

e-Government and Transparency in Authoritarian Regimes: Comparison of National- and City-Level e-Government Web Sites in Central Asia

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Abstract: Why do authoritarian governments develop e-Government web presence? Most models of e-Government assume a goal of government-to-citizen services and increased transparency and democratic accountability. While democratic governments probably pursue such goals, authoritarian regimes might not, especially in countries with low volumes of Internet users. Using content analysis and case study comparisons, this paper explores the utilities of national- and city-/regional-level e-Government websites in Kazakhstan, Kyrgyzstan and Uzbekistan, how they differ from e-Government sites in more democratic environments and the lessons to be learned from how authoritarian regimes manipulate information and communication technologies. We find that national-level e-Government sites do not increase transparency or service provision of the government institutions and agencies that they represent. City-/regional-level e-Government initiatives, however, are more citizen-oriented and transparent. Understanding whether e-Government serves as a tool to influence political change, facilitates government-citizen connections, or serves as a mechanism of authoritarian control over media is important for scholars, the international development community and IT professionals.

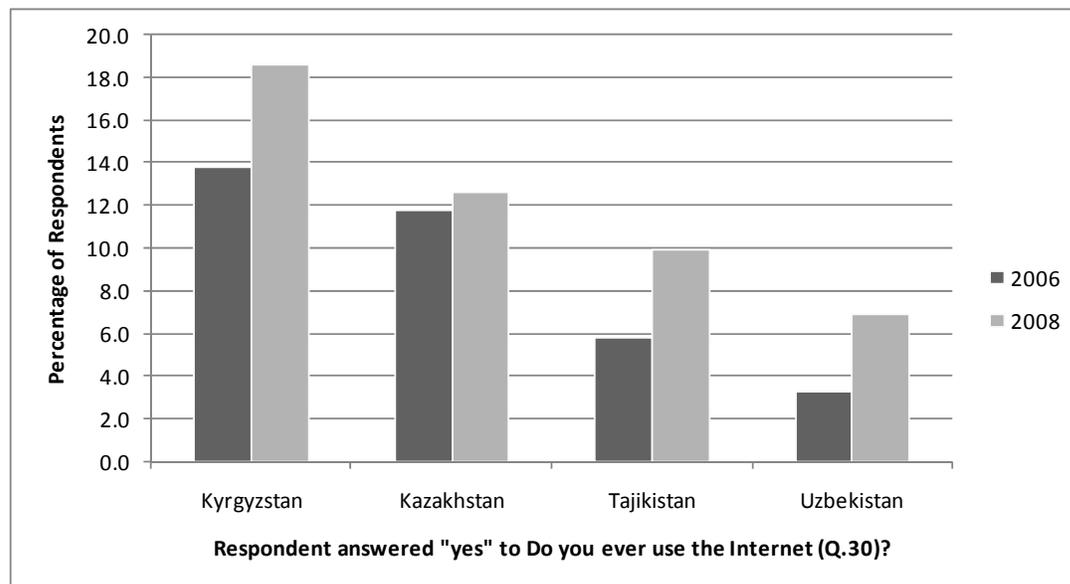
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Many researchers analyzing the interaction between information technologies (ITs) and government institutions argue that the creation of an e-Government presence will change the content, functions and accountability of government institutions and their interactions with other government agencies, businesses and citizens. While plausible that democratic governments would pursue such goals, we would not expect authoritarian regimes to care about increasing transparency and accountability through the creation of e-Government sites, especially in poor, developing countries with low volumes of Internet users. Indeed, as

recent events in Burma, Egypt, Iran and elsewhere demonstrate, dictators regularly limit citizens' access to the Internet and mobile phones to prevent dissent and the mobilization of protest.¹ Nevertheless, authoritarian governments across the globe are simultaneously developing e-Government sites. What do the content and the utilities of e-Government web sites in authoritarian regimes teach us about their concerns for the increased transparency, accountability and improved service provision usually assumed to motivate a government's online presence?

We examine these issues in three Central Asian countries, Kazakhstan, Kyrgyzstan and Uzbekistan, to understand what might motivate authoritarian regimes to build e-Government initiatives. In more democratic contexts, many argue that citizen demand for online government services drives the creation of e-Government sites. In the authoritarian states of Central Asia, citizen demand for government service via the Internet is very low. On average in the Central Asian countries, only seven percent of the population access the Internet on a weekly basis, and overall a relatively low number of survey respondents indicate using the Internet at all (See Figure 1). While we are aware that, even in democratic municipalities, '[e-government initiatives are often pursued and implemented without a long-term strategic plan' (Moon 2002, 427), we nevertheless distinguish certain goals and intended uses of e-Government sites in authoritarian countries based on the types of information and services available, the modes of communication, design features, intended audience and other characteristics discussed below.

Figure 1. Internet Use in 2006 and 2008; N = 1,000 per country per year.



¹ It is important to note that government filtering of Internet access is not exclusive to non-democratic regimes. Since 2001, the U.S. government also filters Internet content available to public libraries and schools that receive federal funding (Jaeger and Yan 2009).

Source: Survey data collected for Central Asia Information Communication Technology (CAICT) project.²

We use detailed content analysis to explore the interplay between regime type and the communication, transparency and service provision utilities of national- and city-/regional-level e-Government web sites; our analysis is based on a data set of web captures spanning the years 2004-2008. Our goals were: 1) to assess how the content of national-level sites changed over time and determine whether e-Government has increased transparency, accountability and/or responsiveness to citizens over the four years of observation; 2) compare cross-nationally to identify patterns of e-Government in non-democratic regimes; and 3) compare national and sub-national e-Government sites to determine if greater government responsiveness might exist at local levels, even in authoritarian countries. We find that e-Government sites at the national-level do not increase the transparency or accountability of the government institutions and agencies that they represent. We also find that city-/regional-level e-Government initiatives are more citizen-oriented and transparent. Thus, the goals and implementation of e-Government initiatives vary among the levels of government in authoritarian regimes.

Context: Liberalizing e-Government?

Conceptualization of e-Government is still in an early stage. In its broadest interpretation, 'e-Government includes the use of all information and communication technologies, from fax machines to wireless palm pilots to facilitate the daily administration of government' (United Nations and American Society for Public Administration 2001, 1). Following more popular approaches, our analysis characterizes e-Government as a mode of service delivery and information provision, and we focus exclusively on the external aspects and content of e-Government sites, not on how government agencies use the vast capabilities of internal ICTs such as intranets, databases, voicemail and others.

The Internet as a democratizing force

Many current models of e-Government have an unstated assumption that a desire to fulfil democratic functions motivates the creation of e-Government initiatives and that the ultimate goal of e-Government initiatives is increased transparency and accountability. Many scholars, practitioners and everyday Internet users expect that 'E-Government promotes e-governance' (ICEG 2008). This interpretation bears an implicit expectation of *democratic* e-governance and citizen-centric services. In authoritarian countries, however, a government's

² This work is a component of the Central Asia Information and Communication Technology (CAICT) project at the University of Washington's Department of Human Centered Design and Engineer. The project is a multi-year, longitudinal study of ICT use in four Central Asian nations: Kazakhstan, Kyrgyzstan, Uzbekistan, and Tajikistan. CAICT research includes broad social surveys, interviews, ethnographic observation, policy monitoring, Web archiving, focus groups, technology prototyping, and design ethnography to inform design efforts. The project is supported by the National Science Foundation under Grants No. 0219350 and 0326101. For more information about the CAICT project, see <http://depts.washington.edu/caict/>.

online presence may, in fact, be a continuation of the repressive and bureaucratic processes that permeate all other state-citizen interfaces.³

Most studies of e-Government initiatives focus on democratic countries, and much of this analysis has been undertaken in economically developed countries. In such states, citizens and government agencies clearly see e-Government as an opportunity to enhance democratic participation, link residents and representatives and help disadvantaged populations participate in government and society (see, for instance, Jaeger et al. 2007). In addition, many early studies exploring the emergence of e-Government in less developed or nondemocratic regions expected that the Internet would be a democratizing technology (Browning 1996; Dahl 1989; Etzioni 1993; Grossman 1995; Musso, Weare and Hale 2000) and that 'electronic democracy' will differ significantly from the practice of past forms of democracy (see Bimber 1998; Moon 2002; Zhou 2004). Moreover, international development efforts expect the Internet to have a democratizing effect in developing and transitioning countries. Consequently, countries with systems similar to those of Central Asia are under a great deal of international pressure to adopt Internet and e-Government policies. (See, for example, the views expressed on developing countries by the International Telecommunications Union [www.itu.org]; United Nations Development Program [www.undp.org]; World Bank [www.worldbank.org]; World Summit on the Information Society [www.wsis.org]). While many predicted that the Internet and e-Government would radically alter interactions between governments and their citizens, recent research in even the more democratic environments does not reflect a major change in the state-society relationships (see Bertot, Jaeger and Grimes 2010; Jaeger et al. 2007).

