Project (GOP; Zhengfu Shangwang Gongcheng),” which aims to promote the applications of Internet-based technology at all levels of government. It was launched by China Telecom and the State Economic and Trade Commission, as well as other 40 governmental departments such as the National People's Congress, the China Consultant Conference, and the Higher Superior Court and Higher Supervision. The three key goals of the Government Online Project have are as follows: (1) to post government information online; (2) to make government documents, archives, and databases available online; and (3) to implement online administration, using electronic databases and online document transfer to increase administrative efficiency.

The strategy of developing GOP is to create a centrally accessible administrative system that the public and enterprises can access and use to share information via the Internet. By building government Web sites at all levels, GOP helps to promote office automation, cut excessive bureaucracy expenditures, and reduce corruption. This project aims to lead government agencies to learn the needs of the citizenship and the enterprises and finally to improve their management skills and services. In general, through this project, the top government officials rely more strongly on the Internet and other technologies to improve the efficiency and transparency of the central and local governments in China.

4.2. City level: Beijing, Nanjing, Shenzhen, and Nanhai

Both the departments of central government and local government understand the importance of government informatization (Zhengfu Xinxihua) in developing the economy and society. Although the current stage is just the beginning of the GOP, more and more government Web pages show the positive results of government informatization. We can see these results mostly at the city level in China. Cities have taken the lead in China’s information technology application drive. Leaders in many Chinese cities made efforts to establish a comprehensive high-speed broadband network, promote e-government and e-commerce, and create an environment for innovation in information technology. In this paper, we select Beijing, Nanjing, Shenzhen, and Nanhai as examples to illustrate e-government applications in different regions and at different stages.

Beijing is the first city in China to initiate an online office work project. E-government in Beijing is based on the “Capital Public Information Platform (CPIP; Shoudu Gongyong Xinxiti Pingtai) and “Digital Beijing” construction. The main goal of Beijing’s e-government initiative is to reform the “Administrative Examination and Approval System (Xingzheng Shenpi Zhidu).” As the capital of Jiangsu province, Nanjing has already built advanced information
infrastructure and accelerated the process of government informatization in recent years. “Digital Nanjing” project is making Nanjing to become a modern information city.

In 2001, the general office of the State Council selected Shenzhen, Qingdao, Ningbo, and Nanhai to conduct e-government trials. The e-government project in Shenzhen and Nanhai were judged to be successes. Shenzhen is a major port for Chinese foreign trade and international exchange. E-government in Shenzhen focused on the projects such as the online official approval system (*Wangshang Shenpi Xitong*), electronic tax declarations (*Diazi Baoshui Xitong*), online company registration (*Wangshang Zhuce*), and community information services (*Shequ Xinxi Fuwu*). Nanhai is a small city located in Guangdong province that is adjacent to Hong Kong and Macau. It is the first city to have developed informatization at the county level in China. Although the population of the city is only 1.102 million, Nanhai was designated by the central government as a pilot city for e-government and the provincial exemplary city for informatization in 2001.

4.2.1. **Beijing**

Beijing has set up an information resource management center to support management, integration, sharing, and utilization of city information resources. The “Capital Public Information Platform (CPIP; *Shoudu Gongyong Xinxi Pingtai*),” which is the fundamental infrastructure network that connects major network resources, and the “Administration Affairs Network (*Zhengwu Xinxi Wangluo*),” which provides shared information resources for different government departments, offer convenient communication between citizen and each government. A set of databases has been used for enterprises, population, taxation, statistics, vehicles, and city administration. Based on the platform and network, 142 city departments have set up their own Web sites and 58 of the examinations and approval items can be completed via the Internet. At the end of 2002, 15 main departments of Beijing city were able to conduct examinations, issue approval online, and handle some citizen’s applications.

Eighteen counties and districts in Beijing now provide a “One-Stop Office (*Yizhan Shi Bangong*)”, which enables almost all government agencies to share critical data. The Beijing Local Taxation Bureau started to offer online taxation functions in 2001. Through this online service, 40% of all the enterprises paid their taxes online. By offering online application and examination functions to businesses and individuals, government officials could make explicit their power and responsibilities, define their authority, and foster a service-oriented attitude.

