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Electoral web production practices in cross-national perspective

The relative influence of national development, political culture, and web genre

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To what degree are websites produced during an election shaped by a country's political culture, level of development, and the type of actor producing the site? Surprisingly, the websites produced during 19 elections in 2004 are more consistent across types of political actors than within political cultures. When analyzed for four communicative functions—informing, involving, connecting, and mobilizing citizens—political actors' sites are remarkably consistent regardless of which country they are operating in. Data from the Internet and Elections Project (Kluver et al., 2007) reveals that, controlling for levels of national development, a significant amount of the variation in web production practices can be explained by differences in political culture even among democratic nations, and even more is explained by genre effects associated with five types of political actors: candidates for election, government agencies, political parties, news media, and civic groups such as labor unions and nongovernmental agencies. This suggests that along with the diffusion of internet technologies comes a diffusion of genre practices, causing institutional isomorphism among political actors around the world.

The phenomenon of transnational technology diffusion has received significant attention among scholars of innovation, technology, and development (cf. Howard and World Information Access Project, 2006; Rogers, 1995; Wilson, 2004). However, cross-national similarities and differences in the adoption and adaptation of information and communication technologies by political actors in the context of democratic politics remain understudied.[1] Studies of technology diffusion have demonstrated a transnational flow of notions about technological affordances for political and other human activities, technological expertise, and technology-related practices, including web production practices (Howard, 2006; Kamalipour, 2006; Wilson, 2004). Patterns of transnational technology diffusion indicate a globalizing trend among economic, political, and intellectual elites in different countries toward similar technology-related practices (Wilson, 2004). One manifestation of this trend in the political arena is the international circuit traveled by American political technology consultants in between U.S. elections, as they advise political parties and campaigns in other countries on strategic uses of internet technologies (Howard, 2006).

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On the other hand, differences in political culture underlie the varying ways that political practices—including those that involve technologies—take shape in different countries (Ho *et al.*, 2003; Kluver, 2005; Kluver and Banerjee, 2005; Ott, 1998). This literature suggests that the particularities of political culture "localize" technology, that is, national political cultures contextualize technology adoption and adaptation in politics within countries. Different assumptions within national cultures regarding the relationship between citizens and the state and regulations lead to variance in expectations of political actors and in patterns of engagement by various types of actors across countries.

Foot and Schneider (2006) have demonstrated that the structure of a *web sphere*, defined as website features produced in relation to an event or topic by a range of sociopolitical actors within a particular timeframe, can either enable or constrain the range of actions available to internet users. Web sphere structure affords users with opportunities to act and to associate. For instance, on political party sites, the provision of features enabling e-mailing messages to the editors of local newspapers enables site visitors to voice their political opinions quickly and easily, while at the same time linking party sites with the press sites. Electoral web spheres take shape as various types of actors engage in web production practices reflecting their respective political roles and goals, both individually and in (hyperlinked) relationship to each other.

The overarching aim of this chapter is to shed light on the relative influence of web genres, national development, and localizing political culture on the web production practices of political actors active in national electoral web spheres. Prior work on technology appropriation across countries has indicated that political culture and several aspects of national development play important roles in the ways technology is employed. However, the findings of this study suggest that web producers are more likely to adopt transnational genre markers in producing their sites, than to employ culturally specific patterns in the online structures they produce.

This analysis is based on data from 19 national electoral web spheres spanning Europe, North America, and Australasia collected in the context of the internet and Elections Project (Kluver *et al.*, 2007). The project was designed to facilitate the collection of comparable data on one facet of the internet and political life: how a wide range of political actors in democracies around the world engaged in the web during national elections in 2004–5. With research teams in each country, the overall project examined the web production practices of political parties, campaigns, news producers, government bodies, and non-governmental organizations, in nations with varying levels of technology penetration, economic power, and styles of democratic governance, and with different political cultures.

Very few large-scale cross-national studies of the web in elections have been conducted to date with a common methodological framework that enables strong comparisons across political, economic, and cultural contexts. Prior cross-national comparative studies on political uses of digital information and communication technologies (ICTs) have shown that levels of economic development and technological development, and national political structure, are significant predictors of the deployment of ICTs in politics (Norris, 2000, 2001b). A collection of case studies on the online activities of political parties in several countries shed light on some of the ways parties were experimenting with ICTs both in election and governance contexts (Gibson *et al.*, 2003b), and a close comparison of online campaigning in the United Kingdom and the United States suggested interesting

differences between candidate-centric and party-centric elections (Gibson *et al.*, 2003a).