Given these findings, we should not expect e-Government to drive transparency and accountability in non-democratic countries. Indeed, authoritarian governments are often the main drivers of the Internet revolutions in their countries and their goals are in stark contrast to democratization. In Central Asia and many other developing, non-democratic countries around the world, central governments fund and implement Internet initiatives, including e-Government sites. These initiatives seem, at times, to be driven by a desire to embrace modernity and the global information society rather than a desire to increase transparency, the flow of free information, or citizen access to services. Moreover, historically the introduction of new communication technologies, including the telegraph, telephone, radio and television, has enhanced the power of governments over their citizens (Hanson 2008; Hiebert 2005). Thus, the goals of e-Government sites are not always to create better ways to serve or communicate with the citizens, and authoritarian e-Government web sites are unlikely to follow the same evolutionary models as those in democratic countries.

e-Government in non-democracies

Given the persistence of authoritarian regimes in the Internet era, some scholars have moderated their expectations of the democratizing force of the Internet (Bimber 1998; Kalathil and

³ We suggest a need to differentiate between e-Government presence and e-governance. These terms are only now being defined, but we see e-governance as a more advanced stage of a government's online presence in which citizens not only seek information but can engage in interactive communication with governmental employees, access government services, and participate in the political process.

Boas 2003). A growing body of literature has begun to analyze the communication strategies of non-democratic regimes (Deibert 2008; Kalathil and Boas 2003), especially in China (Dann and Haddow 2008; Zhang 2002; Zhao 2008; Zhou 2004) and the Middle East (Anderson 1998; Aubert and Reiffers 2003; Wheeler 1998; Zittrain and Palfrey 2008), but also in smaller developing countries in Africa and Asia (Kaaya 2004; Parajuli 2007) and the post-Soviet region, including Central Asia (Adams 2009; Johnson, Salikbayeva and Kolko 2009; Lewis 2008; Wilson 2005). While some uses of the Internet pose political challenges to dictators and allow citizens to circumvent repressive information environments (Britto 2008; Johnson, Salikbayeva and Kolko 2009; Robinson et al. 2008), other uses reinforce authoritarian rule and many authoritarian regimes promote the development of an Internet regime that serves state-defined interests.

Indeed, e-Government plays an important role as an agenda setting device for all online and traditional media outlets, as governments restrict freedom of speech and determine what information the general population can access (Chadwick 2001). Kalathil and Boas (2003) suggest two main government uses of the Internet in non-liberal regimes: propaganda and e-Government. We find these are not mutually exclusively categories. Indeed, propaganda, or state agenda setting, is a primary purpose of e-Government web sites in non-democratic regimes. Moreover, even in democratic settings, government production of its own web sites limits the extent to which e-Government sites present balanced, transparent and accountable information and services (Jaeger 2005; Robinson et al. 2008). Government agencies and officials determine what information is presented and excluded, the language and symbolism through which the chosen messages are conveyed, and rarely incorporate a pluralism of views on particular issues and policies (Chadwick 2001; Jaeger 2005). Analyses of executive-level e-Government sites in the United States and the United Kingdom demonstrate that even democratic leaderships present one-sided messages through their use of text, symbols and structures (Chadwick 2001). In addition, governments and citizens in different countries approach the Internet and e-Government sites with greatly divergent cultural expectations (Bertot, Jaeger and Grimes 2010; Chadwick 2001). Likewise, different authoritarian regimes can be expected to control and profit from e-Government presence in different ways. Indeed, the three non-democratic Central Asian regimes we study have varied tolerance for transparency, anti-corruption campaigns and improving services to citizens (Lewis 2008). Thus, through content analysis of national and sub-national levels of government, we explore differences in information, services and accountability among the three countries and between national and city-/regional-levels sites to better understand what e-Government sites are intended to do within a given society.

Criteria for e-Government assessment

A primary approach to studying e-Government has been to rate the maturity or evolutionary stage of e-Government sites both in the developed and developing worlds (Layne and Lee 2001; Moon 2002; Musso, Weare and Hale 2000; Netchaeva 2002; United Nations and American Society for Public Administration 2002). Such studies synthesize the natural evolution of e-Government sites into three- to six-stage models (Deloitte Research 2000; Howard 2001; Layne and Lee 2001; United Nations 2005). These life-stage models expect e-

Government web sites to move along a natural progression from the earliest stage of provision of information to the most advanced stage of enabling full-scale political participation, such as online voting. For example, the United Nations adopts an evolutionary approach to rank countries according to their 'e-Government readiness' scores, a measure on which Central Asian countries ranked below the world average and have regressed between 2005 and 2008 (See Table 1). The 2008 survey downgraded the Central Asian countries because their sites had not been enhanced since the 2005 survey to include interactive and transactional services—an intermediary step on the way to fully developed political participation.

Table 1. UN E-Government Readiness Rankings for Central Asia.

Country	2008 Index	2005 Index	2008 Ranking	2005 Ranking
Kazakhstan	0.4743	0.4813	81	65
Kyrgyzstan	0.4195	0.4417	102	76
Uzbekistan	0.4057	0.4114	109	79
Turkmenistan	0.3262	128
Tajikistan	0.3150	0.3346	132	117
Central Asia Region	0.3881	0.4173		
Global Average	0.4514	0.4267		

Source: UN E-Government Survey 2008: From E-Government to Connected Governance (United Nations 2008).

The evolutionary approach assumes a universal trajectory of e-Government development that does not take into account the specific goals, content and characteristics of e-Government sites in different countries with varied regime types. In a range of democratic countries, however, national-, regional- and municipal-level e-Government web sites are likely to follow different evolutionary patterns or move at different paces along the evolutionary scale (Moon 2002, 428). Nevertheless, these life-stages models suggest dozens of important empirical measures for content analysis of e-Government sites. Distilling these criteria, we derived the following general categories for analysis of national- and city-/regional-level e-Government sites in Central Asia: 1) access to information; 2) services and interaction; and 3) agenda setting. The three analytical categories are discussed in more detail below and a complete list of the components of each category is presented as Appendix I.

Existing e-Government scholarship also suggests a fourth category for analyzing e-Government sites: political participation. Scholars looking for signs of online political participation expect e-Government sites to facilitate democratic activities such as online voting, campaigning and fund raising, voter registration, opinion polling, representative-voter communication and public feedback, and enable 'direct citizen participation in policy making processes' (Musso, Weare and Hale 2000, 12). Online political participation is emerging in more democratic contexts, with the adoption of social networking sites, user-generated con-

tent and online collaboration (O'Reilly and Battelle 2009; Sharma 2008), but, in authoritarian contexts, the technology primarily facilitates routine interactions rather than changing the nature of citizens' communication with government officials. Moreover, researchers analyzing the participatory effects of e-Government sites are sometimes so optimistic in their expectations that authoritarian manipulation of e-Government sites is interpreted as democracy-enhancing. For example, Netchaeva (2002) credits the government of Singapore with using e-Government to enhance citizen participation in 'democracy'. In every measure of political, civil and press freedoms between 2003 and 2008, Freedom House ranked Singapore as repressive on political freedom (PF = 5) and civil liberties (CL = 4), rankings that hardly reflect a thriving democracy (Freedom House 2003-2008).⁴ Compare Singapore's democracy rating with that of India (PF 2; CL 3), where e-Government initiatives are often held up as a model for countries around the world (Kumar and Best 2006). While we looked for evidence of political participation in the e-Government sites of Central Asia, this category did not generate empirical findings.

Although we do not assess the evolutionary stages of Central Asia's e-Government web sites, the evolutionary studies are instructive about possible criteria for analysis (as discussed above) and they also suggest an important within-country comparison of e-Government sites. These studies suggest comparing national and sub-national e-Government sites because 'it is at the local level that citizens most directly experience service provision and act as direct participants in the democratic process' (Musso, Weare and Hale 2000, 2). Is it possible that sub-national e-Government sites are more responsive even in non-democratic countries? To test this expectation, our analysis compares national and sub-national e-Government web sites within each of our focus countries. We also examine the links between national-level sites and sub-national levels and whether lower level (regional, municipal) e-Government sites even exist in the countries we study.

Rather than focusing on the present state of development or availability of these categories, we analyze how the presentation of information promotes government positions, shapes dialogue on specific issues and reinforces state-society relationships in non-democratic regimes. Indeed, several researchers have called for this more contextual analysis of e-Government sites that goes beyond the appearance and availability of certain types of information and features (Chadwick 2001; Hiebert 2005; Jaeger 2005). These researchers are conscious that e-Government is not neutral or free of opinion, and that information can be non-democratic to promote government positions, limit dialogue and shape the views of the citizenry (Jaeger 2005). Our study is an attempt to answer their call to abandon assessments of the present state of a particular site and to engage in a more critical analysis of the content and form of e-Government sites in order to understand what the e-Government sites are doing and what they are intended to do within a given society.

