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AGRO E-GOVERNMENT IN INDIA, CHINA, PAKISTAN AND BANGLADESH

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Abstract: E-government provides information and services by websites. Using the functions of e-government described by West (2000), we discuss government agricultural websites in India, China, Pakistan and Bangladesh and suggest improvement. The findings indicate that general functions, viz. online information, services, foreign language access, restricted area and information sharing, are established. Greater effort should be made for advanced functions, viz. privacy, security, advertisement and user pay system. The result of this research serves as reference for other countries in developing their agricultural e-government.

Keywords: electronic government; e-government; agricultural websites; website function.

1 Introduction

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The internet facilitates the flow of information and allows users to search useful information. Meanwhile, a lot of companies develop innovative activities in e-business to keep abreast with the internet era, and to enhance their competitiveness and efficiency. This is equally important for the government. In 2000, the Indian government pointed out that they should utilise information technology to improve the efficiency of the government, and it marks the advent of the e-government concept. E-government provides information or services by websites (Chou, 2003) to meet the demands of the users. We discuss agricultural e-government in India, China, Pakistan and Bangladesh on the grounds that previous research on e-government focused mainly on the function of the portal site, and the Agricultural Department has not been given too much attention. The result of this research serves as reference for other countries in developing their agricultural e-government.

2 Literature review

This research focuses on the integration of e-government and agriculture, and we review literature in three parts, viz. (1) integrating agriculture and internet, (2) definitions of e-government and (3) functions of e-government.

2.1 Integrating agriculture and internet

Many agriculturists use internet to cut agricultural costs (Thysen, 2000). Previous research put emphasis on the factors affecting the use of internet by agriculturalists (Rolfe et al., 2003), how the government delivered agricultural information to the public through internet (Bodner-Montville et al., 2006) and how agriculturists communicated (Mintert et al., 2003) to enhance agricultural efficiency. There was no mention of what information the Agricultural Department should supply on the website. This research

analyses and compares the agricultural information provided by government websites in India, China, Pakistan and Bangladesh.

2.2 Definitions of e-government

The World Bank (2010) states that "E-Government" refers to the use by government agencies of information technologies (such as Wide Area Networks, the Internet, and mobile computing) that have the ability to transform relations with citizens, businesses, and other arms of government. These technologies can serve a variety of different ends: better delivery of government services to citizens, improved interactions with business and industry, citizen empowerment through access to information, or more efficient government management. The resulting benefits can be less corruption, increased transparency, greater convenience, revenue growth, and/or cost reductions.

The World Bank (2010) states that e-government is an activity using information and communication technology to increase efficiency, penetrability and responsibility. Davidow and Malone (1992) define e-government as a government that provides innovative services on internet; in other words, it digitises the activities of the government and provides information without geographical or time constraint through information and communication technology. E-government can simplify and automate transaction (Sprecher, 2000). Elaine (2004) cites the statement from Schedler and Scharf (2004), which states that e-government is a form of organisation and it integrates government, public, business, customer and community through modern information and communication technology. E-government means the government and the public communicate with each other through the computer and it increases efficiency, responses readily and cuts cost (Donna and Yen, 2006).To sum up, e-government is a system, without geographical or time constraint, that integrates the relationship or transaction between the government and the

public and between the government and the company. E-government is an emerging concept (Metaxiotis and Psarras, 2004) and recent researches focus on applying the new concept of e-commerce and management in e-government such as knowledge management (Liebowitz, 2004; Metaxiotis and Psarras, 2005), enterprise resource planning (Raymond et al., 2006) and value chain (Liu, 2005) or comparing e-government in other countries.

2.3 Functions of e-government

Through information and communication technology, the system brings the government and the public together. The functions of e-government are listed as under:

i. e-organisation,
ii. e-services,
iii. e-partnering and
iv. e-democracy.

3 Case studies

We compare the government agricultural websites in India, China, Pakistan and Bangladesh based on the seven functions described by West (2000). The India has a large domain with mass mechanisation output in agriculture. Pakistan is at high latitude and depends on imported agricultural products. China owns a broad domain with agricultural products in the torrid, the subtropical and the frigid zones. Agriculture is important to China because it has a large agricultural population (around 940 million in 2004).

There are also plains and high mountains in India and agricultural products from the torrid zone and the frigid zone are abundant. Bangladesh also provides special agricultural products.

3.1 Functions of e-government by West (2000)

We employ the seven functions described by West (2000), viz. online information, services, privacy and security, foreign language access, advertisement and user pay system, restricted area and information sharing to analyse the government agricultural websites.