The “One-Stop Services (*Yiwang Shi Fuwu*)” in Zhongguancun Park of Science and Technology streamlined administrative procedures by transforming the previous separated examination and approval process into a centralized office supporting management information system. In July of 2000, the Committee Zhongguancun Park opened the “Haidian Digital Park (*Haidian Shuzi Yuanqu*; [http://www.zhongguancun.com.cn](http://www.zhongguancun.com.cn)).” It includes Online Office System (*Wangshang Bangong Xitong*), Office Automation System (*Bangong Zidonghua Xitong*), Network Security System (*Wangluo Anquan Xitong*), Geographic System (*Dili Xinxi Xitong*), Voice Support System (*Yuyin Zhichi Xitong*), and Innovation Resource Network (*Chuangxin Ziyuan Wang*). By applying these systems, the administrative system of Haidian Park has changed in four significant aspects by (1)
providing more information to the public by making the traditional government processes more transparent; (2) increasing operational efficiency by creating a “one-stop service” that reorganize and streamline the functions and process of all government agencies; (3) establishing a “One-Form Service” (Yibiao Shi Fuwu). “One-Form” is a simplified and combined form that is approved by different departments. The enterprises can complete statistics, finance, and taxation reports by filling out only one integrated form. It reduces the number of procedures and working load. And (4) bringing an interactive management system that offers the online services. Enterprises and citizens can communicate with each other through the Internet.45

After the Haidian Digital Park built the common administrative platform, the “One-Stop Service” connected all government departments. An example is the administrative reform in Miyun Development Zone of Beijing city. One investor from Jiangsu province was surprised by Beijing’s e-government. He got all necessary documents within 2 hours when he invested 10 million yuan in the Miyun Development Zone of Beijing city.46 In the past, the investors from outside of Beijing city were afraid of the examination and the approval procedures. Normally, it took at least 2 months. The Miyun county government spent over one million yuan to construct their online “One-Stop Service.” Beijing Administration for Industry and Commerce (Beijing-shi Gongshang-ju) built an online service platform named “Red Shield 315 (Hongdon 315 Web Page)” (http://www.hd315.gov.cn) that offers more than twenty distinct tax application items via the Internet. It provides the online services such as special items approval, registration and annual inspection, enterprises’ identification verification, new Internet business approval, and domain name registrations.47 The “Red Shield 315 Web Page” includes four functions: first, it offers online registration services; second, it provides the information exchanging across the different departments; third, it supervises wrongdoing through the information publicity and administration publicity; and fourth, it provides consulting service for the enterprises. National Administration for Industry and Commerce, General Administration of Customs, State General Tax Bureau, and Local Tax Bureau developed other system to provide much better e-registration services.

4.2.2. Nanjing

The Nanjing government Web site was initiated in 1998. The Web site “Nanjing China (Zhongguo Nanjing)” is the core portal of Nanjing government online. Now there are 66 subgovernment sites altogether in operation and that consists of 66% of the government sites in Jiangsu province.48 One third of these subsites are available to share information and provide accurate information on time. Therefore, every district and county government as well as various bureaus, commissions, and offices are linked to the municipal government portal. By using the interactive management function of networks, government improved their quality of public services. For example, Nanjing Public Safety Bureau (Nanjing GongAnJu) has its own Web page (http://www.njga.gov.cn/cps/site/njga/index.html). It makes all of the service items, service procedures, service standards, charge levels, commitment terms, and claim phone number available online. This brings out a transparent environment of Web service and reduces the number of corruptions.
Nanjing Municipal Land Administration Bureau (Nanjing Tudi Guanliju) also focused on transforming government functions and promoting ‘clean’ government. It put all office affairs, charge standards, land classification, and handling procedures and application lists on the Internet. Since publication on the Web, land users now have clear instructions about how to handle affairs and what kind of charge should be paid. Thus, they can refuse to pay charge not listed among the items. As a result of this increased transparency, government officials have to exercise greater self-discipline and conduct all affairs in accordance with the regulations and in the full view of citizens.

4.2.3. Shenzhen

In 2000, Shenzhen city released the government’s 5-year cyberspace plan that focused on sharing Internet resources between both municipal and district level government offices and departments. Currently, Shenzhen is actively building and improving the intranet platforms of various governmental offices in order to bring coordination among all governmental nets. By clarifying and dealing with public affairs, Shenzhen built uniform government office procedures through which the public can more easily access government information sources. It connected telecommunication networks, cable networks, wireless data networks, and satellite networks, creating a uniform public communication platform that interconnected with five administrative groups, six districts, 88 offices and departments.

