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# FROM CONCEPT TOWARDS IMPLEMENTATION: E-GOVERNMENT IN CHINA

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## Abstract

*This paper presents an overview of the history of e-government in China, clarifies the conceptual vagueness of e-government, and explains the current situations with a model for understanding the status of e-government in China.*

**Keywords:** E-government, China's reformation, information infrastructure

## Introduction

Recent studies show that e-government is still in its early infancy stage in China. The development and applications of e-government systems are slower than most countries. There is conceptual vagueness in information technology adoptions for governmental public administration regarding what is e-government, what is the purpose of e-government, what kind of e-government applications should be built, and what actions should be taken in establishing e-government systems in China. Even today, these problems are still questions with difference opinions. However, the real fact is that China is changing form concept argument towards implementation regarding to e-government.

This research-in-progress paper is intended to provide an overview of the history of e-government in China, followed by current literature on e-government and a review of the perspectives of e-government, and to clarify the conceptual vagueness regarding e-government in China. Based on these discussions the article proposes a four-stage development model of China's e-government to explain the current situation and the framework of e-government in China and to reveal the challenges in e-government implementation.

## A Brief Sketch of the E-Government History in China

It is not until mid 1980s when the Office Automation Project was undertaken in the central and local government to assist the government staffs to improve the effectiveness of routine matters. On January 24, 1987, Chinese state government established the State Information Center (SIC) which has been responsible for planning and constructing State Economic Information System (SEIS), an initial effort of Chinese government to build a nation-wide government information system using networked computer systems. With the efforts of more than 10 years, SEIS has been expanded to a network-based information system covered all governmental departments/ministries/commissions at state, province, prefecture/central city's levels as well as the county-level government in China.

In 1990s, China's government information system reached a new stage, which came to the sense of e-government. In 1992, the general office of the State Council of China proposed a plan for the implementation of Office Decision Service System and carried out Office Automation all over the nation. From 1993, a series of important information projects named Golden Bridge, Golden

Customs, Golden Card, and Golden Tax etc. have been launched. This phase can be regarded as the start of e-government in China, although some researchers in China think the concept of e-government in this period is different from current description of e-government in which the Internet has been the key technology.

While Golden Projects were under ways, in early 1999, the State Economic and Trade Committee and the information departments of more than 40 state ministries and commissions put forward and implemented online projects. In this phase, e-government in China has it true meaning that has been termed as "electronic government (e-government)", or "electronic commerce" within the context of government services via the Internet (Devadoss et al. 2003). From 2002, China's e-government is marching towards the implementation phase. Governments at all levels have launched e-government projects. Most of the projects focus on establishing special governmental networks so as to collect share and deliver related information.

## Concepts of E-Government in China

The Internet, a new medium of communication, brings tremendous impact on the government (Devadoss et al. 2003). In the context of the Internet, the e-government is sweeping across almost all nations all over the world (Hwang et al. 1999), including China (Table 1). Most understandings regarding e-government came from industrialized nations, such as the United States of America. In the existing literature, there are a number of definitions concerning e-government. Kaylor, Charles, Randy Deshazo and David Van Eck have regarded e-government as the ability provider for anyone to visit the city website and communicate (2001). Lawson (1998) defined e-government as one in which the public service operates in a "one-stop, non-stop" way.

**Table 1. Internet Infrastructure in China (Source: CNNIC[2002])**

|  | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 |
|---|---|---|---|---|---|---|
| Internet users (million) | 0.62 | 2.10 | 8.90 | 22.50 | 33.7 | 59.10 |
| Connections (million) | 0.34 | 0.75 | 3.50 | 8.92 | 12.54 | 20.83 |
| International gateway bandwidth | 30 | 143 | 351 | 2799 | 7597 | 9380 |
| Domain names (.cn) (thousand) | 5 | 18.4 | 48.7 | 122.1 | 127.3 | 179.5 |

Although there are common hallmarks in e-government, China has a quite different public affair administrative system from other countries, meaning the premises of e-governments are different. Generally, e-government in industrialized nations tends to pay more attention on the transforming of government service delivery. China, on the other side, should consider more issues in e-government implementation as it has been experiencing profound political system reformation.