These studies and others have contributed significantly to our understanding of the issues related to particular ICTs, political structures, and electoral, advocacy, and governance activities. However, in our view, insufficient attention has been paid to the role of political culture in the deployment of ICTs in politics, and to political actors other than parties and campaigns in the context of elections. Political culture has been defined as the symbolic environment of political practice, shaped by political institutions, historical experiences, and philosophical and religious traditions (Kluver, 2005; Martin and Stronach, 1992). This broad description includes the assumptions, expectations, mythologies, and mechanisms of political practice within a country and addresses the ways values and attitudes influence political behavior. Most research on the political use of the web has overlooked political culture, which may constrain use of the technology. Norris (2001b), for example, seems to disregard the role of cultural issues in her analysis of the internet in global politics when suggesting that electronic infrastructure may be the primary predictor of internet deployment in political campaigns.

Addressing these gaps in the literature was one of the principal goals of the Internet and Elections Project. It was hoped that by looking across national contexts during a period in which elections were held around the world, a greater sense of the diversity of ways in which various types of political actors employ web technologies with regard to elections in a wide variety of contexts could be gained. The aim of this chapter is to contribute to scholarship on the web and electoral politics through a large-scale, cross-national comparative analysis of the relationships between the web production practices of a wide range of

political actors, and political culture as well as political, technological, and economic development. This analysis was guided by three overarching research questions. First, to what extent do the patterns in the production of election-related resources online observed in the present study compare with prior research in the field (notably Norris, 2000, 2001b)? Second, how do aspects of national development and political culture correspond with the production of election-related resources online? Third, to what extent do particular political actor types engage in the same web production practices across national contexts? Some extant scholarship demonstrates that national development and political culture influence technology appropriation. Other scholarship suggests that technology adoption patterns have some remarkable similarities cross-nationally. This study compares the explanatory power of all three on the web production practices in national electoral web spheres.

Electoral web practices: informing, involving, connecting, and mobilizing

Four indices were constructed to analyze systematic variations in political web practices across a variety of web spheres, corresponding to four types of communicative functions addressed in the study. The creation of the indices was primarily guided by theoretical concerns related to distinct differences in the types of features observed on all of the various sites in the study. Extending and modifying conceptualizations of web production practices developed in earlier research (Foot and Schneider, 2006), we thus used functional differences to associate features with four practices, each representing a key dependent variable in the analyses that follow. The first practice, *informing*,

concerns the most basic function of political communication online. Features that fall into the informing category convey basic information about the central figures in each electoral web sphere, the substance of their public discourse, and the election process itself. The second practice, *involving*, is evidenced in features that serve as a point of entry into a more interactive relationship between site visitors and site producers. The third practice, *connecting*, concerns the ways in which a site producer creates the means for site visitors to interact with other political actors and with websites produced by other political actors. Finally, *mobilizing* entails a set of features through which site producers enable visitors who are supporters of a candidate, party, or cause to become advocates for that candidate, party, or cause.

A clearer understanding of the complex nature of the variations explored here, however, comes from an examination of how the electoral web spheres studied rank in terms of the prevalence of each practice. In preliminary examinations of these rankings, a complex set of patterns suggests a number of different explanations for differing levels of political web practices across the spheres. For example, countries known for their economic status, such as the United States and the United Kingdom, display some of the highest levels of connecting and mobilizing, while Finland—whose residents also enjoy a relatively high standard of living—consistently ranked near the bottom for all four practices. Korea and Italy both consistently rank among the top three web spheres in the areas of informing, involving, and mobilizing, suggesting that all three factors—technological development, transnational technology diffusion within particular types of actors, and political culture—may all play important roles in explaining web practices. And yet, there are also a number of

other countries near the top of the four ranked lists that are known neither for their economic strength, their political cultures, nor their technological infrastructures, e.g. Slovenia (with the second highest prevalence of informing features), Portugal (with the second highest rate of connecting features), and Indonesia, (with the second highest rate of mobilizing features). This spread of adoption patterns for the four web practices examined suggests the need for a multivariate model, including a wide variety of potential explanatory variables.

Explaining variation in web practices: national development, political culture, and producer types

To build this multivariate model, several independent variables were employed.

Based on the results of prior comparative analyses of political websites (Norris, 2000, 2001b), indicators of economic development, on the one hand, and technological development, on the other, were selected. By exploring the degree to which observations of political actors' web practices in electoral web spheres correlate with either or both of these variables, the notion of a global "digital divide" may be tested and reconsidered (van Dijk, 2005; Norris, 2001b) with respect to political uses of internet technology in the context of elections. These variables enable the comparison of web observations as directly as possible to prior international investigations of politics online.

However, to further extend and develop understanding of international patterns of diffusion of online politics, two additional concepts were added to the analyses. Moving beyond traditional material predictors of the online actions of political actors, this portion of the analysis

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was designed to test the notion that variations in national political contexts may provide substantive insight into international variations in political actors' web practices. Specifically, the two different aspects of the political contexts in the countries included in this study were political development, and political culture. The first of these, *political development*, relates to the variations in the political institutions and political structures within which the elections of 2004 took place. Although each country included in the study is, in some measure, democratic by virtue of having elections at all, there are still a number of vitally important variations between them in terms of constitutional, legal, and administrative characteristics associated with democratic governments. With the concept of *political culture*, the extent to which online political practices may be driven by demand factors associated with the citizenry itself is explored. Thus, the variables related to political culture are based on variations in the temperament, attitudes, and behavior of potential voters in each country, as evidenced through available secondary survey data.

