

Openness of Cabinet-Level Websites in Developing Countries

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Abstract

This paper examines the effects of political, cultural, economic, and technical factors on openness of cabinet-level websites in developing countries. The question is whether these factors affect openness of electronic governments. This paper uses regression analysis of a comparative database of national level public agency websites that is produced by the Cyberspace Policy Research Group (CyPRG). The openness index, the dependent variable, is based on transparency and interactivity scores and availability of cabinet-level websites in more than 100 developing countries. The independent variables include the level of democracy, colonial legacy, religious tradition, government performance index, the GDP per capita, and number of Internet users per 1,000 people. Regression analysis shows that the level of democracy, colonial legacy, religious tradition, and the level of economic development affect openness of cabinet-level websites in the developing countries.

Hypotheses

The Net and the Web are a new class of information technologies for government administration, in that they provide an unprecedented capacity both to connect citizens to government, but also to improve internal administrative structures and processes necessary for effective governance. Increasingly, the World Wide Web becomes an important element of the functioning of government agencies in many developed, post-communist and developing countries. “Transparency,” “interactivity,” and “openness” represent different aspects of adoption of information technology and electronic governance. Homogeneity of the Web enables comparison of government websites in a variety of countries of the world. (See Bimber, 2003; Chadwick and May, 2003; Demchak, Friis, and La Porte, 1998; Fountain, 2001; Katchanovski and La Porte, 2005; Rose, 2005; West, 2005; Wong and Welch, 2004).

Previous academic and policy studies found significant cross-national differences in various aspects of e-government. However, only few of the studies examined factors which are associated with these differences in developing countries. The research focused on analysis of advanced Western countries. Few studies examined e-governments in developing countries from a comparative or cross-national perspective. (See Basu, 2004; *Benchmarking E-government*, 2002; Chadwick and May, 2003; Chen, Chen, Huang, and Ching, 2006; Demchak, La Porte, and Friis, 1999, Holliday, 2002; Jaeger, 2003; Katchanovski and La Porte, 2005; La Porte, Demchak, and Friis, 2001; La Porte, Demchak, and de Jong, 2002; Pons, 2004; Prattipati, 2003; Rose, 2005; Schware, 2000; Siau and Long, 2006; Wei, 2004; West, 2005; Wong, and Welch, 2004).

This study seeks explanations for government website openness in cabinet-level websites in developing countries. Previous research has established the validity of openness as a measurable attribute of administrative behavior that has direct consequences for governance and for government performance. In addition, it has been found in the worldwide national data that openness in e-government causes improvements in administrative effectiveness: even otherwise badly managed agencies benefit from the deployment of public networked information technologies such as the Internet and the World Wide Web. (See Demchak, Friis, and La Porte, 1998; Demchak, La Porte, and Friis, 1999, Katchanovski and La Porte, 2005; La Porte, Demchak, and Friis, 2001; La Porte, Demchak, and de Jong, 2002; Wong and Welch, 2004).

With the importance of openness now established, we are focusing our attention on the factors that produce or inhibit it. Previous studies identified a number of political, economic, cultural and technical factors that affect development of e-government in different countries. The level of democracy and Western Christianity had positive effect on the level of openness in OECD and post-communist countries; while Western historical legacy was negatively associated with the openness. The level of economic development was a major factor of e-government development in many studies. Some studies linked openness of government websites to government performance. (Katchanovski and La Porte, 2005; La Porte, Demchak, and Friis, 2001; La Porte, Demchak, and de Jong, 2002; Prattipati, 2003; Siau and Long, 2006; West, 2005; Wong and Welch, 2004).

The question is which of these factors are associated with openness of cabinet-level websites in developing countries. Our first hypothesis is that the level of democracy is positively associated with the openness of cabinet-level websites. Because the spread of

the Net and the World Wide Web in many developing countries occurred recently; and only a fraction of their population has access to these technologies, it is much less likely that the openness of government websites affects the level of democracy.

Our second hypothesis is that cultural legacies affect openness of electronic governments in developing countries. Previous studies linked historical legacies to various aspects of political and economic development and openness of electronic governments in advanced Western and post-communist countries (See Katchanovski and La Porte, 2005; North, 1990; Putnam, 1993). For example, the legacy of British colonial rule had a positive effect on the level of democracy in developing countries; while former colonies of other countries, such as Spain, were less likely to be democratic. The legacy of Austro-Hungarian and German rule was negatively associated with the openness of government websites in OECD and post-communist countries. (Katchanovski and La Porte, 2005).

We expect that the legacy of colonial rule would be a major factor of the openness in developing countries. However, in contrast to democracy, the legacy of British colonial rule is likely to have a negative effect on openness; while Spanish and Portuguese colonial legacies are likely to be positively associated with openness. This relationship is attributed to the phenomenon of “Potemkin e-villages,” when cabinet level websites are used as elaborate facades designed to create false impression of great government openness. (Katchanovski and La Porte, 2005). In this sense, the Web is similar to colonial architecture. The Spanish and Portuguese designs of government buildings in these countries and their colonies often focus on building elaborate facades, while British tradition of architecture of government buildings in the center of empire and its colonies is designed with focus on internal openness and access.