4.2.4. Nanhai

Nanhai is the first city that has developed informatization at the county level in the PRC. It is a county level city center with 1.09 million people. Since launching the “Informatization-driven Modernization” strategy in 1995, Nanhai has substantially brought about social and economic benefits and built up the framework of a digitalized city through adopting information technology. E-government has been advancing simultaneously at the levels of city, townships and districts, and villages. The national leaders have paid great attention to the informatization of Nanhai. Zhu Rongji and Jiang Zemin visited Nanhai in 2001. Li Peng, Li Lanqing, and other national leaders have also visited Nanhai several times, where they have called on other cities to study the Nanhai experiences as best practices in developing e-government.

Nanhai established an e-government application platform “Nanhai Government Information Network System (Nanhai Zhenwu Xinxi Wang).” Nanhai has set up an optical backbone that connects all departments of the city system. It includes the city–county networks and the township networks. It developed the Government Office Information System, which includes the following: 110 Directing Systems for Public Safety, the Case Processing System, the Labor and Social Security System, the Land Resource Management System, the Family Planning System, Electricity Distribution and Management System, the Weather Forecast Online, the Electronic Taxation System, among others.

The most important experiences in Nanhai city are the combination of government functions and e-government applications. The e-government development in Nanhai is not only the information infrastructure but also includes new models of government administration, social governance, public services, and anticorruption techniques. Although
the city and every district and village administration have its own information system, the financial management is supervised by the uniformed online service system. Two hundred and forty-three villages and 18 townships and districts have also set up their own service online. Specific features of these online services are explicitly described on the Web (Zhengwu Gongkai) and increased the government supervision for economy.53 In Nanhai, government purchasing is now open to public with online bidding online for procurement orders such as medicines, public engineering projects, and land auction (Table 2).

5. Conclusion

We have argued that China’s leaders are explicitly deploying e-government applications in order to bring about administrative reforms by transforming government functions, streamlining procedures, and enhancing transparency. These reforms, in turn, are designed to support China’s economic development agenda. Understanding this focus together with the broader political–economic context of China helps to explain how e-government programs can resolve the seeming tension between economic development (requiring information

<table>
<thead>
<tr>
<th>Transformation of government functions</th>
<th>Reengineering government processes</th>
<th>Enhancing transparency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cities: Beijing, Nanjing, Nanhai</td>
<td>Cities: Beijing, Nanhai</td>
<td>Cities: Nanhai</td>
</tr>
<tr>
<td>G to G</td>
<td>Examples: Public information platform; village administration system (digital township, digital suburbs); land resource administration; family planning system</td>
<td>Examples: Online examination and approval; accounting and settlement service center; municipal administrative service center; intelligent community; residence management system for public safety</td>
</tr>
<tr>
<td>G to B</td>
<td>Examples: One-stop service; digital park (Haidian in Beijing); online government purchasing; online taxation system</td>
<td>Cities: Beijing, Nanjing, Shenzhen, Nanhai</td>
</tr>
<tr>
<td>G to C</td>
<td>Examples: Capital window; Social Security System; employment service system; medication service system</td>
<td>Examples: One-form services; statistical service center; upgrading system for traditional industries</td>
</tr>
<tr>
<td></td>
<td>Cities: Beijing, Shenzhen, Nanjing, Nanhai</td>
<td>Cities: Beijing, Shenzhen</td>
</tr>
<tr>
<td></td>
<td>Examples: Community service call center; online weather forecast system; education service platform for elementary and high school</td>
<td>Cities: Beijing, Shenzhen, Nanhai</td>
</tr>
<tr>
<td></td>
<td>Examples: Information publicity; online policy release; online approval system</td>
<td>Examples: Online forum; e-mail to mayor; anticorruption</td>
</tr>
</tbody>
</table>

Table 2
E-government application in Beijing, Nanjing, Shenzhen, and Nanhai
decentralization) and administrative control (information centralization). We clarify this point through brief case studies of actual e-government experiments at both the national and city level. These cases illustrate the relationship between national-level efforts and administrative reforms implemented at the local level. Whether the strategy of hierarchical decentralization through e-government being pursued by China will be successful remains an interesting question for continued study.

Acknowledgments

We thank Maxwell’s Executive Education Program and Information and Computing Technology Group for their support of this research.

Notes and References

4. Ibid., 2–3.
5. Ibid.


35. Ibid.


42. Ibid.


49. Ibid.


51. In China, there are four kinds of cities: (1) the cities directed immediately by the central government such as Beijing, Shanghai, Tianjin, and Chongqing; (2) the provincial-level cities that are the capitals of the provinces; (3) the regional cities within every province; and (4) the county-level cities such as Nahai. County-level city is the smallest administrative unit of the city.