A final set of variables included in the analyses that follow arises from previous research on web production in general, and the production of campaign websites in particular (Crowston and Williams, 2000; Foot and Schneider, 2006; Yates and Orlikowski, 1992; Xenos and Foot, 2005). This research into the production of various kinds of websites, political and otherwise, revealed patterns of what Foot and Schneider (2006) called genre effects. That is, sites produced by the same type of actor and/or sharing a similar purpose often reflect certain regularities of form and function that become associated with the genre of the site by both producers and visitors alike. As Burnett and Marshall (2003) explain, genres develop as a constantly cycling interplay between audience expectation and producer delivery of audience expectation. In the case of personal web pages, for example, common or expected features include personal photos and contact information. In the case of campaign websites, the standard list of features begins with the candidate biography, and typically includes other informational features related to political or policy goals of the candidate. Recognizable and stable sets of site features, produced by the same type of actors, carry elements of genre comparable to genre markers in other media (Vedres *et al.*, 2004; Xenos and Foot, 2005). Site genres create pressure on would-be site producers to conform to others' expectations by employing the pertinent genre markers in their web production practices, and at the same time, provide tracks from which to improvise and diverge. In addition, the transnational dissemination of political web production strategies and practices through networks of political actors in different countries (cf. Howard, 2006) are likely to catalyze similar web production practices among the actors of the same type, regardless of their national political context.

Since the sites analyzed in each web sphere studied in the Internet and Elections Project were produced by a variety of political actors, the producer types themselves were included as variables for two reasons. First, based on known relationships among and between various types of political actors and different kinds of communicative activities on the web, the inclusion of site producer type variables was anticipated to improve the explanatory power of the models. More importantly, the inclusion of such genre variables also enables a further test of competing theoretical interpretations of the impact of the web as a communication medium on political activity. Specifically, such variables enable estimation of the

relative proportion of variation in political web production that is related to domestic factors such as economic and political development or culture, or more universal forces such as a particular style of communication and presentation using the internet that transcends such geographical, economic, and political differences.

To summarize, this comparative analysis of variations in web practices across the international elections project centers on an explanatory model that compares three distinct kinds of web production strategies employed by political actors, along a number of dimensions. The focal practices are informing, involving, connecting, and mobilizing. The explanatory dimensions include economic, technical, political development, political culture, and genre effects.

Measurement of web production practices and explanatory dimensions

The data from which each of the four dependent variables was drawn consisted of feature coding observations from 19 national election web spheres. After completing training exercises on five English-language sites, all participants were required to code the same set of ten archived English-language sites as a means of measuring agreement among coders. Four response options were provided for each item: (1) Yes, present on a page produced by this site producer; (2) Yes, but present on a page produced by a different site producer; (3) No; and (4) Not clear. Since our comparative analysis is based on the simple presence/absence of features, these response options were collapsed into three responses (Yes, No, and Not Clear) for the purpose of calculating inter-coder agreement. Because the display of archived websites can be problematic, participants had been instructed to

use the Not Clear option when technical problems prevented them from viewing the archived page. Thus, coordinators assumed that a Not Clear response in the reliability test was due to technical archival display difficulties and disagreements between coders that involved a Not Clear response were not counted as disagreements in the reliability assessment. Percent agreement was calculated between each individual coder in the internet and Elections Project and a set of master codes agreed upon by the project coordinators. Percent agreement was also calculated between the coders within each sphere, relative only to the coders working within each sphere, to account for differences in interpretation of the measures due to language and political cultural differences across coding teams.

Inter-rater reliability was evaluated according to percent agreement among coders based on two important characteristics of the data. First, the primary concern in the systematic coding conducted for this study was with either the presence or absence of certain types of features and information, and did not incorporate continuous variables. Neuendorf (2002) notes percent agreement is particularly appropriate in such instances, "wherein each pair of coded measures is either a hit or a miss." Second, the distributions of the measures in this study were skewed in that fewer than half the sites sampled for reliability testing offered half of the 24 features included in the coding schemes. Such distributions force lower reliability calculations of agreement beyond chance even when coding is reasonably reliable (Potter and Levine-Donnerstein, 1999). For these reasons, a requisite threshold of 80 percent agreement was established both between each participant's codes and the master codes and between members of the research team for each electoral web sphere to create the cross-national data set for this comparative analysis. That

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is, there was at least 80 percent agreement between each of the coders and the master codes, and between the coders for the given web sphere, for each of the web sphere data sets employed in this analysis. For each web sphere, a variety of producer types were represented in the collections of websites for coding. Table 4.1 contains a list of the 19 countries included in this analysis, the proportion of sites from each producer category included, as well as the total number of functional sites included in the sample for each web sphere.[2] Dougherty and Foot (2007) provide a more detailed overview of the research design and data collection methods employed in the Internet and Elections Project, within which this study was conducted.

