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Personal Influence on Citizens' Utilization of Government Information: an empirical study

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Abstract: The purpose of this paper is to understand the public demand for government information in China and to find out if citizens' individual characteristics, such as gender, age, education, income, residence and occupation influence their utilization behavior of government information. A survey is conducted to collect data, and total and partial correlation methods are adopted to analyze the data. Results show that "government news" and "policies and regulations" are the two kinds of mostly needed GI. TV, newspaper and Internet are three kinds of mostly used ways to accept GI. It is also interesting to find that education, residence and occupation, especially occupation, have significant correlation with citizens' recognition of government information. This finding implies that it is helpful to pay more attention to other social, economic and cultural factors in explaining the recognition and utilization of GI and e-government services except for demographic ones.

Keywords: Recognition and utilization of Government Information; Public Information Demand; Individual characteristics; Correlation Analysis; China

Introduction

Opening government information is an important way to increase administrative efficiency and protect citizens' legitimate rights in a country. Since Sweden's Freedom of the Press Act, which is thought to be the oldest freedom of information act, granted public access to government documents in 1766, many countries have promulgated open government information acts. The Regulations of the People's Republic of China on Open Government Information (OGI Regulations) published on April 24, 2007 (Jamie P. Horsley, 2007) and have taken effect on May 1, 2008. OGI Regulations have made obvious impact on e-government construction in China. Besides, e-government has been invested heavily in recent 10 years. Among various functions of government websites, it is found that open information service is the most perfect one at present (Zhai, L.N., Wang, F., etc., 2008). Both information legal institutions and e-government technology powerfully boost the process of government information openness. In a democratic government, public sector agencies are constrained by the requirement to allocate resources and provide services 'in the best interest of the public' (Jorgensen & Cable , 2002) . However, it is not enough to attain the target of providing information services in the best of the public that governments only pay attention to information supply but neglect public demand for. To find out what the public really need, and whether and how the citizens' individual characteristics influence their recognition, demand and utilization of GI will help government agencies to meet public need more efficiently and more effectively, which will also be an essential part of the theoretical study on e-government. The purpose of this paper is to investigate these problems by an empirical way.

Literature and hypotheses

Literature Review

In recent years, researches on the factors that influence e-government adoption have increased dramatically. Some important theoretical models, TAM (Technology Acceptance Model, Davis, 1989), DOI (Diffusions of Innovation theory, Rogers, 1995), PCI (perceived characteristics of innovating, Moore and Benbasat, 1991) and web trust model, which initially came

from MIS and e-commerce field, are used to study e-government problems. A unified model UTAUT that integrates elements across eight models of the theory of reasoned action, the technology acceptance model, the motivational model, the theory of planned behavior, a model of PC utilization, the innovation diffusion theory, and social cognitive theory is formulated and empirically validated (Venkatesh, V., et al, 2003). UTAUT model has been utilized to study e-government adoption in some countries and areas such as Kuwait (Alawadhi, S. & Morris, A, 2008), Taiwan (Hung, et al), etc. Carter & Belanger's study based on a comprehensive model of TAM, DOI and Trust indicates that perceived ease of use, compatibility and trustworthiness are significant predictors of citizens' intention to use an e-government service (Carter, L., and Belanger, F. 2005). A case study on Jordan has proved that Compatibility with e-Government, Trust in Internet and Trust in Government are significantly associated with increased citizens' demand for e-Government services (Mofleh, S.I. & Wanous, M., 2008). A study from Slovenia shows that e-government supply doesn't fully meet demand because the existing information is relatively useful yet incomplete and not very easily accessible for tedious procedures of e-services (Kunstelj, M., Leben, A. & Vintar, M., 2006).