So far the concept of e-government is still vague in China. How to define e-government depends on the scope of information technologies and the governmental activities because e-government is a mixture of technologies and government operations. Generally speaking, people of dissimilar sectors hold varied opinions towards e-government. Wan (2002) took it granted that E-government was to establish new governmental structure and operational way of power that could better fit the needs of the information society. In Xu's opinion (2002), e-government represents a new way to administrate via the Internet by which the government information will be more transparent. In other words, e-government refers not only those who go online or provide public services. It is more like a complete network in which central government and its branches at different levels can be connected via intranets, extranets and the Internet with the aim to share information.

## Current Status of E-Government in China

To understand the current status of e-government in China, this article uses a model named "four-stage development model of e-government" which is established on the base of the e-government developing phases in China and functions of each phase. First, within the context of the Internet, the development of e-government in China could be divided into different phases due to the limited understanding of e-government and technology progresses. Second, in that the conditions of every province are different in things like information infrastructure, managerial feasibilities, e-governments in different provinces and cities may stay in different developing stage. Layne and Lee (2001) created "stages of growth" model: (1) cataloguing, (2) transaction, (3) vertical integration, and (4) horizontal integration for fully functional e-government. Their model was based on the experience of e-government initiatives in the USA and their observations. Considering the difference between China and the USA in the form

of governments, the aim of using the four-stage development model in China's e-government in this paper is just to study and explain the current status of e-government in China.

## *A Four-Stage Development Model in China's E-Government*

This model is developed based on the way governmental services are provided and the functions are deployed in different stage. We posit four stages of a development model for e-government in China: (1) Government information delivery, (2) One-way service delivery, (3) Two-way service delivery, and (4) Complete e-government. The details of these four stages are explained in Table 2.

**Table 2.  The Four-stage of E-Government Development in China**

| | Description | Practice | Main function |
|---|---|---|---|
| Stage one | Government information delivery | • Creating a website<br>• Putting the government information on website | • Providing information services for the public |
| Stage two | One-way service delivery | • Transforming some services to the websites<br>• Providing service passively, not exchanging information between Governments and the public actively<br>• Seldom sharing information among branches of government<br>• More complex than stage one | • Downloadable Forms<br>• Administrative-focus for service providing<br>• Providing some operational services for the public |
| Stage three | Tow-way service delivery | • Transforming more services on websites<br>• Supporting information exchanging between governments and the public<br>• Branches of government at same level sharing information via Internal Network<br>• More complex than stage two | • Services and forms on-line<br>• Simple interactivity between government and the public<br>• Changing to customer-focus service gradually<br>• Sharing database to support online service for the public and sharing information among branches of government |
| Stage four | Complete e-government | • Transforming all the services which can conduct on the Internet on websites<br>• Providing service within one website or linked websites<br>• Central government, provincial government, local government sharing information via Internal network and External Network and the Internet<br>• Complex | • Services and forms on-line<br>• Customer-focus service<br>• Integrating different functions<br>• Providing full functions for public<br>• Well interactivity<br>• Sharing information and support transactions among Central government, provincial government, local government and different branches of government |

## *Current Status of E-Government in China*

Although the total number of government websites is increasing rapidly, most of them are at primitive level. According to the report of CNNIC, the total number of domain names registered under gov.cn reached to 7,796 by June 30, 2002, which increases at the rate of 29% annually. Up today, more than 70% government agencies in China have created websites to present their image online and the number of website reach 6,148 now, accounting for 1.7% in the total number of websites in China. However, generally speaking, most government websites in China are in stage one and stage two: government information delivery and one-way service delivery. Some government websites even seldom provide services for the public and the design of websites is also unreasonable causing them not convenient for users to access.