Comparing web practices

To operationalize each of the four practices of informing, involving, connecting, and mobilizing as dependent variables, indices of features were constructed representing these practices. As the number of features associated with each practice is not identical, the indices were created by calculating the proportion of the features for any given practice that were present on a site.

Informing

The informing index comprises five distinct and relatively straightforward features. The first is a biography or "About Us" text. On campaign sites, biographical information typically takes the form of pages where candidates provide their personal stories and backgrounds. On sites produced by other types of organizations, a description of the organization was treated comparably to a biography. The second feature is information about issue positions held by political actors within the web sphere, whether that actor was

the site producer or some other actor in the political system, as when the site producer is a press organization or political party. The third is information about voting, such as registration information and the location of polling sites. A fourth feature included in the informing index is general information about the campaign process. This includes information about the campaigning rules and possibly governmental regulations on campaigning in the country in which the elections are being held. Finally, the fifth feature used to construct the informing index is the presence of speeches, either in the form of audio files, video files, or simple transcripts. The mean value of the informing index across all 1,219 sites included the study was 0.40, with a standard deviation of 0.23.

Involving

The index for involving also comprises five features. First, the involving measure includes the presence or absence of features enabling the site visitor to join the organization or group sponsoring the site. Distinct from volunteering, which is also a part of the involving index, joining refers specifically to explicit membership of an organization or campaign. The second feature is the ability of the site visitor to sign up for an e-mail distribution list. A third involving feature is the provision of forms or other materials that enable visitors to volunteer in the electoral process in some capacity. In the case of campaigns and parties, this typically takes the form of teams of canvassers and phone bank operators, while for less partisan non-governmental organizations, volunteering can take the form of more general efforts related to the election process. The fourth feature in the involving index is the provision of a calendar of events, typically sponsored by the site producer. Such calendars are a

Table 4.1 Political content online and development measures for 19 countries with elections in 2004

Country	Websites sampled, by political actor type							Social, technological, and political development				
	Candidate (%)	Government (%)	Party (%)	Press (%)	NGO/ Labor (%)	Other (%)	Total Number	Human Development Index	New Media Index	Democracy Index	Participation Index	Engagement Index
Australia	15	1	27	8	14	36	89	0.95	1.37	6	1.81	6.91
Czech Republic	27	9	33	12	7	11	70	0.87	0.55	6	1.68	7.08
Finland	51	10	15	10	7	7	72	0.94	1.32	6	1.67	5.90
France	31	15	17	10	17	10	48	0.93	0.81	6	1.90	6.03
Hungary	7	30	22	11	6	24	54	0.85	0.44	4	1.27	–
India	5	36	26	14	3	16	88	0.60	0.04	2	1.53	6.30
Indonesia	11	7	15	33	7	28	77	0.69	0.07	1	1.24	6.52
Ireland	23	20	43	3	3	7	30	0.94	0.92	5	1.70	6.11
Italy	41	6	24	10	6	13	63	0.92	0.68	7	1.74	6.11
Japan	61	14	5	4	9	7	77	0.94	1.10	3	1.63	7.32
South Korea	44	8	12	7	7	21	72	0.89	1.37	4	–	6.89
Netherlands	48	8	24	5	6	10	63	0.94	1.29	6	1.80	7.32
Philippines	31	8	4	11	10	36	83	0.75	0.10	3	1.21	6.94
Portugal	3	3	41	35	7	10	29	0.90	0.76	4	1.49	5.53
Slovenia	3	45	24	10	8	10	38	0.90	0.81	4	1.64	5.79
Sri Lanka	0	14	25	49	2	10	49	0.74	0.02	3	–	–
Thailand	5	32	8	34	3	18	98	0.77	0.16	2	–	–
United Kingdom	50	8	15	10	5	12	60	0.94	1.00	5	1.76	5.78
United States	43	16	11	5	13	13	63	0.94	1.85	5	1.92	7.29

Source: Internet and Elections Project, 2006; International Telecommunications Union, 2006; United Nations, 2004; World Values Survey 2000; Vanhanen, 2003.

key line of communication between the organizers of political events, and those that may be drawn to participate in them through political communication online. Finally, the involving index also includes the presence of features used to allow site visitors to donate money either to the site producer, or to other political actors within the system that may be distinct from the site producer. The average level of involving across all sites in the study was 0.25, with a standard deviation of 0.26.