Besides the objective factors, citizens' individual characteristics are also investigated to explain the utilization of e-government services. Subjective norm is suggested to be integrated into TAM model, based on the finding that men's technology usage decisions were more strongly influenced by their perceptions of usefulness, in contrast, women were more strongly influenced by perceptions of ease of use and subjective norm (Venkatesh & Morris, 2000). The study of Phang et al (2005) tests the robust of TAM model by examining a specific group (senior citizens) in the context of e-government context. Influences of demographic and personality variables on beliefs and judgments in an IT context are also tested and gender is found to have the most profound effect on ethical decision-making (Haines & Leonard, 2007). Some other researches on demographic factors are developed from studies on the adoption of broadband. Dwivedi conducted a series of survey studies on the adoption of broadband in UK. Choudrie and Dwivedi (2005) utilized a questionnaire with 9 questions to examine the different influence of five demographic characteristics between broadband adopters and non-adopters, and find that age, gender and income make while education makes no difference on the adoption of broadband. On the basis of this study, the authors examine the citizens' awareness and adoption of e-government initiatives in the United Kingdom and found that demographic characteristics have an imperative role in explaining the citizens' awareness and adoption of e-government services in the household (Choudrie and Dwivedi, 2005). Dwivedi's another study (2007) indicates that except for gender, other socio-economic variables, including age, education, occupation and income, significantly helped to explain differences between the adopters and non-adopters of broadband. . Although the findings of these studies are not wholly same, they prove the significant influence of individual characteristics on the adoption of broadband and e-government in some way.

Other studies focus on individual cultural characteristics. A web-based survey of 614 country-wide citizens based on TAM with computer self-efficacy as an additional factor shows that citizen's computer self-efficacy and perceived usefulness directly enhanced citizen's continuance intention to use e-government websites and perceived ease of use of e-Government websites indirectly enhanced citizen's continuance intention through perceived usefulness (Wangpipatwong, S., Chutimaskul, W. and Papisratorn, B, 2008). Espoused national cultural values of masculinity/femininity, individualism/collectivism, power distance, and uncertainty avoidance are incorporated into an extended model of technology acceptance as moderators. Results indicated that social norms are stronger determinants of intended behavior for individuals who espouse feminine and high uncertainty avoidance cultural values (Srite, M. & Karahanna, E., 2006). Cultural factors such as the education, ID (Individualism/collectivism), UA (Uncertainty Avoidance) and attainment are also found significant to the utilization of e-government services (Bouaziz, F.,2008).

Except abovementioned various factors proved to be significantly associated with the utilization of e-government services, citizens' demand for government information and its social determinants seem to have been neglected in researches on e-government. A survey of ICMA shows that 74.2% of government agencies have a website, but that 90.5% have not conducted a survey to see what online services citizens and businesses actually want (ICMA, 2002). Similar problems also exist in China. More attentions are paid to financial investment on e-government projects, construction of government websites and establishment of information laws and regulation than to understanding citizens' recognition and utilization of government information services. There have been few studies on public demand for information and citizens' personal influence on the utilization of e-government by now. Perhaps this problem is thought as a "common knowledge" and some views on it have been assumed previously in many studies. However, as "digital gap", which is defined as the digital inequality between poor and rich countries, cities and villages, and young and old people (UN, 2006), still exists everywhere, citizens' individual characteristics, such as gender, age, education, income, residence and occupation probably influence their demand for government in a way. The purpose of this study is to test a few hypotheses on the relationship between citizens' individual characteristics and their recognition and utilization of GI.

Theoretical background

This study is conducted in the theoretical background of digital divide and government information openness. Under the impetus of UN, the theory of digital divide has made great impact on government decisions in the world, especially in developing country. Norris (2001) defines the scope of the digital divide as three types: the global divide, internet access gap between industrialized and developing countries; the social divide, the gap between information rich and poor in each nation;

democratic divide, the difference between those who do and do not use digital resources to participate in public life. Digital divide is attributed to social causes such as education (Bonfadelli, 2002), race and income (Kennard, 2002), digital literacy (Lentz, 2000). Ryder (2007) studied if investment on e-government narrows the digital divide with consideration of the influence of education, GDP/income, gender, age, location, and ethnic group.

Researches on government information openness emerged in the 20-30's of last century, mainly focusing on reflection about the information functions of government (Walker, F, 1926; Mundt, K. E., 1947; Fitzpatrick, D., 1947-1948; Price & Mulvihill, 1965; Cleveland, H., 1986), GI and the rights of citizens (Michigan Law Review, 1975), freedom of GI (Lebowitz, B. E., 1980; Hancock, G, 1980), management information system for local government (Biero, A. & Sjo, J, 1981), government information resource management (Caudle, S. L., 1990) and access to GI (Relyea, H. C., 1986; Roberts, A., 2001). Some of these studies refer to "knowing rights" of citizens and information technical ways for access to GI, some utilize case study method to investigate the rules of GI management, but few adopt empirical studies to test the formulated theories.