Similarly, religious tradition which also represents a cultural legacy is another possible determinant of openness. Previous studies linked religion to various political phenomena, including quality of government and democracy. Protestant and Catholic religions are positively associated with the level of democracy and government performance. (See Huntington, 1991; La Porta, Lopez-de-Silanes, Shleifer, and Vishny, 1999; Novak, 1993; Weber, 1958). The proportion of Catholics and Protestants has a positive and statistically significant effect on the openness of government websites in OECD and post-communist countries (Katchanovski and La Porte, 2005). We expect to find a positive relationship between Protestant and Catholic religions and the openness of cabinet-level websites in developing countries.

Our third hypothesis is that the level of economic development is positively associated with openness of government websites in developing countries. The fourth hypothesis is that the level of the Internet use has a positive effect on the openness. The fifth hypothesis is that government performance affects the openness of cabinet-level websites in developing countries.

Data and Methodology

This study uses regression analysis of a global database of public agency websites from the Cyberspace Policy Research Group (CYPRG). In 2000 and 2001, the CYPRG conducted surveys of government websites in most countries of the world. The mean scores of the openness index of cabinet-level websites in 103 developing countries in 2000-2001 is the dependent variable. This time period represented a crucial stage of

development of government websites in developing countries. Agency openness is based on transparency and interactivity scores and availability of cabinet-level websites.

The same set of indicators was used to code transparency and interactivity of government websites in different countries. Transparency includes 23 criteria, such as agency involvement with website, whether website provides phone numbers, postal addresses, organizational structure, publications, searchable index, ability to download or print publications free of charge, and in depth explanations of requirements imposed on citizens. Interactivity includes 22 criteria, such as website privacy, security, listing of email addresses of senior officials, employees, and webmasters, whether website provides links to sub-elements within agency, to other government and non-government websites, automatic update announcement or newsletters, submission forms, and extent to which site is accessible to disabled people.

There is significant variation in the openness of the cabinet-level websites in developing countries. Many East Asian countries, such as Malaysia (1.24), Singapore (1.15), South Korea (1.09), Indonesia (1.07), and Taiwan (0.97) have top scores on the openness index. Several Latin American countries, such as Mexico (1.17), Peru (1.05), and Colombia (0.92) are also in the top ranks on this measure of the openness of cabinet-level websites. The lowest scores (0) on the openness index have many African countries, including Central African Republic, Chad, Congo, Equatorial Guinea, Eritrea, Guinea-Bissau, Libya, and Somali Republic. Very small countries located on islands in the Pacific, Indian Ocean, and Caribbean, such as Comoros, Kiribati, Nauru, Palau, Saint Vincent and the Grenadines, Seychelles, Tonga, and Tuvalu, some Asian countries, such as

Afghanistan, Bhutan, Laos, and several Latin American countries, such as Haiti and Surinam, also score at the very bottom on the openness index. (See Table 1).

[Table 1 about here]

The political, cultural, economic, and technical factors are quantified using different measures of democracy, political culture, the level of economic development, the level of Internet use, and government performance. The independent variables include Polity index of democracy, colonial legacy, religious tradition, government performance index, the GDP per capita, and number of Internet users per 1,000 people. (Distribution, 2002; *Human Development Report 2003*, 2003; Kaufmann, Kraay, and Mastruzzi, 2003; Political Regime, 2003; *World Factbook 2002*, 2002).

Regression analysis

Regression analysis shows that the level of democracy has a positive effect on the openness of cabinet-level websites in the developing countries. This variable is statistically significant at the .05 level. British and French colonial legacies have negative and statistically significant effects on the openness index. Standardized regression coefficients show that the effect of the British colonial legacy is of bigger magnitude compared to the effects of the other variables. Regression analysis indicates that Spanish and Portuguese colonial legacies which are the omitted variable in the regression model are positively associated with the openness index. Colonial legacies of other countries have a negative association with the openness. These findings support our hypotheses that openness of

government websites in developing countries is linked to both the greater level of democracy and to “Potemkin e-villages.” (Table 2).

[Table 2 about here]

The proportion of Catholics and Protestants has a negative effect on the openness index in developing countries. This effect is statistically significant at the .05 level. This result contradicts our hypotheses concerning the relationship between religious traditions and the e-government. (Table 2).

The level of economic development, measured by GDP per capita, has a positive effect on the openness index of cabinet-level websites in developing countries. This variable is statistically significant at the .001 level. In contrast, effects of the level of Internet use and the government performance index are statistically insignificant. (See Table 2).