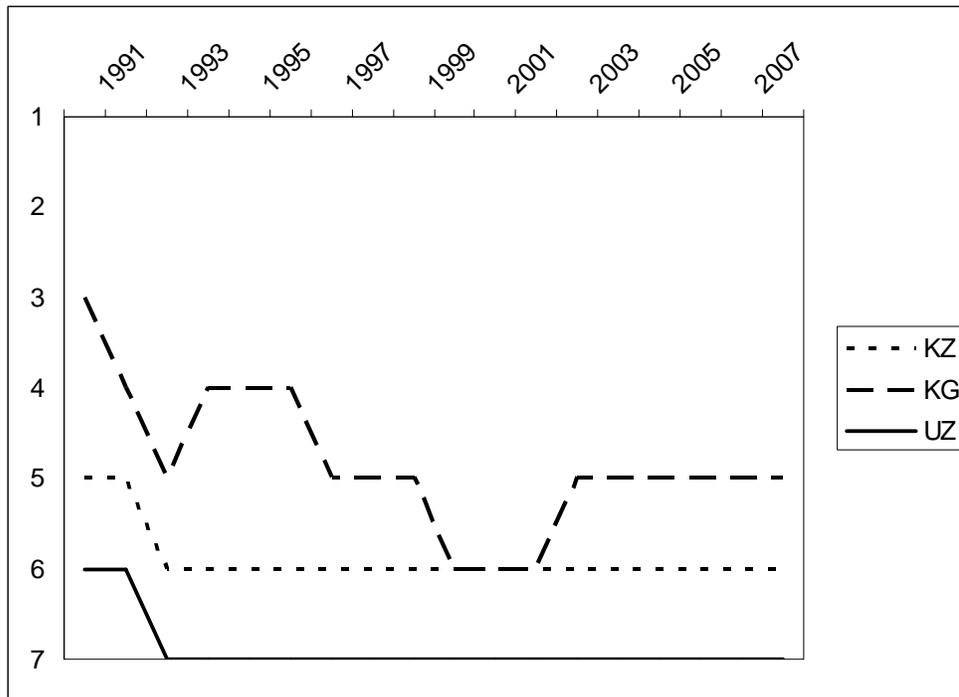
⁴ Freedom House surveys political rights and civil liberties separately on a scale of 1 to 7, with 1 representing the most free and 7 the least free.

Central Asian e-Government site analysis

The three Central Asian countries that we study are excellent cases for analysis of e-Government sites in non-democratic countries. Kazakhstan, Kyrgyzstan and Uzbekistan all became independent countries when the Soviet Union dissolved in 1991. Many western scholars, policymakers and practitioners expected these governments to quickly throw off their communist past and adopt democratic practices and institutions and foster vibrant civil societies and free media. Instead, the leaders of most of the Soviet successor states consolidated power in the presidency, undercut the powers of other branches of government and severely restricted some or all civil liberties and political freedoms. Indeed, international scholars and policymakers consistently rank the Central Asian regimes at the bottom of their ratings of democratization (Freedom House 2003-2008; Political Instability Task Force 2007; USAID 1999-2009). Although Kyrgyzstan enjoyed an early reputation as a democratic island in Central Asia, through the 1990s the regime became increasingly repressive. When Kyrgyzstan's first president, Askar Akayev, was ousted in the March 2005 Tulip Revolution, international assessments of the country's democratic progress spiked. This optimism was tempered as the new presidential regime consolidated power in the subsequent years,⁵ and April 2010 saw another overthrow of the presidential regime.⁶ Kazakhstan's regime steadily lost aspects of liberal rule during the post-independence era, and, as Figure 2 shows, throughout the two decades of independence, Kyrgyzstan and Kazakhstan consistently had overlapping points on these scales rating their regime type. Uzbekistan's regime obviously rates the worst in this grouping. While each set of national leaders differed in their goals and methods of authoritarian rule (for an excellent discussion, see Lewis 2008), the three countries are currently comparably non-democratic in nature.

⁵ For example, the Polity IV rating of authority trends for Kyrgyzstan shows a marked improvement in 2005 after the Tulip Revolution, but then a downward trend in subsequent years as greater political openness and democratization did not follow.

⁶ We cautiously watch the ongoing events in Kyrgyzstan to see if the interim government can consolidate a more liberal regime and bring stability to the country.

Figure 2. Freedom House Democracy Scores for Kazakhstan, Kyrgyzstan and Uzbekistan.⁷

Source: Karatnycky, Motyl and Shor (1997) and Freedom House web site (2003-2008).

The collapse of the Soviet Union and the birth of the newly independent Central Asian countries occurred simultaneously with the global revolution of information and communication technologies that introduced the Internet on a global scale. Carrying over Soviet practices, government policies throughout the region repress and censor traditional media and Internet usage.⁸ Nevertheless, the diffusion of ICTs to Central Asia and the growth of regionally focused web content opened new possibilities for local populations to exchange ideas, participate in public debates and tap into global sources of information. Because of the myriad challenges facing these regimes, local governments did not immediately focus on Internet and e-Government development. Likewise, the rate of ICT adoption by the local populations lagged well behind that in the West. As a result of this later adoption, our research offers an important opportunity to evaluate the process of e-Government presence at an early period of development in order to understand its potential pathologies and suggest routes to avoid them.

⁷ Freedom House ratings are based on a scale of 1 to 7, with 1 representing the highest level of democracy and 7 the lowest.

⁸ Reporters Sans Frontières has rated Central Asian governments among the most repressive in the world in press and Internet freedoms, even labeling several of the local governments “enemies of the Internet” (Reporters Without Borders 2003-2009).

Site selection and capture

Between January 2004 and December 2008, we captured national-level e-Government sites every four to six months.⁹ The city-/regional-level sites were captured and analyzed in summer 2009. We found the captured web sites through Google searches (google.com, google.ru, google.kz, google.kg and google.uz), portal searches (using both keyword searches in English and Russian and link surfing) and exploratory searches through sites already included in the study. The sites were selected on the following criteria: country of origin, domain area, recent updates (within the previous six months), range of quality of design, translations in Russian and at least one national language, a statement of ownership (versus anonymous) and regular availability for viewing. We expected the criterion about language translations to be instructive for a number of reasons. First, we expected the e-Government web sites to reflect government language policy. In the post-independence era, the governments in each country shifted its language policies to privilege the titular language. Second, we expected that having translations in multiple languages would help us to determine the intended audience of the e-Government sites. If content was more developed in Russian than in the national languages or if the national language translations were of poor quality, we would have insight into both government language policy and who the site users are. Finally, although it was not a criterion for site selection, we also examined whether the sites offered an English language translation and how the English language translations and content differed from that of the Russian and titular language sites. If English language content differed from or was more developed than the other language versions of the site, we could make inferences about who the intended readers of the site are.

We used the software package Offline Commander to download the national-level e-Government sites. In each download, Offline Commander captured one to three levels of all the selected e-Government sites. Sometimes the captures were deeper (four levels or more), which informs our analysis but is not consistently compared across all three countries. Occasionally, on the day of capture, the server for a particular site could not be reached because slow server speeds caused the software program to stop. In the three national-level sites that we analyze, there were 10 occurrences of such a stoppage out of 48 unique downloads, and it was commonly the same site that had problems (www.gov.kg). Although frustrating, this situation provides additional context for some of the challenges facing Internet and e-Government users in Central Asia. Generally, the captures that timed out were downloaded a few days later, but a few sites were missing for a particular capture. In some of these cases, we were able to find the missing sites through the Way Back Machine project (Internet Archive 2009). We tracked a variety of different national-level government sites, but, not all sites were captured consistently or continued to exist throughout the entire period of archiving.¹⁰ As a result, we conducted a thorough content analysis of the three most consistently

⁹ During this period, our project also regularly downloaded a sample of sites in other domains (commerce, education, health, ICT/Internet service providers, nongovernmental organizations, portals, and religion). The resulting sample includes approximately 75 sites.

¹⁰ We initially set out to track all five countries in Central Asia, but the e-Government sites we were capturing in Tajikistan and Turkmenistan ceased to function in June 2006.

archived national sites: the national-level e-Government portals for Kyrgyzstan and Uzbekistan and the national parliament's site in Kazakhstan.¹¹

For each of the three countries, we set out to analyze two city-level e-Government sites, one in the capital city and one in an outlying area. We hoped thus to have variation in city size, demographic of population and different levels of Internet penetration, all of which might impact site design and content. Although we expected to find e-Government sites for the city administration of each major city in each of the three countries, that was not the case. As a result, we also included regional administration sites in our analysis. The sites were located through links on the national-level e-Government sites or through Google searches in which we sifted through links to find the most appropriate sites for analysis. In some cases, several sites for a specific region or city exist, but they focused on cultural or tourism themes and were not official e-Government sites. Thus, for Kazakhstan, we explored the city administration site for the capital, Astana, and for the second city, Almaty; for Kyrgyzstan, we did not find a site for the city administration of the capital, Bishkek, but we did find and analyze a major regional administration site for the southern province of Osh; for Uzbekistan, city/regional-level sites existed, but again the capital city/region did not have an e-Government site. Instead, we explored two city sites in the politically important Fergana Valley and one regional administration sites in another area of the country. In total, we coded six local-level sites.