Factors influencing the utilization of GI are similar to those influencing digital divide. In fact, digital divide directly leads to the gap between those who can and those who can't access to GI. A study shows that Internet may increase the political participation gap based on education and income, while reducing the disparities in participation based on age, and education emerged as the most important factors in the democratic divide (Tolbert, C., et al, 2002). From Belanger & Carter's study (2009), it is learnt that for the access divide, income, education and age were significant predictors of intentions to use e-government services while ethnicity and gender were not predictors, and regarding the skills divide, Internet usage and online information search experience were significant predictors of intentions while computer experience and prior online purchases were not.

Combining the theory of digital divide and the theory of GI openness, research model of this study is developed and seven groups of hypotheses are formulated. The predictors and response variables are also adopted from these two theories.

Research model

According to the 23rd China Internet Development Status and Statistics Report of the China Internet Information Center (CNNIC), China's online population grew to 298 million by the end of 2008. Among them, 0.846 million are from rural area. (CNNIC, 2009). Such a great scale of online population forms a huge number of potential users for e-government. Abovementioned studies show that gender, age, education, income and residence have significant influence on the adoption of broadband or e-government in some way.

In this study, citizen's individual characteristics are comprised of gender, age, education, income, residence and occupation. Citizens' recognition and utilization of GI include their attitude to utilizing GI, demand for GI, way to obtain GI, knowing about open government information (OGI) laws and regulations, frequency of browsing government websites, and total times of applying for GI. Due to the "frequency of browsing government websites" is highly associated with the "recognition of open information columns on government websites" in pilot study (Partial correlation coefficient is 0.49, $p=0.003$), these two variables are combined into one variable 'frequency of browsing government websites'. Then 10 variables gender, age, education, income, residence, occupation, attitude to utilizing GI, knowing about OGI laws and regulations, frequency of browsing government websites and total times of applying for GI, are selected for correlation analysis.

Demographic variables have been used in many studies for description or explanation purpose as independent variables in other fields. In this study, they are defined based on common knowledge and previous studies. Demand for GI and way to get GI are descriptive variables. Attitude to utilizing GI, understanding of OGI laws and regulations, frequency of browsing government websites and total times of applying for GI are observed variables for constructs recognition and utilization of GI. Some of them come from previous studies and others are formulated based on the purpose of this study.

Among the observed variables, "Attitude to utilizing GI" is used to describe citizens' subjective inclination to use GI. It shows citizen's recognition of and demand for GI. "Knowing about OGI regulations" is helpful to investigating the popularity of national government information regulations. This variable could attribute to both subjective and objective factors. In this study, citizens' individual characteristics are used to explain it. "The frequency of browsing government websites" is a variable that relates with the utilization of e-government services. It shows the effect of information dissemination through government websites. "One's total times of applying for GI" indicates citizens' past actions of applying for GI. These four variables describe citizens' recognition and utilization of GI. In order to reduce the number of dependent variables, factor analysis is adopted to extract the component of the four variables and two components are extracted as shown in table 1. The first construct includes three variables "attitude to utilizing GI", "knowing about OGI regulations" and "frequency of browsing government websites" and the second one includes one variable "total times of applying for GI". The first construct is named as "enthusiasm for GI" and the second is named as "experience of application for GI". In this study, gender, age, education, income, occupation and residence are taken as predictor variables and "enthusiasm for GI" and "experience of application for GI" as response variables. The research model is shown in Figure 1.

Table 1 Component Matrix

	Component	
	1	2
Attitude to utilizing GI	.701	.379
The frequency of browsing government websites	.738	-.176
One's total times of applying for GI	-.326	.891
Knowing about OGI regulations	-.736	-.210

Extraction Method: Principal Component Analysis.

a. 2 components extracted.