Conclusion

Regression analysis shows that democracy, colonial legacy, religious tradition, and the level of economic development affect openness of cabinet-level websites in the developing countries. As expected, the levels of democracy and the economic development are positively associated with the openness index. In contrast, the British colonial legacy is negatively associated with the level of openness of government websites in developing countries.

Regression analysis does not support our hypotheses concerning effects of religious tradition, the level of Internet use, and government performance on the openness

of cabinet-level websites in developing countries. These findings are helpful in understanding reasons behind wide variation in the implementation of the Web in government websites and improving service delivery through the Internet in developing countries.

Table 1. Openness of cabinet-level websites in developing countries

Country	Openness score	Country	Openness score
Malaysia	1.24	Ecuador	0.33
Mexico	1.17	Iran	0.33
Singapore	1.15	Senegal	0.31
South Korea	1.09	Vietnam	0.31
Indonesia	1.07	Bahrain	0.30
Peru	1.05	Guyana	0.29
Taiwan	0.97	Paraguay	0.28
Colombia	0.92	Cambodia	0.26
Thailand	0.91	Egypt	0.26
Brazil	0.88	Maldives	0.25
Turkey	0.88	Myanmar	0.25
Mauritius	0.75	Saint Lucia	0.25
Panama	0.73	Benin	0.24
Uganda	0.72	Jordan	0.23
Argentina	0.71	Iraq	0.22
Brunei	0.71	Saint Kitts & Nevis	0.21
Cayman Islands	0.69	Mongolia	0.20
Venezuela	0.69	Oman	0.20
South Africa	0.68	Qatar	0.20
Malta	0.66	Algeria	0.19
Lebanon	0.65	Kuwait	0.19
Uruguay	0.64	Swaziland	0.18
Chile	0.62	Tunisia	0.18
Bolivia	0.61	Cyprus	0.17
Burkina Faso	0.60	Honduras	0.17
El Salvador	0.59	Pakistan	0.17
India	0.59	Cameroon	0.16
Republic of Yemen	0.59	Malawi	0.16
Dominican Republic	0.57	Angola	0.15
Nicaragua	0.54	Niger	0.15
Andorra	0.53	Zimbabwe	0.15
Gaza and Jericho	0.52	Madagascar	0.14
China	0.51	Saudi Arabia	0.14
San Marino	0.49	Trinidad & Tobago	0.14
Botswana	0.46	Mozambique	0.13
Jamaica	0.45	Philippines	0.13
Namibia	0.44	Belize	0.11
Morocco	0.42	Cape Verde	0.11
Guatemala	0.41	Guinea	0.11
Micronesia	0.35	Rwanda	0.11
United Arab Emirates	0.35	Ghana	0.10

Table 1. Cont.

Country	Openness score	Country	Openness score
Mali	0.10	Congo	0
Sierra Leone	0.10	Equatorial Guinea	0
Barbados	0.09	Eritrea	0
Ethiopia	0.09	Guinea-Bissau	0
Lesotho	0.09	Haiti	0
Nepal	0.09	Kiribati	0
Sri Lanka	0.09	Laos	0
Syria	0.09	Libya	0
Togo	0.09	Nauru	0
Bangladesh	0.08	Palau	0
Fiji	0.08	Saint Vincent and the Grenadines	0
Papua New Guinea	0.08	Seychelles	0
Sudan	0.08	Somali Republic	0
Tanzania	0.08	Suriname	0
Anguilla	0.07	Tonga	0
Gabon	0.07	Tuvalu	0
Soloman Islands	0.07		
Gambia	0.06		
Costa Rica	0.05		
Kenya	0.05		
Mauritania	0.05		
Sao Tome & Principe	0.05		
Vanuatu	0.05		
Zambia	0.05		
Nigeria	0.04		
Antigua & Barbuda	0.03		
Bahamas	0.03		
Djibouti	0.03		
Grenada	0.03		
Zaire	0.03		
Cote d'Ivoire	0.02		
Liberia	0.02		
Burundi	0.01		
Dominica	0.01		
North Korea	0.01		
Afghanistan	0		
Bhutan	0		
Central African Republic	0		
Chad	0		
Comoros	0		

Table 2. Determinants of openness of cabinet-level websites in developing countries, OLS regression

	Unstandardized coefficient	Standardized coefficient
Democracy	.014* (.006)	.247
British colony	-.372*** (.090)	-.492
French colony	-.315** (.101)	-.319
Other colony	-.211* (.095)	-.217
Proportion of Catholics and Protestants	-.002* (.001)	-.205
Internet users per 1,000 people	.000 (.000)	-.044
GDP per capita	.000*** (.000)	.426
Government performance	.013 (.009)	.185
Constant		
R-squared	.584	
N	103	

Note: * Significant at .05; ** significant at .01; *** significant at .001.

Standard errors are in the parentheses.

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