Our analysis thus examined three national-level e-Government sites over a four-year period and six local-level sites in Summer 2009. While it is difficult to quantify exactly how many national and sub-national e-Government sites exist for each country, our searches were comprehensive and did not find as many sites as we expected. In part this situation reflects the moderate levels of Internet penetration in the region (see Table 2), and the accompanying low levels of citizen demand for online government services. At the same time, however, the low levels of Internet penetration reflect government control of the medium and the repressive information environment in these countries. This situation is especially evident in Turkmenistan, where the government has been most isolationist and repressive.

Table 2. Internet Penetration in Central Asia in 2009.

Country	Percentage
Kazakhstan	14.9
Kyrgyzstan	15.6
Tajikistan	8.2
Turkmenistan	1.5
Uzbekistan	8.9

Source: International Telecommunication Union (2009b).

¹¹ A national government portal site for Kazakhstan did not exist when we started our site captures.

Content analysis methodology

Our goal in this project was to track changes in national-level e-Government sites across time and cross-nationally to understand why authoritarian regimes create and maintain e-Government initiatives and to interpret the content of those sites. Our content analysis thus started from the first download in 2004 and moved forward through time to provide a detailed description of change in these sites. In this process, we analyzed 9-13 observations of each national-level web site for a total of 32 unique observations. We primarily examined a web site's first page (welcome page) and one or two levels deeper (for a methodology, see Layne and Lee 2001; Moon 2002). Selecting this limited range of pages allowed a comparison of web site content across different captures and sites and presented a clear overview of how accessible information is for users of these sites. If information is located deeper in a site than the first few clicks, it is possible that users will grow frustrated before accessing the desired information. Focusing on the information and links provided on the first page also reflects the agenda and motivation of the web site owner (Zhang 2002) and allows us to more effectively interpret the motivations of illiberal regimes.

As discussed above, most of the criteria we use for analysis of the e-Government sites were drawn from other researchers conducting e-Government content analysis. We synthesized this extensive range of criteria into the following three characteristics, each of which contains a number of attributes (a complete list of categories and criteria for analysis is in Appendix I): 1) Access to Information; 2) Services/Interactive; and 3) Audience/Agenda Setting. Within each of these criteria, we explore the range of information actually available; the language (Russian, titular and English) and tone used and the comprehensiveness of each version of the site; information and communication utilities; the availability of information about and links to other government institutions and agencies (vertical and horizontal); the availability of information about and links to community organizations and international organizations; and information about and links to private sector/business entities located inside and outside the country. In addition, we also incorporated attributes specific to e-Government content analysis in authoritarian governments. For each of the three overarching categories, we gave a summary assessment of the content based on criteria outlined in Appendix I, and a summary table appears at the end of each of the following sections.

The content analysis was an iterative process. After the initial coding, we examined each category across all the national-level web sites to determine the usefulness of the information recorded. In some cases, no information was available for specific categories, such as links to officials' personal web sites, links to other government service web sites, support for online financial transactions, downloadable forms, election information, online voting, online polling and others. Consequently, these categories were eliminated. In other cases, we collapsed multiple categories into a single variable or expanded a single variable into multiple categories in order to more comprehensively analyze the content of the web sites. We then recoded the data based on the new categories. In the end, within the three above-mentioned categories (access to information, services/interactive and audience/agenda setting), we analyzed 70 distinct variables. Many of the variables are simple 'yes/no' responses to the presence of certain content or features. Several variables are qualitative assessments of the extent to which specific types of information and content was presented. A few variables required counting the

number specific types of content (e.g., active links, pictures, search boxes, etc). All coding was done in an Excel spread sheet.

After each unique observation of every site had been coded, we conducted a test of inter-coder reliability. We trained a research assistant on the data collection and content analysis process and gave her the Excel spreadsheet with only the category headings. The research assistant then coded all variables for four of the analyzed web sites (approximately 10 percent of the total sample). When we compared results between the two coding processes, we found greater than 80 percent agreement, which is considered quite acceptable in content analysis methodology (Lombard, Snyder-Duch and Bracken 2002; Lombard, Snyder-Duch and Bracken 2008). Where differences existed, we discussed our varied interpretations and we have reported the differences below. The same process was repeated for the single observations of six city/regional-level e-Government sites.

Findings

While the sites shared some similarities, we also found distinct differences among the national sites and between the national- and city/regional-level e-Government sites of Kazakhstan, Kyrgyzstan and Uzbekistan. To a large extent the national-level e-Government sites remained static once they were created, with little change across time. While we made qualitative note of each site's appearance (how professional the design appeared), we did not specifically analyze site design, such as layout, graphics and visual qualities of the site. Where appropriate, our analysis includes the occasional redesign or content revision and discussion of what such changes represent. The city-/regional-level sites were only examined in summer 2009, and thus we do not report change over time. We discuss the similarities and differences and report our findings in each of the three categories below. See Appendix II for selected screenshots of the national-level e-Government sites.

Access to information

Exploring the types of information that e-Government sites provide reveals the governments' online strategies. Studies of the evolution of e-Government label this proactive strategy as 'informatization' (Kalathil 2003, 46) or 'cataloguing' (Layne and Lee 2001). Providing information is considered the first stage of e-Government evolution, a stage in which the site is non-interactive and 'one simply attains information' (Zhou 2004). This use of e-Government sites makes information more easily known to local populations, which is assumed to be good even though it is not always articulated as such. The types of information that authoritarian regimes make available, however, might be different than what democratic regimes post on e-Government sites. The actual content of the information and its usefulness for citizens' daily lives must be examined, both in terms of information about the government and in terms of other topics or themes that the sites emphasized.

For information about the government, we coded the extent to which the e-Government sites provided: 1) information on the government's duty and roles in society; 2) transparent information on current laws; 3) information about political processes; 4) information to facilitate contacting different government branches, offices and individuals; and 5) the extent

to which the site provides information on elected officials. We coded these elements as high, medium, low, or none, based on criteria outlined in Appendix I, and a summary table appears at the end of this section. Analyzing these aspects of e-Government sites enables us to assess the types of information that e-Government sites provide and whether the level of government transparency or responsiveness changed over time.

Across the three national-level e-Government sites, access to information about the government's role in society, information about the transparency of political processes and information about elected officials were consistently low in every site observation. The sites show that there are distinct branches of government, but provide little information about the differentiation of the duties of the branches, their distinct roles in society, or the individuals that carry out those functions. During the test of intercoder reliability, Uzbekistan's portal site, gov.uz, was ranked as medium on access to information because the portal site offers a link to the country's constitution, where some information about the different functions of the branches of government can be found. These descriptions, however, are legalistic and do not explain government's daily functions in everyday language that citizens might easily understand. The extent to which the national e-Government sites provided information on current laws was also ranked as low or medium. Kazakhstan's parliament site, parlam.kz, rated a medium and provided the most comprehensive information on this variable, which is not surprising given that the parliament's function is to draft and approve laws. Overall, however, access to information and transparency about the duties, functions and officials of the national government is low and does not appear to be a central purpose of the national e-Government sites.

By contrast, we rated all but one of the city/regional-level sites as high or medium in the extent to which the city/regional-level government's role in society and information about political processes were explicitly stated. These sites consistently rated higher on these variables than the national-level e-Government sites. More explicit access to information indicates a more communicative sub-national level government, and it perhaps suggests more interest among government officials to provide information central to citizens' daily lives. This situation may arise simply by virtue of the fact that city/regional-level governments have a less complicated image to project than their national-level counterparts. It does not necessarily indicate a greater sub-national level commitment to democratic transparency. Nevertheless, access to online information relevant to citizens' daily needs is easier on the sub-national e-Government sites we analyzed.

With the exception of biographical information about the presidents in all three countries, the national-level sites rarely provide information about national-level politicians, their backgrounds and the positions/platforms they support. Interestingly, despite their greater transparency on other issues, the local-level sites varied in their provision of information about elected officials: two of the six provided comprehensive biographical information about politicians, one provided information but it was not detailed, and the remaining three sites that we observed provided low levels of biographical information on elected officials. Access to biographical information both serves to educate citizens about the types of policies and concerns an official might pursue and makes the officials accessible to citizens. While we might expect citizens to be very knowledgeable about the life stories of local-level officials and the more prominent national-level actors, we would not expect the 'average citizen' to have full

biographic information on every official filling necessary government posts. In these authoritarian regimes, officials are often rotated at the president's will and it can be posited that the lack of information on specific officials reflects the impermanence of their positions.

We also explored whether the sites facilitate a visitor's ability to contact government agencies and officials by providing a variety of contact information, including specific contact names, street address, phone numbers, room numbers, e-mail addresses, web addresses, etc. We assessed this variable qualitatively, and we also counted the presence or absence of a variety of types of contact information, schedule of work days and calendar of events. This element comprised of eight variables and allowed us to determine whether a generic contact was supplied or whether two or more types of information were supplied. The rationale for this finer distinction was that, with greater types of contact information, site visitors would be able to contact specific individuals and would be more likely to find answers to their questions. Kyrgyzstan's portal site, gov.kg, rated a medium on this scale, but gov.uz and parlam.kz were both rated low. Since its independence from the Soviet Union, Kyrgyzstan has been considered more democratic than its neighbours Kazakhstan and Uzbekistan, and the availability of contact information might be a reflection of its more liberal position. The regional/city-level sites provide a greater range of contact information, often list specific individuals to contact, and provide workday schedules and calendars that facilitate a visitor's ability to find information and answers to questions.