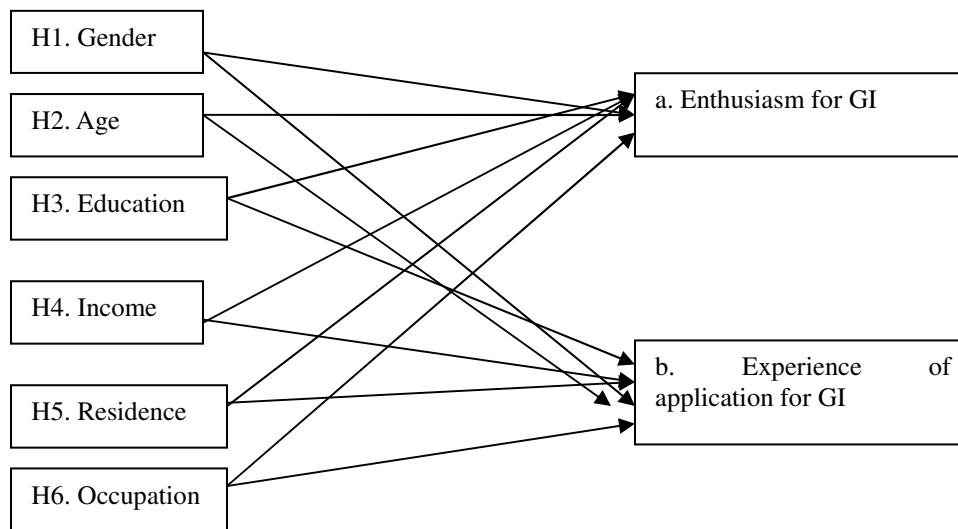


Figure1: Citizens' individual characteristics and OGI

Hypotheses

Based on the theory of digital divide and government information openness as well as daily observation, six groups of hypotheses are formulated as shown in table 2.

Gender is proved to be a significant factor for technology acceptance (Venkatesh, V., et al, 2003) and adoption of broadband (Choudrie and Dwivedi, 2005) and e-government. H1 is formulated to test its influence on recognition and utilization of GI.

As shown in abovementioned studies, age has been proved to be a significant factor that influences the digital divide (Hendry, 2000), adoption of e-government (Belanger & Carter, 2009), broadband and acceptance of new technology. In some studies age is taken as a moderator variable. In order to investigate the direct influence of age on citizens' enthusiasm for GI and experience of application for GI, H2 is formulated.

Education is thought as the most important influential factors in studies on digital divide (Bonfadelli, 2002; Belanger & Carter, 2009). Computer self-efficacy, which is related closely with education, is also proved to be able to enhance citizen's continuance intention to use e-government websites (Wangpipatwong, Chutimaskul, and Papsaratorn, 2008). Hence, H3 is formulated.

Income is an important factor to explain digital divide (Kennard, 2002; Dwivedi, 2007; Ryder, 2007; Belanger & Carter, 2009) and adoption of broadband. In order to test if income influences citizens' enthusiasm for GI and experience of application for GI, H4 is formulated.

Living in urban or rural areas makes critical difference in citizens' access to Internet (Ryder, 2007) at the early age of national information infrastructure. Different residences mean different distances between citizens and the governments, which

possibly results in difference in acceptance of GI. To test it, H5 is formulated.

Occupation is a possible predictor to explain citizens' recognition and utilization of GI because some occupations need to process more information than others. Then H6 is formulated.

Table2 Hypotheses

Name	Hypotheses
H1	Gender
H1a	Gender is positively correlated with citizens' enthusiasm for GI.
H1b	Gender is positively correlated with experience of application for GI.
H2	Age
H2a	Age is positively correlated with citizens' enthusiasm for GI.
H2b	Age is positively correlated with experience of application for GI.
H3	Education
H3a	Education is positively correlated with citizens' enthusiasm for GI.
H3b	Education is positively correlated with the degree of understanding OGI regulations.
H4	Income
H4a	Income is positively correlated with citizens' enthusiasm for GI.
H4b	Income is positively correlated with the experience of application for GI.
H5	Residence
H5a	Residence is positively correlated with citizens' enthusiasm for GI.
H5b	Residence is positively correlated with the experience of application for GI.
H6	Occupation
H6a	Occupation is positively correlated with citizens' enthusiasm for GI.
H6b	Occupation is positively correlated with the experience of application for GI.

Methodology

Research method

A questionnaire survey is adopted in this study. At first, a statistical description is presented. Then correlation analysis is adopted to analyze the relationship between predictor variables and response variables. At the same time, partial correlation analysis is applied to help to understand the practical meaning of statistical results of total correlation analysis. At last, the theoretical and practical implications of this study are discussed.