Most of China's government websites are administrative-focus and less competitive. Foster (2001) evaluated Chinese government websites using the Website Attribute Evaluation System (WAES) development by CyPRG project (**http://www.cyprg.**

**arizona.edu**) and indicated in his report that openness of China government agencies on the Internet is lower than its counterpart's. Moreover, the survey did by Fortune Age Company, who issued a finding report based on the survey of 169 government websites, also supports this viewpoint (**http://www.fortureage.com**). According to their survey, only about 35% government websites provide search function, and about 7.6% government websites provide one or more downloadable forms. But only over 6% government websites can submit form online. Even worse, almost 13% government websites cannot be opened though they have their unique domain names.

### The Framework of E-Government in China

The final stage of e-government in China is a complete one that could be described by the Framework of E-Government in China. In Sep. 20, 2002, Yan Xueshang, one official at Information Office of the State Council testified the Framework of E-Government in China, which was developed by more than 100 Chinese experts (Tan, 2003) in the conference of explanation for China's e-government strategic plan in Beijing. According to him, e-government is placed in the important position on China's information infrastructure agenda and China's e-government will step into the advanced level universally in three to five years.

The Framework of e-government in China has three folds. The first one is to establish two integrated e-government platforms: Internal Government Network which focuses in connecting all branches over vice-province, and External Government Network that lays importance in providing services for citizens, businesses, governmental branches and supporting transactions via the Internet. The second fold is to launch 12 important projects including Office Business Resource System and Marco Policies Management System to support leaders at different levels to make decisions. Besides, these also include the completing and perfecting of the Golden Tax Projects, the Golden Customs Projects and the launching of the Golden Finance Projects (sketching national budget, supervising banks, trusts, securities and insurance), the Golden Auditing Projects (supporting electronic auditing) etc. The third fold is to establish the resource database including two Information Systems and the Population Database, the Legal Person Database, the Resource, Space and District Database, and the Marco Economy Database, which will provide basic data information of China.

## Challenges of China's E-Government

Most government efforts have been concentrated on designing a web site and still stay in the stage one and two. How to transform from administrative-focus government to customer-focus government is a challenge because most of local governments have been very slow in or even unprepared for the transformation. The economic development of China is characterized by "disparities" among geographic demographics. In some provinces and cities, the lack of the fundamental infrastructures, experiences, understandings and resources makes it a comparatively hard task to transform form administrative-focus government to customer-focus one.

Chinese government administrators have recognized that the key of e-government is not electronic technologies but the government itself. Accompanied by its economic reformation from 1998, China has committed itself to political structural reformation. E-government has been deemed a good way to promote its political reform further. However, the big obstacle of e-government may come from government itself. Traditionally, the separatist exists in information distribution in governments at different level. Some branches of government may have the power to control or block certain information so that it cannot be transmitted. Some even purposely hold the information and deter large-scale information sharing. Besides, the existing management systems of the government and e-government have formed an "Information isolated island", because those systems do not integrate each other. Moreover, e-government will bring bout the changes of power institution, the way of administration, the way of official thinking and even the changes of staffs. Some officials may be unwilling to change or even resist changing Clearly, of the major challenge in e-government implementation is the contradiction between the rapid change of technologies and the existing operational mechanisms of Chinese government, because technology is changing faster than ever while organizations, governments and societies are not changing as fast as technology dose.

## Conclusion

China has invested substantial funds to improve its information infrastructure and will invest more to establish its e-government system. However, e-government in China is till in its infancy stage. Most e-government implementation is in stage one or stage two according to the four-stages development model in China's e-government suggested in this article. How to address the vision

for e-government in China is a crux of the problem, so Chinese decision-makers must choose a suitable way for establishing e-government. From the perspective of government, its role is to create a favorable atmosphere for pushing e-government forward. The favorable atmospheres include formulating policies and laws, integrating plans, formalizing criteria, making rules for marketing, especially, improving the knowledge of officials in e-government.

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