Connecting

The connecting index is based on three features by which a site producer creates bridges for visitors to other political actors. These bridges may be either cognitive, that is, invoking cognitive processes to make the connections between the actors, or transversal, incorporating and going beyond cognitive bridges by facilitating movement and a shift of attention from the connecting actor to the "connected to" actor (Foot and Schneider, 2006). The first feature associated with the practice of connecting is the presence of an endorsement or endorsements of particular candidates or parties in the upcoming election by the site producer. The second is the presence of information that facilitates a direct comparison of parties or candidates on particular issues. Typically, this takes the form of an issue-grid, which provides either a simple tabular entry or a link to information on the positions taken on various issues by a number of different candidates or parties. Finally, the third feature included in the connecting index is the presence of information or links that enable the site visitor to register to vote in the upcoming election. Across all sites included in the study, the mean level of connecting was 0.15, with a standard deviation of 0.23.

Mobilizing

The mobilizing index is based on four features and, as indicated earlier, reflects the efforts of a site producer to enable supportive site visitors to become advocates. The first is the potential for, and encouragement of, users to access materials on the website for their reproduction and distribution offline. For example, this would include the ability to download images of posters or flyers to copy and distribute at meetings or rallies. A second feature associated with mobilizing is e-paraphernalia. E-paraphernalia serves a similar function to offline distribution, but as the name implies the communications that are encouraged and enabled by the site are electronic in nature. A common form of e-paraphernalia is the downloadable screen-saver, which communicates an affiliation or message to one's co-workers or others that share one's computer space. The third feature in the mobilizing index is the presence of features facilitating the making of public statements in support of a candidate or other political actor by site visitors. For example, site producers may encourage visitors to write letters to newspaper editors, or attach their name to a petition or endorsement in support of a policy agenda or political actor. In some cases, visitors may be able to enter their location and receive the contact information for all opinion page editors in their area. The fourth feature associated with mobilizing is a web-to-e-mail application for a site visitor to send a link to someone else's e-mail address. The average level of mobilizing among the sites included in the study was 0.13, with a standard deviation of 0.20.

Together, these four indices make up the principal dependent variables in this analysis of variations in political web practices across the web spheres included in this comparative analysis. As described

earlier, the independent variables consist of a number of factors and conditions that display noticeable differences across the cases in the study, and are believed to be related to variations in the ways that political actors use the internet. Specifically, the primary independent variables are measures of levels of human, technical, and political development, as well as political culture.

Comparing nations

Human development

The Human Development Index (HDI) produced annually by the United Nations is the data source on economic or human development in this study.[3] The HDI is a metric that provides a representation of general quality of life, that is comparable across the countries whose web spheres were examined in this analysis and thus sensitive to variations in general conditions. In addition to measuring economic development by including an index of gross domestic product within its general formula, the HDI also combines economic productivity data with measures of literacy and average life expectancy. In doing so, it produces a more comprehensive picture of development across various countries than a mere reliance on GDP figures alone. Across the full cross-national data set, the average HDI score was 0.85 ($SD = 0.11$, $N = 1,219$).

Technological development

A second variable in the models described below is the level of technological development present in the web spheres in which sites included in the study originate. Following Norris (2000, 2001b) three different proportions are combined to measure technological development, creating a new media index. The three proportions are the percentage of persons online within a given country, the proportion of personal computers per capita, and the proportion of hosts per capita. Data from the 2003 edition of the *CIA World Factbook* on the percent online in each country, and population sizes contemporaneous with the electoral web spheres studied, were used to calculate proportions for this analysis.[4] Data on the number of PCs and hosts in each country are drawn from data sets publicly available through the International Telecommunications Union for the same year.[5] The mean value of the new media index observed in these data is 0.75 ($SD = 0.56$, $N = 1,219$).

Political development

As mentioned earlier, in addition to measures of human, economic, and technical development, the analyses are supplemented with variables designed to test for the possible influence of political conditions on the patterns observed concerning political campaigning online. Several indicators were employed to obtain measures of political development. The first of these was the Freedom House ratings, which summarize assessments of civil rights and liberties into a simple index. However, since the present project is automatically limited to countries holding elections, Freedom House ratings displayed almost no variability across the countries included in this comparative analysis, making them unsuitable for use as independent variables in our regression analysis. Thus, another measure was employed—the Index of Democratization developed by Tatu Van Hannen—to provide a slightly more detailed assessment of political development that captures the subtle variations in structural political conditions that may be related to variations in political web practices across the web spheres included in the study.[6] Van Hannen's index provides a detailed metric of what he defines as the preconditions to

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healthy democratic governance that is comparable across a wide variety of countries. The principal ingredients in this index are the level of electoral competition (calculated by subtracting the proportion of votes garnered in the last election by the largest party in the country from 100) and a measure of political participation (based on the proportion of the total population that voted in the last election). Scores were obtained for all countries in the project that were available from the latest published figures, based on data collected in 2000, and then those scores were converted to an index ranging from 1 to 7. Across all observations, the mean Van Hannen rating was 4.19 (SD = 1.73, N = 1,219).