We also explored the role of the e-Government sites in providing business and enterprise information to attract investment, facilitating business exchanges and demonstrating an 'entrepreneurial' function (Musso, Weare and Hale 2000). Again, this variable was given an overall qualitative assessment (high, medium, low, none) and specific elements, such as employment listings, currency information and tourism information were counted for presence/absence. The national-level sites uniformly lacked this type of information at the start of our observations, but we detected a shift over time. Links or information boxes about currency and weather information, some tourist information, information about local banks and broad overviews of investment opportunities were gradually introduced to the sites. In mid-2004, gov.kg introduced a link to business tenders and employment vacancies, but those aspects were not maintained and links were either blank or outdated in subsequent observations. The other two national-level sites have not introduced such features. The regional/city-level e-Government sites that we examined provided business/investment information, except for the two sub-national sites in Uzbekistan.

Table 3. General Scores for Access to Information (High, Medium, Low, No Information).

	Duties of Government	Political Process/Laws	Elected Officials	Contact Information	Business/ Enterprise
National Sites					
Gov.kg (Kyrgyzstan)	Low	Medium	Low	Medium	Low
parlam.kz (Kazakhstan)	Low	Medium	Low	Low	Low
gov.uz (Uzbekistan)	Low; March '08 => Medium	Low	Medium; December '08 => Low	Low	Low; Feb '07 => Medium
City/Regional Sites					
andijan.uz (city) Uzbekistan	Medium	Low	Low	Medium/High	None
xorazm.uz (city) Uzbekistan	Medium	Low/Medium	Low	Medium	Low
ferghana.uz (regional) Uzbekistan	High	High	Medium	High	Medium
astana.kz (capital city) Kazakhstan	High	Medium	High	High	High
almaty.kz (city) Kazakhstan	High	High	High	High	High
osh.kg (regional) Kyrgyzstan	Low	Low	Low	Low	Low

Note: Dates in the table indicate a discernable change in the content and quality of specific types of information.

Services and interaction

After information is fully supplied, researchers on e-Government development consider online services and interactive features to be the next evolutionary stage, signifying responsive and transparent governance. In this phase, 'content facilitates interaction between the Web Site and the user' (Zhou 2004, 12), and scholars expect citizens to demand the ability to fulfil government requirements online instead of having to go to a specific location to complete paperwork, such as acquiring/renewing licenses, completing and submitting an application for a passport, or online payment of taxes, fees and utility bills (Layne and Lee 2001, 128; Zhou 2004, 9-10). In its more advanced manifestations, interactive e-Government sites might enhance fairness and inclusiveness of the political process by facilitating individuals' ability to contact and influence key decision makers and voice their interests in decision-making forums and even facilitate group formation among like-minded citizens, neighbourhood associations and parent-teacher groups (Layne and Lee 2001; Moon 2002; Musso,

Weare and Hale 2000). The expectation is that a fully functional e-Government site will make service delivery more time and cost efficient for both government and the citizens and will increase government responsiveness to citizens. In the cases of Central Asia's e-Government initiatives, interactive services are minimal and the increased efficiencies may not be factors driving these sites. Moreover, the models of e-Government evolution were developed in more saturated user environments, where e-Government presence and services are assumed to be 'customer-driven' and where credit cards and other electronic payment accounts facilitate online financial transactions (Musso, Weare and Hale 2000). In contrast, low-income countries, like in Central Asia, often have a low Internet user base in the population and largely non-existent online financial transactions.

Tracking national-level e-Government sites for four years, we assessed whether interactive services are necessarily the next evolutionary step in e-Government sites and whether the governments are putting emphasis on increased responsiveness. We did find evidence of limited interactive communication, but, as earlier mentioned, no signs of active online political participation were observed in the Central Asian e-Government sites we analyzed. We coded each site observation with an overview assessment of the interactive nature of the site (see Table 4) and supplemented this overview by counting the presence or absence of specific features, such as search boxes (Segev, Ahituv and Barzilai-Nahon 2007), online discussion forums (Moon 2002; Musso, Weare and Hale 2000), feedback option and two-way communication (Musso, Weare and Hale 2000; Zhou 2004), among others. As evidence of these features, we looked for hyperlinked addresses for easy contact; provision for user searching, downloadable materials or forms; and feedback options (forms and/or electronic submission of downloadable material). As one researcher said, 'Government web sites with these attributes indicate a country is heading towards full implementation of e-Government services and is evolving into advanced stages of e-Government development' (Kaaya 2004, 48).

We found that the national-level sites started the period of observation with no interactive features at all. By the end of the observation period, we ranked each site as having low levels of interactivity. In this respect, interactive services seem to be a next step in the sites' evolution, but given the level of interactivity that the Internet supported at year-end 2008 and summer 2009, we can hardly call the national-level e-Government advanced in this category. For example, gov.kg and parlam.kz introduced a question-and-answer feature on their sites that lists both the questions that site visitors asked and the responses from the government officials/web administrators. Although gov.uz introduced a feedback option for citizens to write into the e-Government site, but responses are not available online. In April 2007, parlam.kz also introduced an online discussion forum, and the discussion covers a broad range of topics and appears to be reasonably unregulated. The online discussion might eventually lead to offline citizen interaction and community building (Musso, Weare and Hale 2000), but we did not observe anything along these lines. Over time, we observed that the national-level sites in Kazakhstan and Kyrgyzstan facilitate more interactive communication, but Uzbekistan's governmental portal site does not. As Uzbekistan is the most closed and repressive regime in our study, this finding is not surprising. The regional/city-level e-Government sites provide many more options for interactive communication.

In terms of interactive services, the sites remain underdeveloped. All the sites started the observation period with search boxes, although at no point did they function well. Our re-

search team regularly used simple, neutral terms (e.g., ‘economy’, ‘holiday’, ‘[President’s last name]’, etc) in all three languages in the search boxes, but the results were either not relevant or, more commonly, the search engines simply did not work, resulting in an error screen. At the end of 2007, gov.uz added a link to a database of legislation and directory of national-level ministries. This database does help to provide general law or contact information, but it is not searchable and does not provide specific personnel names, phone numbers, or e-mail addresses. None of the sites changed markedly in terms of the number of hyperlinks to other government agencies or offices or links to officials’ professional or personal web sites. Moreover, even on the regional/city-level sites, links to community or social organizations (NGOs, international organizations, etc) are quite sparse. Online financial transactions do not exist on any of the sites that we observed, thus limiting the interactive services that e-Government sites might provide.

Table 4. Overall Assessment of Services/Interactive Elements (High, Medium, Low, None).

	Interactive Services	Active/Hot Links	Links to Community/Social Organizations	Feedback Option
National Sites				
Gov.kg (Kyrgyzstan)	Low	Medium/High	None	None
parlam.kz (Kazakhstan)	None; April ‘07 => Low	None; Dec ‘06 => low	None; Dec ‘06 => low	None; Dec ‘07 => low
gov.uz (Uzbekistan)	None; Dec ‘04 => Low	Medium	Low	None
City/Regional Sites				
andijan.uz (city) Uzbekistan	None	Low	None	None
xorazm.uz (city) Uzbekistan	Medium	Medium	None	High
ferghana.uz (regional) Uzbekistan	Medium	High	Medium	High
astana.kz (capital city) Kazakhstan	Medium	Low	Medium	High
almaty.kz (city) Kazakhstan	Medium	Medium	None	High
osh.kg (regional) Kyrgyzstan	Low	Low	None	Low

Note: Dates in the table indicate a discernable change in the content and quality of specific types of information.

Audience/Agenda setting

In addition to assessing the extent to which the e-Government sites provide information and interactive services, we also made assessments about the type of 'structuring' (Marcus and Gould 2001) or agenda setting that the government is undertaking (Moon 2002; Zhang 2002). Some analysts expect that the agenda setting and image building role of e-Government may overshadow its potential governance, service and information functions (Fursich and Robins 2002, Zhou 2004, 5). To capture these aspects of the e-Government sites, we counted the occurrence of specific topics and content of the news and information provided on the first page of each site. We also counted the links available from the home page, as Zhang (2002) suggests 'focusing on the links supplied on the first page reflects the agenda and motivation of the website-maker' (176).

We also attempted to determine the intended audience of the e-Government sites in Central Asia. Following a study of parent company sites and country specific portals for Yahoo! and MSN (Segev, Ahituv and Barzilai-Nahon 2007), we looked for evidence that government web sites serving local populations would reflect local culture; whereas e-Government sites designed for foreign aid donors, international community and foreign governments might reflect greater homogenization toward global/Western e-Government models and practices. In order to better understand the agenda and intended audience of a site, we looked for 'cultural markers' (Barber and Badre 1998), including the thematic use of flags, use of the colours and symbols found on the national flags and the specific use of languages for site content. We analyzed e-Government sites according to the presence or absence of these features. The language of the e-Government site is potentially particularly informative in Central Asia. In all three countries, a national language (Kazakh, Kyrgyz, or Uzbek) is the official state language, while Russian language (or sometimes even English) is the language of actual business communication and online transactions. We thus looked for indicators of common Central Asian cultural markers and specifically national symbols within the domain of e-Government sites.