Questionnaire design

The questionnaire is made up of three parts. The first part is made up of items on demographic statistics and answer items of them are designed based on previous studies. The second part is a descriptive survey on citizens' demand and utilization of GI. Four of them are ordinal variables and will serve as response variables. Others with multiple-choice items are only for description purpose. The third part is comprised of a few open questions about citizens' expectation. Except demographic variables, most variables are created by author according to research purpose because there are no appropriate operational concepts in previous studies.

Samples

The sampling strategy is snowball rolling. Ordinary citizens who have and haven't utilized GI and e-government are involved. Their occupation ranges from teacher, government employee, worker in enterprises to farmer and migrant worker. From January 2007 to May 2008, 176 efficient questionnaires in total are recovered from more than 10 cities and provinces, such as Tianjin, Neimeng, Xiamen, Nanjing, Henan, Beijing and Shanghai, etc. Some of the questionnaires were distributed by about 30 undergraduate students among their family members and relatives when they went back to their hometowns in holiday, which scatter in many Northern provinces of China. Other questionnaires are distributed among college teachers, cleaners, farmer-workers and people with other occupation by face-to-face, email or other internet ways. As mainly finished in a face

to face situation, the efficient recovery rate of questionnaire is more than 99%.

Reliability, validation and normality

The value of Cronbach's Alpha of 10 variables (including 6 demographic variables and four observed response variables) is 0.650. As shown in table 1, the construct validations of two response variables are nice. Normality is a necessary condition for strict correlation analysis. The results of P-P plot shows that the data are basically normally distributed.

Data analysis

Demography statistics

The number of questionnaires efficiently collected is 176. Among the people inquired, male makes up 64.8% while female 35.2%. 4% of them are under 20 years old, 30.1% are 20 to 29 years old, 25% are 30 to 39 years old, 21% are 40 to 49 years old, 15.9% are 50 to 59 years old, and 3.4% are over 60 years old. 76.7% in total are at the age of 20 to 50 years old. As for the education, 12% of them receive education of or under the level of junior middle school, 25.1% to senior middle school, 17.7% in training school, 34.3% to undergraduate, 8.6% to MA and 2.89% to Ph.D. The number under the level of college makes for 55% while that over it is 45%. As for the occupation, the 18.2% of them are in businesses, 5.7% in government departments, 26.7% in education and research agencies, 9.7% in other institutions, 6.8% in agricultures and 22.7% are students or have free occupation. 45% of them live in municipality directory under the Central Government, 23.7% in provincial city, 11.3% in county city, 6.3% in towns and 13.7% in villages. The demography statistics shows that the distribution of samples could basically represent Chinese citizens.

Citizens' demand for GI

The present status of Chinese citizens' demand for GI is directly investigated with two questions. Among various kinds of GI accepted by people in daily life, "government news" is chosen by 78.9% of people inquired and ranks first. "Policies and regulations" is chosen by 38%. "Working procedure of government agencies" is chosen by 20%, which means that about one-fifth people need information on transactions with government agencies. "Information on government personnel" is chosen by 6.4%. "Other types of information" is chosen by 2.3%. "Don't care" is chosen by 1.1%. "Archives and records about oneself preserved by government agencies" is chosen by 0.6%.

For the channels to obtain GI, TV is chosen by 80.6% of people inquired and comes out on top. The other items are chosen as newspaper (65.7%), Internet (45.1%), broadcast (29.1%), interpersonal (23.4%), conferences (13.7%), announcement columns (5.14%), telephone (4.57%), going to government agencies (4.57%), messages on cell phone (4%), call center (0.57%). The data show that traditional mass media such as TV and broadcast still occupy the most important positions in citizens' choose. Near half of the people get GI from Internet, which means the development tendency of e-government.

Hypothesis testing

Spearman's rho is adopted to analyze the correlation between predictors and response variables. At first, a total correlation analysis is conducted. As shown in table 3, "gender" has no significant relationship with any other variables and some variables are significantly associated with each other. In order to investigate the practical meaning of the results, partial correlation method is also adopted for reference as shown in table 4.