Political culture

A second dimension of overall political conditions is political culture, defined as the ways in which values and attitudes influence political behavior, including political participation, mobilizations, and actions (Kluver, 2004). To capture variations in political culture across the different web spheres, data from the World Values Survey (WVS) were employed.[7] Although these measures are certainly imperfect, they represent the most reliable—and most importantly—the most comparable set of indicators related to the general political temperaments and possible demand functions that may be working in various web spheres. In this area two specific facets of countrywide political temperament are explored, political participation (beyond mere voting, which is captured in the Van Hannen index), and another variable termed political engagement for the purpose of this study.

Political participation is a simple additive index based on responses to items in the WVS querying respondents as to whether they have engaged in five types of political or civic engagement activities. The five activities were: signing a petition, participating in a boycott, participating in a public demonstration, engaging in a "wildcat" strike, and taking part in a "sit down" strike. The sum of the activities was then aggregated by country to create a metric of the rate of non-voting political or civic participation in each of the web spheres under study.

A similar approach was taken with the *political engagement* index. The items used for this measure consisted of three questions from the WVS dealing with respondents' level of objective and subjective involvement with politics as a matter of daily concern. The first is a simple measure of the rate of political discussion. ("When you get together with your friends, would you say you discuss political matters frequently, occasionally or never?") Responses to the discussion item ranged from 1 (never) to 3 (frequently). The second item simply asks, "How important is politics in your life?" Responses for the importance item range from 1 (not at all) to 4 (very important). Finally, the third item is a classic measure of political interest ("How interested would you say you are in politics?") with responses ranging from 1 (not at all) to 4 (very interested). As with the participation index, responses were summed, and then aggregated by country to provide means, by web sphere, of political engagement. Across all observations for which these data are available, the mean value of the participation index was 1.62 (SD = 0.22, N = 1,000) and the mean value of the political engagement index was 5.53 (SD = 0.56, N = 1,018).

Together, the five measures explained here provide the best available indicators of the concepts implicated in the model introduced earlier. The indicators constituting the independent variables employed in this study are summarized by country in Table 4.1; for more detail see Foot *et al.* (2007).

Site producer types

As discussed earlier, the explanatory model also includes variables for site producer types as a way to capture the known relationship between political website genres and constellations of features. Information on producer types was originally gathered by those who compiled the original site populations for each web sphere. As an added precaution, the categorization of each site as belonging to a particular producer type (candidate, government, party, press, NGO/labor, or other) was also confirmed at the coding stage. Before proceeding with coding on a site, coders were provided with the category of site producer initially selected by whomever identified the site as having been produced by an entity with a role or voice in the election, and were asked to either confirm this, or correct it. In cases of conflict, we deferred to the assessments of the trained coders. For the purpose of increasing comparability across spheres, we excluded sites that were noted as lacking related content at the time of coding.

Results: the power of genre in electoral web spheres

As explained above, there were three central questions motivating our comparative analysis of the data. First to be examined was the extent to which the patterns in online political communication observed in the present study compare with prior research in the field. Second, extant scholarship was extended further, through adding factors into the model related to aspects of political development and political culture. Third, the extent to which particular types of political actors engaged in the same web production practices across national contexts was examined. Overall, a number of notable patterns emerged from these analyses, which took the form of hierarchical regression models that explored the relationships between our dependent variables and a series of explanatory variables introduced into the model in succession. The results of the fully specified models, which include the site producer variables, while controlling for the national development and political culture variables, are displayed in Table 4.2.

The first pattern was seen in the models that only included the human and technological development variables. The findings from those analyses did not, by and large, neatly correspond to the findings of prior comparative research on online political communication. Although the relationships between the New Media Index scores and the web practices of informing, involving, connecting, and mobilizing were all significant and in the expected direction, the results for human development were somewhat puzzling. That is, in nearly all cases, the observed relationship between human development and each of the web practices under study appears to be negative or non-significant.

The second pattern was revealed in the next group of models tested, which probed for the influence of political culture, while controlling for the effects of national development. Based on these models, the addition of variables related to political development and political culture made a distinct contribution to the model. For example, though small, the effect of political development on the practice of involving was statistically significant. And, as seen in the results reported in Table 4.2, remains significant even after the site producer variables are added to the analysis. Furthermore, in this series of regressions, the participation index was found to be significantly related to the practice of informing, again remaining so even after the genre effects are taken into account. Finally, we also

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Table 4.2 Explaining web production practices: development, political culture, and producer types