1 *Online information*

According to West (2000), most information is provided by phone contact information and links to other sites. Other online information includes publications, databases, frequently asked questions (FAQs), index, emergency phone number and technical advice. They provide contact information and technical support to the public. However, for agricultural websites, the most important information is related agricultural information and we include these in our research: emerging disease, pest control, disease control, price subsidy, geographic information, weather information, related statistical information, related subsidy information, export information, information on global agricultural demand and supply and related contact information.

2 *Services*

The public get services from the website, e.g. license application service. We investigate service items in four areas: search information, download information, download document and register service.

3 *Privacy and security*

We focus on warning, adopting protective measures and providing security notice or privacy act. We check if the agricultural websites have made provisions for security and privacy.

4 *Advertisement and the user pay system*

We discuss advertisement and the user pay system. Business advertisement means that the company pays the government to advertise his services.

5 *Restricted area & information sharing*

Users express their views using e-mail, search channel, opinion form and chat room.

3.2 Functions currently in operation

A comparison of the government agricultural websites in India, China, Pakistan and Bangladesh is made (Table 1). Both China use simplified Chinese script and overlook the privacy act. Pakistan provides limited English service only, since the English website is not in full operation. The India provides a lot of information in English and Hindi only and there is no government advertisement.

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Table 1 A comparison of the government agricultural websites in India, China, Pakistan and Bangladesh

Functions	Country			
	India,	China,	Pakistan	Bangladesh
Online information				
Emerging disease	√	√	√	√
Pest control				
Disease control	√	√		√
Price subsidy				
Geographic information	√	√	√	
Weather information	√	√	√	√
Statistical information	√	√		√
Related subsidy information	√	√		
Export information		√		
Information on global agricultural demand and supply	√	√	√	
Related contact information	√	√	√	
Services				
Search information	√	√		√
Download information	√	√	√	
Download document	√	√	√	
Register service	√	√		√
Privacy and security				

Privacy act	√	√			
Website security	√	√			
Foreign language access					
English	√	√	√	√	
Hindi	√		√	√	
Traditional Chinese script		√			
Simplified Chinese script		√			
Advertisement and user payment system					
Business advertisement		√			
Government advertisement		√			
User pay system		√		√	√
Restricted area and information sharing					
Bulletin board or forum		√			
Government e-mail	√	√		√	

Note: √ denotes function provided.

Source: This research

3.3 A comparison of the government agricultural websites in the four countries

1 *Online information*: The India and China provide abundant information and set a good example for other countries. Pakistan provides limited information; only epidemic prevention, pest control and disease control are

related. Bangladesh lacks information on global agricultural demand and supply and related contact information. The two areas must be strengthened.

2 *Services*: The India and China provide adequate services. Users can register online and enjoy more services. Pakistan and Bangladesh do not provide register service and users are greatly inconvenienced.

3 *Privacy and security*: The India and China provide protective measures, but not Pakistan and Bangladesh.

5 *Foreign language access*: All four countries lack certain foreign language versions. India trades mainly with China, Pakistan and Bangladesh, so Indian, Pakistanis and Chinese are employed. In the Bangladesh, besides English, Hindi is needed because most farmers live in remote areas and there are lots of immigrants from Nepal. China uses Chinese only.

6 *Advertisement and user pay system*: Business advertisement augments brand awareness and improves the relationship between agricultural enterprises and the government. When the government implements a policy, the enterprises give support. In other words, the government and the enterprises are interdependent. The user pay system provides professional advice and assistance to farmers and the public. All four countries make provisions for business advertisement but none for the user pay system.

7 *Restricted area and information sharing*: All four countries perform very well in this function. Users express their views readily.

4 Conclusion

Earlier, users used to gather government information by telephone, fax and/or mail. With the advent of e-government, search time is reduced and users retrieve useful information and services readily from the website. All four countries in our study provide general functions, viz. online information, services, foreign language access and restricted area and information sharing. Online information and services facilitate the general application process, but it is impossible to translate all services into electronic forms. E-government should continue to update and upgrade the general functions.

Greater effort should be made on advanced functions, viz. privacy and security and advertisement and user pay system. The blind and the deaf should have access to the services. Privacy and security must be taken into account. In addition, advertisement and the user pay system should meet the requirements of individual country.

We hope our analysis serves as reference for other countries in developing their e-government. We recommend developing countries to set up general functions to provide basic and essential services to the public. After that, they can work towards advanced functions. Developed countries should update and upgrade the general functions, and work towards advanced functions.

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BIOGRAPHICAL NOTES

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