Table 3 Nonparametric Correlations

			Gender	Age	Education	Income	Residence	Occupation	Experience of application for GI	Enthusiasm for GI
Spearman's rho	Gender	Correlation Coefficient	1.000	-.066	.132	-.035	-.099	.002	-.051	.103
		Sig. (2-tailed)	.	.381	.083	.650	.212	.982	.530	.231
		N	176	176	175	172	160	158	155	138
Age	Age	Correlation Coefficient	-.066	1.000	-.151*	.240**	-.116	.170*	.174*	-.009
		Sig. (2-tailed)	.381	.	.046	.002	.146	.033	.030	.918
		N	176	176	175	172	160	158	155	138
Education	Education	Correlation Coefficient	.132	-.151*	1.000	.364**	-.396**	.479**	.099	-.348**
		Sig. (2-tailed)	.083	.046	.	.000	.000	.000	.222	.000
		N	175	175	175	171	160	158	155	138
Income	Income	Correlation Coefficient	-.035	.240**	.364**	1.000	-.269**	.253**	.304**	-.138
		Sig. (2-tailed)	.650	.002	.000	.	.001	.001	.000	.111
		N	172	172	171	172	156	156	151	134
Residence	Residence	Correlation Coefficient	-.099	-.116	-.396**	-.269**	1.000	-.153	-.069	.182*
		Sig. (2-tailed)	.212	.146	.000	.001	.	.055	.394	.033
		N	160	160	160	156	160	158	155	138
Occupation	Occupation	Correlation Coefficient	.002	.170*	.479**	.253**	-.153	1.000	.090	-.435**
		Sig. (2-tailed)	.982	.033	.000	.001	.055	.	.266	.000
		N	158	158	158	156	158	158	153	136
Experience of application for GI	Experience of application for GI	Correlation Coefficient	-.051	.174*	.099	.304**	-.069	.090	1.000	-.101
		Sig. (2-tailed)	.530	.030	.222	.000	.394	.266	.	.243
		N	155	155	155	151	155	153	155	136
Enthusiasm for GI	Enthusiasm for GI	Correlation Coefficient	.103	-.009	-.348**	-.138	.182*	-.435**	-.101	1.000
		Sig. (2-tailed)	.231	.918	.000	.111	.033	.000	.243	.
		N	138	138	138	134	138	136	136	138

*. Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).

Table4: Partial Correlations

Controlled Variables				Enthusiasm for GI	Experience of application for GI
All other variables	6	Gender	Correlation	.101	-.030
			Significance (2-tailed)	.260	.742
			df	124	124
All other variables	6	Age	Correlation	.076	.141
			Significance (2-tailed)	.396	.116
			df	124	124
All other variables	6	Education	Correlation	-.118	.046
			Significance (2-tailed)	.188	.612
			df	124	124
All other variables	6	Income	Correlation	.051	.230**
			Significance (2-tailed)	.573	.009
			df	124	124
All other variables	6	Residence	Correlation	.118	.026
			Significance (2-tailed)	.190	.772
			df	124	124
All other variables	6	Occupation	Correlation	-.321***	-.088
			Significance (2-tailed)	.000	.325
			df	124	124

**Correlation is significant at the 0.01 level (2-tailed).

*** Correlation is significant at the 0.001 level (2-tailed).

Results

From table 3, we can find that for the enthusiasm for GI, education, residence and occupation are significant predictors while gender, age, and income are not predictors. Regarding the experience of application for GI, age and income are significant predictors of total times of GI. If the correlations between predictors are excluded, the results of partial correlation analysis change greatly as shown in table 4. It is surprisingly to find that occupation is the only significant predictor for the enthusiasm for GI and income is the only significant predictor for the experience of application for GI. The results of hypothesis testing are shown in table 5.

Table 5 Hypothesis testing

Name	Hypotheses	Total Correlation Support	Partial Correlation Support
H1	Gender	N	N
H1a	Gender is positively correlated with citizens' enthusiasm for GI.	N	N
H1b	Gender is positively correlated with experience of application for GI.	N	N
H2	Age	Half	N
H2a	Age is positively correlated with citizens' enthusiasm for GI.	N	N
H2b	Age is positively correlated with experience of application for GI.	Y	N
H3	Education	Half	N
H3a	Education is positively correlated with citizens' enthusiasm for GI.	Y	N

H3b	Education is positively correlated with the degree of understanding OGI regulations.	N	N
H4	Income	Half	Half
H4a	Income is positively correlated with citizens' enthusiasm for GI.	N	N
H4b	Income is positively correlated with the experience of application for GI.	Y	Y
H5	Residence	Half	N
H5a	Residence is positively correlated with citizens' enthusiasm for GI.	Y	N
H5b	Residence is positively correlated with the experience of application for GI.	N	N
H6	Occupation	Half	Half
H6a	Occupation is positively correlated with citizens' enthusiasm for GI.	Y	N
H6b	Occupation is positively correlated with the experience of application for GI.	N	N