Predictor variable	Informing	Involving	Connecting	Mobilizing
Human development				
Human development index	0.08	−0.16	−0.31[*]	−0.06
Technological development				
New media index	−0.04	0.05	0.12[***]	−0.01
Political development				
Democracy index	0.01	0.02[*]	−0.03[***]	−0.01[*]
Political culture				
Participation index	0.13[*]	0.02	0.13[*]	0.05
Engagement index	0.00	0.00	−0.01	−0.01
Genre effects				
Candidate site	0.17[***]	0.12[***]	0.07[***]	0.06[**]
Government site	0.14[***]	−0.08[**]	0.00	−0.07[*]
Party site	0.22[***]	0.23[***]	0.14[***]	0.12[***]
Press site	0.03	−0.03	0.04[*]	−0.01
NGO/Labor	0.11[***]	0.09[**]	0.07[*]	0.01
Adjusted R^2	0.13	0.22	0.09	0.08
Unweighted N			946	

Source: Internet and Elections Project, 2006; International Telecommunications Union, 2006; United Nations, 2004; World Values Survey, 2000; Vanhanen, 2003.

Notes:
[*] = $p < 0.10$; [**] = $p < 0.01$; [***] = $p < 0.001$

saw a significant relationship between the participation index and connecting practices. This relationship also remains significant after the genre variables are controlled for in the fully specified model. Thus, some support was found for the idea that elements of political context, such as institutional characteristics and emergent demand functions, appear to be related to variations in online political communication across different web spheres. This suggests that at least in the case of democracies, models of online politics that only take into account human and technological development may be incomplete.

The third and most striking pattern within these data concerns genre effects. As explained earlier, the inclusion of genre variables to the model reflects our interest in understanding the transnational diffusion of web production practices within actor types. Each set of results suggests that these political actor/site producer categories explain a large share of variations in features observed across the web spheres subjected to systematic comparative analysis. Indeed, once the genre variables are entered into the analysis, significant increases in the overall variance are explained (as indicated by the adjusted R^2s). Specifically, for the involving and connecting regression analyses, over half of the variation explained can be attributed to the site producer variables, and in the analyses for informing and mobilizing, virtually all of the explanatory power lies in these variables. This suggests that among democratic nations, the influence of a website's producer type (e.g. campaign, political party, press organization) tends to outstrip the influence of factors specific to the geographic and political web sphere from which it originates.

Discussion

There are a number of possible interpretations regarding the first pattern in these findings, that is, the non-significant or negative relationship between human development and each of the web practices under study. It could be that the exclusive focus in this study on countries with elections during 2004 masks or distorts the relationship between the level of human development and the likelihood that site producers engage in the web practices examined. Another possible factor influencing the observed relationship is the study's focus on electoral web spheres; other web spheres, perhaps those produced by government agencies or for commercial purposes, might yield the expected relationship. Further research is required to examine these relationships more closely.

There is an interesting tension between the second and third patterns in these findings. On one hand, the strong similarities discovered between the web production practices of political actors of the same type cross-nationally support patterns of international diffusion of innovation in the realm of politics and internet technologies from the U.S. and the U.K. to other countries in Europe and Asia found by other scholars (Howard, 2006; Wilson, 2004). On the other hand, the fact that political development and political culture factors had statistical significance in predicting web production practices across this sample of 19 election-holding countries merits further attention. Even though these relationships are not as strong as those found for producer types, and indeed for one practice (connecting) the relationship is negative, on the whole this finding is remarkable considering the relatively narrow range of political cultures represented in the sample. Most of the nations studied are parliamentary democracies; in addition to the U.K., the

U.S., and Australia, the political cultures of several other countries included in the study have historically been shaped by Anglo-American influences, including the practice of hiring political consultants, who often bring their experiences in one nation to another.

Contrary to some prior studies indicating that levels of national development determine technology appropriation, and other work suggesting political culture would trump transnational flows of expertise, the findings of this study indicate that political actors in various countries are more likely to model their sites on those produced by similar political actors from other countries rather than modeling them on sites produced by other types of political actors within their own country. There are a number of possible reasons for this, including the aforementioned role of political technology consultants working transnationally, the desire to establish international legitimacy, the particular needs of the political actors as web producers, and the purposes for the sites they produce.

Political culture and political development are difficult to define operationally and assess quantitatively (Verba *et al.*, 1987; Pye, 1985). While the measures employed in this study—Van Hannen's development index and aggregate indicators of political participation and political engagement—are important indicators of some aspects of political culture, they are by no means comprehensive, and undoubtedly fail to capture some of the more nuanced differences between the different countries. Furthermore, survey data related to political culture that could enable comparison across all the countries included in this study were limited. In addition to displaying relatively little variation across the countries in this study, survey data were not available for a few of the countries included in the analysis, as indicated by the lower *N*s for the Model 2

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and Model 3 results.[8] More fine-grained studies of political culture are needed to develop additional measures, and cross-national surveys on political attitudes and actions need to be implemented more broadly across regions.

Conclusion

Systematic cross-national comparative research is challenging to design, fund, and conduct on a large scale—and it holds much value for the pursuit of knowledge. Only this type of research allows for the exploration of questions affecting great numbers of people in many countries. This study has focused on teasing out the complicated relationships that explain the tendencies of a wide variety of political actors to engage in different types of web practices, across Europe, Asia, and the U.S.