The topics and themes most commonly presented across all sites focus on an introduction of the general characteristics of the country, region, or city, including geography and demography. In addition, each national and regional/city-level site presents local, national and international news and current events. The greatest number of news stories on national-level sites focused on activities of the central government such as the president's visits to foreign countries or reception of foreign leaders in the country. A few stories focused on national holidays or cultural festivals that the national government sponsored. Very few, if any, news stories focused on education, science, health or domestic regions, and no stories were human interest stories about average citizens living in the country. The local level sites also focused on news of the central government, but they additionally provided a greater number of stories pertinent to local education, environment, tourism and political parties. In its site redesign in April 2007, *parlam.kz* stopped updating news and only provided information on the government hierarchy.

Despite the push of each central government to reassert the dominance of the national language, on the national-level site content in the titular tongue and English was usually much less developed and less frequently updated than the content in Russian. In some cases,

the different versions of the sites seem to present different pictures of the central government. For example in June 2005, the Russian version of gov.uz depicted Uzbekistan's government as a benevolent patron, promoting festivals, celebrating new sessions of parliament, receiving official guests and signing cooperative agreements with other countries. The English version on the same date presents completely different stories aimed at the interests of Western audiences such as new British Airways flights to/from the country and documentation that societal organizations were opened and active, a noteworthy news item at time when Uzbekistan's central government was cracking down on and closing international and local non-governmental organizations. The local-level sites had equally comprehensive presentations in both Russian and the national language, but did not have content available in English translations. We suspect that the national-level sites are intended for elites and international users. In contrast, the local-level e-Government sites are a more direct interface between the government and the citizens, supporting the local languages that citizens use. Likewise, we found the city/regional-level sites had many more images and symbols of national and local culture (see Appendix II for screenshots of selected sites). As all three national governments have undertaken concerted nation building projects in the independence era, we expected e-Government sites to augment those efforts through presentation of images and symbols of the national cultures. Such national images and symbols were largely absent on the national-level sites. The design of each national-level site depicts one national symbol, but the opportunity to use the e-Government sites to create a national 'brand' has been under-exploited.

In most cases, the sites we analyzed did not have statements of when the site was last updated, an important determinant of a site's 'freshness' (Kaaya 2004; Parajuli 2007). When such statements existed, they were a year or more out of date. The date on the news feed was typically the only way to determine how often the sites are updated or maintained. All three national-level e-Government sites had high levels of updated news and maintenance of the Russian language sites. Maintenance of the sites' other language options was less frequent. Because we only made a single observation of the city/regional sites, we did not make a formal measure of how frequently they were updated. From the single observation, however, four of the six had news feeds that were a month or more out of date.

Two of the three national-level sites and all of the regional/city-level sites provided information about who the site administrator/webmaster is, but only one national-level site and none of the sub-national sites provided information about when the site was established. Both the e-Government portals for Kyrgyzstan (www.gov.kg) and Uzbekistan (www.gov.uz) indicated that the site had been created with the support of the United Nations Development Program, suggesting an international, rather than a domestic, push for the e-Government initiative. None of the sites provided running tallies of number of visitors (e.g., per day/month/year). Kyrgyzstan's portal site (www.gov.kg) did give an instantaneous update of 'Who is Online (Kto v Online)', but, except for one observation, these counts were always in the single digits. The low user count is notable because our site captures always ran in the night in the U.S. Pacific time zone, which is during the business day throughout the Central Asia region.

Table 5. Overall Assessment of Audience/Agenda Setting (High, Medium, Low, None).

	Mission Statement (Yes or No)	Comprehensive Site in All Languages	Statement of Freshness/Updates*	Images and National/ Local Symbolism
National Sites				
Gov.kg (Kyrgyzstan)	No	Low	Medium; March '06 => Low	Medium
parlam.kz (Kazakhstan)	No	Low	Low	Low
gov.uz (Uzbekistan)	Yes—'government control of Internet'	Medium	Low	Low
City/Regional Sites				
andijan.uz (city) Uzbekistan	No	Medium	N/A	Low
xorazm.uz (city) Uzbekistan	No	High	N/A	High
ferghana.uz (regional) Uzbekistan	Yes	High	N/A	High
astana.kz (capital city) Kazakhstan	Yes	High	N/A	High
almaty.kz (city) Kazakhstan	Yes	High	N/A	Medium
osh.kg (regional) Kyrgyzstan	No	Low	N/A	High

*Note: This category captures the freshness/updates of a site during the course of a year. Information not available for city/regional sites because they were only observed once.

Conclusion

In assessing whether the Internet will revolutionize the information environment, 'The medium is *not* the whole message. Content matters, and there is simply no overwhelming reason to believe that a new medium will necessarily enhance the political quality of communicative content' (Bimber 1998, 136). The simple fact of an e-Government presence is not evidence of political liberalization, especially in countries that otherwise exhibit non-liberal practices and policies. We must analyze the types of information that the e-Government web sites contain. Following existing research on web content analysis of e-Government sites, we identified specific criteria for the types of information and content we should expect to find in countries that aim for increased transparency, accountability and responsiveness. We put the Central Asian e-Government sites to the test of these criteria, both to track developments across time at the national level and in comparison between national and sub-national e-Government sites.

In a simple yes/no schema, these e-Government initiatives might appear to provide information, facilitate communication and services and assist in vertical and horizontal integra-

tion and political participation. As a result, assigning an evolutionary stage would be misleading. Upon closer examination, however, the links that seem to represent horizontal integration are actually to government-approved social organizations and not to the independent civil society groups one would expect in more democratic countries. The feedback, forums and question and answer options help facilitate citizen-government communication, but, as a rule, the national-level e-Government sites do not provide specific contact information, personnel names, or biographical information about political leaders that might help citizens answer questions about the e-Government sites or other queries. In addition, 'participatory' features that help ensure fair representation of public voices, amplify citizen voices and enfranchise the poor are all absent in the Central Asian government pages we examined. No information about citizen organizations or facilitation of civil society groups, which are theorized to promote democracy and economic growth (Coleman 1988; Putnam 1993), is provided. There are also very few links or sources of information that link to sub-national levels of government.

Because of its recent history as the most open and liberal of the post-Soviet Central Asian countries, we had initial expectations that Kyrgyzstan would be more citizen-oriented. While the gov.kg web site does offer some services (e.g., job announcements) that other countries do not, the content of Kyrgyzstan's national-level site is more oriented toward the international development community than the indigenous population. Kazakhstan's national-level e-Government site appears to be the most targeted toward the country's citizens, but the information about government provided on the site focuses on very legal and technical aspects of parliament and policymaking, not the everyday information citizens might want to seek from e-Government sites. Uzbekistan, by contrast, is most focused on developing the government's online presence and image that included a mission statement that the purpose of the e-Government site is 'to monitor online activity' (www.gov.uz).

Despite each government's focus on re-introducing the national languages, we observed no change over time in greater emphasis on national language content. Russian is the predominant language. While all the sites offer language menus with English and the titular language (Kazakh, Kyrgyz, Uzbek) options, less content is available in the other languages and/or the translations are poor or incomplete. We had an *ex ante* expectation that English pages would be complete because we thought the authoritarian governments were creating e-Government sites to demonstrate regime legitimacy or modernity to international English-speaking audiences. While we do not find confirmation that English translations are predominant, we do find confirmation for our hypothesis that authoritarian governments that are less responsive to their citizenry would place less emphasis on local language content.

The purpose of this paper was not to claim that e-Government initiatives in Central Asia are effective or assess their evolutionary status. Rather we used close content analysis to demonstrate that authoritarian governments can manipulate the medium of the Internet and that the simple presence of e-Government sites does not represent a more accountable, transparent, or responsive government. Even when specific types of information or features were present on these sites, they largely lacked communicative capacity and often limited the range of topics acceptable for public discourse. Neither responsiveness to citizens or citizen demand appear to be driving the creation of these e-Government sites. Instead, authoritarian governments are likely responding to international pressures to demonstrate modernity and

legitimacy through e-Government sites, and, at the same time, use those sites to propagate government authority and extend the repressive and bureaucratic processes that also permeate offline state-citizen interactions.

Such findings have important implications for how we think about the roles and functions of e-Government in authoritarian states. Rather than liberalizing and democratizing, e-Government sites allow governments to extend their control into the digital sphere. The methods employed are often quite subtle and mirror offline efforts to co-opt participatory modes of communication or social organization to meet the government's goals. Stark evidence of this offline pattern exists in the Central Asian states (Adams 2009; Lewis 2008) and other authoritarian regimes around the world. In such contexts, expecting e-Government sites or the Internet to remain a neutral or liberalizing ground is unrealistic. Because e-Government content is created and published by the governments themselves, the types of information, services and images supplied will continue the government's overall strategies. Thus e-Government sites might promote open and transparent communication in democratic countries and lead to more accountable e-governance, but the reverse might also be true for authoritarian regimes. Government control of the content and utility of e-Government sites can reinforce repressive information environments.