Discussion

Citizens' individual characteristics

In order to explain the different results of hypothesis testing between the total and partial correlation analysis, it is necessary to considerate the practical causality between predictors. As shown in table 3, age has negative correlation with education and positive correlation with income. The older has more income and has applied for GI for more times because he has experienced more things in his life. Hence, age is a meaningful predictor of citizens' experience of application for GI.

Education has significant correlation with age, income, residence, occupation and enthusiasm for GI as shown in table 3. In practice, education is a basic predictor of residence and occupation. Therefore, education is a meaningful predictor of enthusiasm for GI although its contribution disappears in partial correlation analysis.

Income is a significant predictor of utilization either in table 3 or in table 4. The correlation between residence and enthusiasm for GI in table 3 disappears in table. This can be explained by the factor that residence is not a strong significant predictor because there is not obvious distinction in internet accessibility between cities and rural areas in China now after the rapid development of information infrastructure in recent years.

Occupation is a strong significant predictor of the enthusiasm for GI in both table 3 and table 4. This is because the attitude to utilizing and knowing about GI are closely related with one's occupation. So it can be inferred that GI is mainly utilized to meet one's information need in work.

In view of the practical signification of correlation between predictors, the results of hypothesis testing in table 3 are more interpretive than those in table 4 in both practical and statistical sense. So the results of data analysis is that H2b, H4b, H3a, h5a, H6a are supported while others are declined. Citizens' individual characteristics have significant correlation with their enthusiasm for and utilization of GI except gender.

Citizens' enthusiasm for GI

H3a, h5a, H6a are supported while H1a, H2a, H4a are not. This finding means that citizens' enthusiasm for GI is significantly influenced by education, residence and occupation. Those accepting higher education, living in bigger cities and possessing occupations requiring more government information and knowledge know more about the regulations on OGI and approaches to obtain GI and thus have more active attitude to access to GI. From the results of partial correlation analysis, it is learnt that occupation is the most direct factor to influence the enthusiasm for GI.

Citizens' experience of application for GI

H2b and H4b are supported. It means that citizens' experiences of application for GI are determined by age and income. It is obvious that one will go through more transaction with governments when he grows older. The finding that income is a strong significant predictor of experience of application for GI could be explained by two facts: one is that the richer need to deal with more transaction with governments than others; the other is that the richer are possibly likely to pay more attentions to their "knowing rights".

Non-significant results

H1, H2a, h3b, H4a, H5b and H6b are not supported. Gender has not significant influence on citizens' enthusiasm for GI and experience of application for GI. It shows the equality in access to GI between male and female in China. Age and income

have not obvious influence on enthusiasm for GI. Education, residence and occupation have not significant correlation with experience of application for GI.

Implications for practice

The results reveal the existence of digital gap in a way. On the one hand, governments should make more efforts to have e-government facilities accessible for people with lower education and living in remoter regions and to enhance education in order to increase the recognition and utilization of GI. On the other hand, governments should take efficient actions to make OGI regulations known by more people in physical industries, in rural regions and with low education to protect their “knowing rights”.

Limitations

Although the comparative analysis between total and partial correlation is adopted to test hypotheses and the number of samples is suitable for analysis, the fact that sampling mainly involves cities and provinces of northern China will possibly influence the generalization of the conclusion. Data from other areas and countries are necessary. It is limited to explain enthusiasm for GI only by demographic factors and other objective factors should be combined into further study.

Conclusions

This study investigates citizens’ practical demand for GI and the influences of citizens’ individual characteristics on their recognition and utilization of GI and reaches some conclusions. “Government news” and “policies and regulations” are the first two kinds of GI required by citizens, and TV, newspaper and internet are the first three ways to accept GI used by citizens. Education, residence and occupation are significant influential factors on citizens’ enthusiasm for GI, and age and income have significant correlation with citizens’ experience of application for GI. The findings will help governments adopt more efficient ways to meet the GI needs of their citizens and to popularize the utilization of e-government among people with lower education, living in rural areas or in physical industries.

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