In summary, for the countries included in this analysis, the type of political actor producing a site was more potent than human development, technological development, and political culture variables in explaining web production practices. The production of a national electoral web sphere happens in a global context: the production practices of one type of actors in a national electoral web sphere are more likely to be like those of the same type of actors in other electoral web spheres than like those of other types of actors within the same national electoral web sphere. For example, websites produced by political parties in the Philippines are more likely to be similar to websites producer by political parties in the United States than they are to be similar to websites produced by advocacy groups in the Philippines.

At the same time, political culture was determined to exert significant influence on how web production practices are implemented within national contexts. Even within the relatively narrow range of democratic nations included in this study, differences in political participation and political engagement among the citizenry corresponded with differences in political actors' web production practices.

Aside from the findings on genre effects and political culture, the positive relationship between technological development and each of the web practices confirms the association between overall level of technical development within a country and the types of web practices in which producers engage. As expected, countries with more diffusion of media technology, greater access to the media technology, and greater use of media technology, included producers who engaged in more types of web practices. Additional research is necessary to examine the observed negative relationship between level of human development and level of web practices.

Further research would be useful to both confirm and shed further light on these findings. Such research efforts could include a finer grained analysis of the specific types of web practices found in websites produced by specific types of political actors. For example, a cross-national study of political party websites, focused on the particular functions and needs of political parties, could highlight those aspects of party websites that were common across political cultures, as well as identify aspects of party websites that were distinctive across political cultures. In addition, a cross-national study of a particular practice across multiple types of political actors—for example, the ways in which information is solicited from site visitors—could explain the relative influence of actor type and political culture.

Guide to further reading

An increasing array of scholars from diverse fields, including political science,

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communication, sociology, psychology, information science, and rhetoric, have studied the use of the web by political parties and campaigns, particularly in the U.S. and the U.K. The foci of scholarly analyses ranged from the integration of the web into campaigns' day-to-day operations (cf. Howard, 2006), to the range of features provided by producers of campaign websites and campaigns' web strategies (cf. Williams and Tedesco, 2006), to the ways in which citizens, journalists, and others have used the web to obtain political information during campaigns (cf. Bimber and Davis, 2003), to the impacts of web campaigning on civic engagement as well as campaign processes and electoral outcomes (cf. Valentino *et al.*, 2004). A considerable literature has developed examining online campaign activities outside the U.S. and the U.K. (cf. Gibson and Rommele, 2003; Gibson and Ward, 2002; Park *et al.*, 2000; Tkach-Kawasaki, 2003). Some of this research on the internet in elections has been explicitly comparative (Gibson *et al.*, 2003b; Ward and Voerman, 2000). Chadwick's (2006) book provides an excellent overview of the internet and politics in the U.S. and the U.K. Other scholars have studied technology appropriation cross-nationally, but not necessarily in explicitly political contexts (cf. Norris, 2000, 2001b; Wilson, 2004).

Notes

1 An earlier version of this chapter was published by Foot, Schneider, Kluver, Xenos, and Jankowski as "Comparing Web Production Practices Across Electoral Web Spheres," in *The Internet and National Elections: a comparative study of web campaigning*, Kluver, Jankowski, Foot, and Schneider (eds.), Routledge, 2007, pp. 243–60.

2 Electoral web spheres analyzed in this chapter consist of 2004 European Parliamentary elections in the Czech Republic, Finland, France, Hungary, Ireland, Italy, the Netherlands, Portugal, Slovenia, and the United Kingdom, the 2004 congressional election in the United States, the presidential and/or parliamentary elections held in 2004 in Australia, India, Indonesia, Japan, Philippines, South Korea, Sri Lanka, and the 2005 parliamentary election in Thailand.

3 http://hdr.undp.org/reports/global/2004/?CFID=1548133&CFTOKEN=71996467. Accessed August 16, 2007.

4 www.cia.gov/library/publications/the-world-factbook/docs/notesanddefs.html. Accessed August 16, 2007.

5 www.itu.int/ITU-D/ict/statistics/. Accessed August 16, 2007.

6 Polyarchy Dataset: www.fsd.uta.fi/english/data/catalogue/FSD1216/ VanHannen's Codebook: www.fsd.uta.fi/english/data/catalogue/FSD1216/FSD1216_variablelist.txt.
Background materials: www.fsd.uta.fi/english/data/catalogue/FSD1216/bgF1216e.pdf www.prio.no/files/file42501_introduction.pdf. All accessed August 16, 2007.

7 http://data.library.ubc.ca/datalib/survey/icpsr/3975/03975–0001-Codebook.pdf. Accessed August 16, 2007.

8 World Values Survey data on political culture were not available for Hungary, Thailand, and Sri Lanka.