As the comparison of national e-Government initiative to regional/city-level e-Government sites reveals, even in authoritarian regimes, local level e-Government sites appear to be more informative, responsive and interactive than the national-level counterparts. Although the regional-level e-Government sites offer more opportunities for citizens to engage with government information and services, they are not necessarily more democratic in nature. We must do more to understand those dynamics of how on- and offline governance differs at the national and sub-national levels in authoritarian regimes. Indeed, this finding has important implications for understanding non-democratic regimes and where international aid programs might have the most impact. International efforts might better focus on developing local-level e-Government initiatives, where government-citizen interactions occur on a more regular basis and have more immediate impact on citizens' daily lives. Indeed, this point might be more broadly applied to a full range of services offered by city/regional administrations, and has important implications for authoritarian governance, as well as demonstrating possible mechanisms that would provide political responsiveness in authoritarian regimes.

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Appendix I

Coding Categories for e-Government Sites

1. Access to information

1.1 To what extent does government present information about the government's duty and roles in society/country?

High: explicit statement of the role of each branch of government;

Medium: mention of differentiation among responsibilities of branches of government;

Low: little mention of branches of government and/or their different responsibilities;

None: no mention of laws governing branches of government,

1.2 To what extent is the government trying to make current laws transparent to its citizens?

High: posting of laws, rules, regulations and policies and plain language descriptions and implications for everyday life;

Medium: postings of laws, rules, regulations;

Low: descriptions or mentions of laws but no access to actual document;

None: no access to or mention of laws

1.3 To what extent does the government make information about political processes available to citizens?

High: detailed info on how laws are made and access to text of laws;

Medium: detailed information on process or access to text but not both;

Low: mention of process or text but no detailed information available;

None: no mention of laws or lawmaking process. ,

1.4 To what extent does the government make it easy for people to contact different government branches, offices, individuals?

High: lots of branches/all, with all kinds of contact information (street address, web address, phone #, room #, e-mail address, contact name);

Medium: limited list of government branches and limited channels of communication;

Low: fewer than two government offices and/or limited channels of communication;

None: no contact information provided

1.4a Does the site have (yes or no)

- two or more contact names
- two or more phone numbers
- two or more e-mail addresses
- info for two or more other government organizations
- web address for two or more other government organizations
- Schedules of work days
- Calendar of events

1.5 To what extent does the government site provide information on elected officials?

High: information about a variety of government officials (president, parliamentarians, regional leaders) and includes (a) contact info, (b) political party info, (c) voting record, (d) other information;

Medium: information about a few types of elected officials and includes 2-3 categories;

Low: information about only one kind of elected official and includes limited categories of information;

None: offers no information about elected officials.,

1.6 To what extent does the site provide information on how current the information is and how regularly the site is maintained? ('Freshness' = Kaaya 2004 = says updated with past 12 months is fresh; Parajuli 2007 using Kim et al's 1999 'currency of information' = no statement of how frequent but measure include 'frequency of update, freshness and maintenance of the site')

High: daily/weekly,

medium: monthly,

low: less than monthly

1.6a Does the site provide (Yes or No):

- Administrative information about Web host/web master/'Ownership' (=transparency/accountability Parajuli 2007; Kaaya 2004)
- establishment date (=transparency/accountability Parajuli 2007)

1.7 How many links from the main page provide information (not advertisements) How many?

1.8 To what extent does the government provide business/enterprise information that attracts investment, facilities business exchanges and demonstrates an entrepreneurial function (Musso et al 2000: 5)?

High: links to tax information, businesses, chambers of commerce, calls for proposals, descriptions of investment environment, contact information for investment opportunities;

Medium: several but not all of previous;

Low: one or two types of information useful for business development;

None: no mention of business development,

1.9 Are the following features/topics present on the site? Yes or No,

- employment listings and business opportunities
- attract tourist and new businesses through advertisement of recreational or business opportunities;
- provide information on economic development programs;
- links to economic development officials
- links to banks, chamber of commerce or other business organizations; advertisements or links to local businesses;
- supply support services and ease local regulatory processes;
- automating permit transactions
- Currency Info
- Weather Info
- Tourism info = culture, leisure, parks, recreation

2. Services/Interactive

2.1 To what extent is the site interactive?

High: Does it allow online political participation?

Medium: Does it allow citizens to transact government services?

Low: Does it allow citizens two-way communication with government?

None: no opportunity for two-way interaction with government officials or services,

2.2 Are the following features present on the site? Yes or No

- Online discussion forum(s)
- E-mail/two-way communication
- Support for online financial transactions (license renewal, permit applications, pay fines/utilities online, etc)
- two or more e-mail addresses (also above)
- personnel names and e-mail contacts
- Feedback option - like at gov.uz
- search boxes
- links to other government SERVICE web sites (like govservice.kg)

2.3 To what extent does the site provide active links to other levels of government (national, regional, city)?

High: Many links to sites of all levels of government;

Medium: Links to some sites of two of the three levels of government sites;

Low: a few links to one other level of government sites;

None: no links to other levels of government,

2.4 How many links does the site have? To what?**2.5 Does the site have links to officials' personal web sites? Yes or No****2.6 To what extent are there links to community/social organizations, international organizations, or other citizen organizations?**

High: Many listed, contact info, etc.,

Medium: some listed and/or some contact information;

Low: not many listed and/or no contact information;

None: no information about NGOs, community groups, international organizations, etc.

3 Agenda setting/Audience/Image Building--Who/what is motivating the creation of e-Government site?**3.1 Does the site explain the purpose/intention of its existence (About)? Yes or No****3.2 What is the overall tone/language/vocabulary of the mission statement?****3.2a How is the citizen portrayed/represented?**

Active: citizens are active participants with government agencies;

Moderate: citizens seek/acquire some information and government provides it;

Passive: citizens mentioned in passing but not as active participants in political/legal progress

3.2b what is the rhetorical appeal--ethical (expertise), logical (rational), emotional (tugging at heartstrings of readers)?

3.3 Who is the site's target audience?

International community: discussion of investments, international activities, membership in international organizations/efforts;

Regional governments/citizens: Focus on Central Asia region's relations, groups, problems;

Domestic: information about local laws, daily life in the country, minority populations,

3.4 Does the main page have links for multiple languages?

High: Russian, local language and English available from first page;

Medium: two or three available from the first page;

Low: only one language available on the first page (and deeper)

None: no language options

3.5 To what extent is comprehensive information provided in all the languages?

High: complete, clear and fluent translations of all items on every page;

Medium: attempt at comprehensive and fluent translations of all items on every page;

Low: poor translations and/or spotty coverage,

3.6 To what extent are the pages updated over the course of a year?

High=links, design and content;

Medium: two of the three;

Low: one element changes;

None: no change

3.7 What discussion/news topics are featured on the site? Idea is they reflect the government's interest in guiding and influencing the site audience and reflect 'acceptable' topics of public conversation. Possible categories listed below, quantify amount of content to determine hierarchy of importance (e.g., 1 of 5 items). List is not currently in any hierarchical order. Add topics as you encounter them.

- president's activities/statements/travels
- other branches of government, e.g., parliament, ministries, etc
- economy/trade/business/investment (entrepreneurial state; Musso et al 2000) Y/N
- culture/history Y/N
- demographics of population
- entertainment and sports
- shopping
- science
- education
- technology
- international relations/activities
- tourism/tourist attractions
- geography
- society/social groups/contests
- ecology/environment

- laws
- domestic health issues
- political parties
- human rights
- domestic regions
- elections

3.8 How many images/photos/pictures are on the site and of what?

President or Politicians (=‘human picture’ Barber and Badre) v groups/society or buildings (=architecture Barber and Badre), national symbols (flags, colors, icons), etc.

Appendix II

Screenshots of Select Central Asia E-Government Sites



Figure 1. www.parlam.kz: Welcome page of the Parliament of the Republic of Kazakhstan on 1 February 2005. Site depicts the national symbol at center and flag at top center. Otherwise, national and cultural symbols are largely absent. Each icon represents a link to information about parliament, the government more generally, including a link to articles of the constitution pertaining to parliament, calendar of events, list of deputies and regulations for both houses of parliament. The Russian language version of the site consistently worked and downloaded, whereas Kazakh and English language versions were empty or poorly developed. The information provided is very relevant to the workings of the parliament, but the parliament site does not link to other agencies or organizations of government. When the site was redesigned in April 2007 (see below), the welcome page offered less comprehensive information.

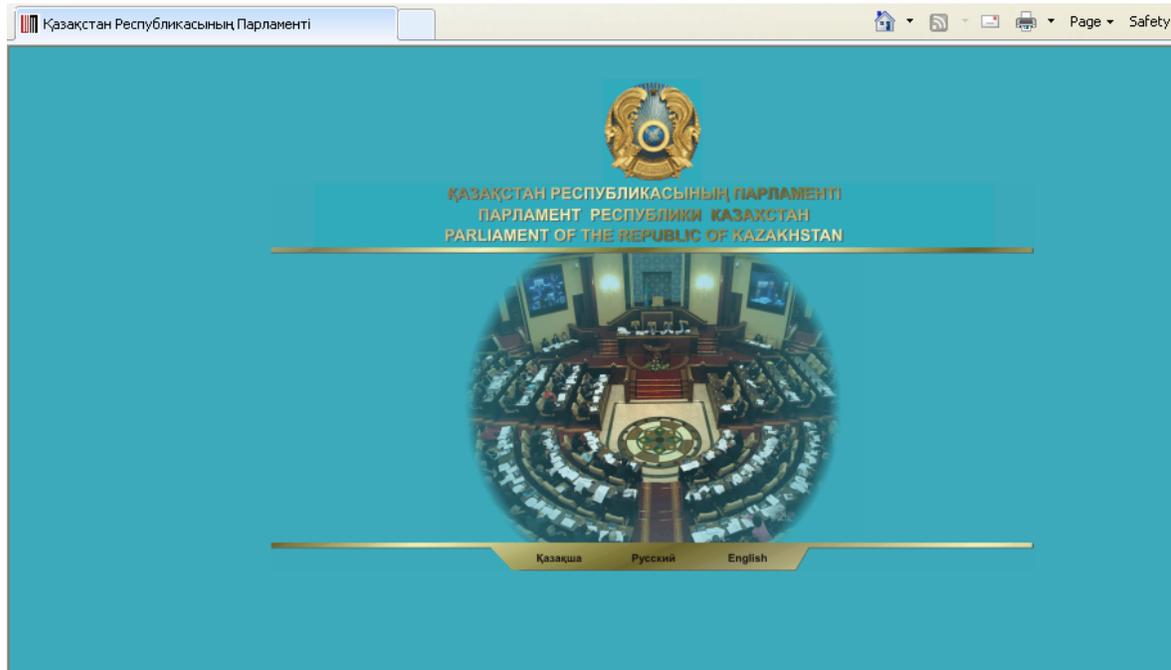


Figure 2. www.parlam.kz: Redesigned welcome page of the Parliament of the Republic of Kazakhstan on 27 April 2007. The redesigned site requires visitors to engage in more clicking and deeper searching to find relevant information. The new site design relied less on Russian language, but the site content in the other languages remained underdeveloped compared with the Russian version.

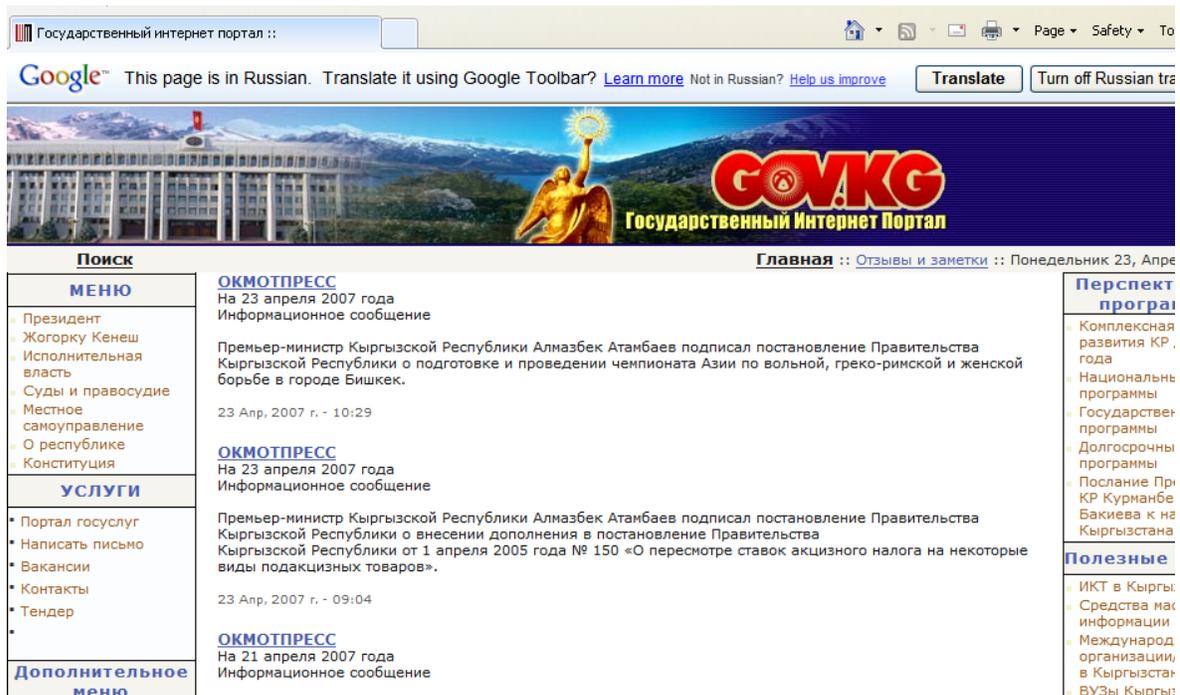


Figure 3. www.gov.kg: Welcome page of the Government Internet Portal of Kyrgyzstan on 23 April 2007. Of the sites we examined, Kyrgyzstan’s portal site provided the most links to government agencies, business in-

formation and social organizations. New items were regularly updated, but largely only focused on specific activities of top government officials. We expected to see a site redesign in the months after the overthrow of Kyrgyzstan's first president in the March 2005 Tulip Revolution. We thought the new regime would attempt to distance itself from the corruption and authoritarianism of the previous administration. No redesign was undertaken until mid-2008. With that redesign, the links from welcome page became more streamlined in presentation but the site's content did not substantially change.

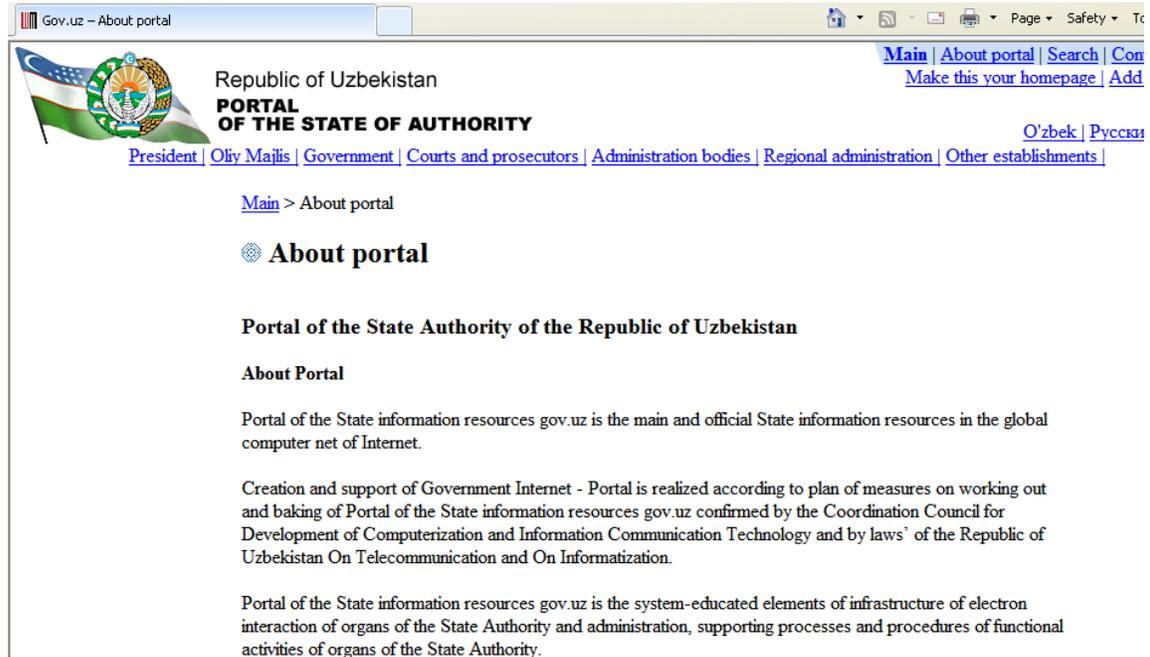


Figure 4. www.gov.uz: 'About the Portal' page of the State Portal Site of Uzbekistan on 9 June 2005. Of the sites that we analyzed, this site was the only one to provide a purposeful 'about' statement. It was also the only one to explicitly state the goal of government control of information and the Internet. In several site captures, the default language version of the site was English, but, as briefly shown here, the translation was of poor quality. The site was predominantly text based, but featured the state symbol and flag in the upper left corner. The site also showed news along a right-hand column (not shown) and the news items varied according to the language version, suggesting targeting of items according to readership. The site design remained constant from December 2004 through July 2009. A major redesign was undertaken in 2010, but the new content is not part of the analysis presented here.