

Use of Campaign Websites by Political Candidates: Quantitative Analysis of Candidates' Websites Based on Data from the 2003 Representatives Election of Japan

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Introduction

The Internet is increasingly being used for political communication in Japan. Despite the limits placed on the use of the Internet as a campaign tool by The Public Offices Elections Law (Tkach-Kawasaki 2003), the rate at which websites are being established by candidates in national elections has been rising since 2000¹⁾. During the House of Representatives election held in 2000, 28.4% of the candidates (399 out of 1404) established sites. This number jumped to 59.4% (688 out of 1159) in the 2003 election²⁾.

With such a dramatically increasing trend in Internet use expected to continue into the future, many scholars who are interested in the relationship between politics and the new medium have been shifting their focus of analysis from whether political parties or candidates have established websites to what type of website they are putting up (Druckman, Kifer, and Parkin 2007; 426, Gibson, Margolis, Resnick and Ward 2003; Gibson and Ward 2003; Ward and Gibson 2003).

This paper is also concerned with the contents of the websites. The purpose here is to examine what type of website candidates are putting up and what factors affect the contents of their websites, based on data from the Japanese Lower House election held in November 7, 2003. From content analysis of 682 candidates' websites, indexes are produced indicating the "degree

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- 1) The Public Offices Elections Law stipulates that candidates are not allowed to establish new websites or to update their websites during the official campaign period. The law has not been reformed as of January of 2008.
- 2) During the 2005 House of Representatives election, 68.7% of the candidates established websites. See Okamoto (2007:13-14).

of sophistication” of each website, drawing mainly on the following components: (1) interactivity, (2) information provision, (3) presentation/appearance, (4) accessibility. Ordered probit is employed as statistical model to estimate the impact of various factors, including party affiliation, incumbency, candidacy type, and socioeconomic status of the candidates, based on their websites’ sophistication.

The findings reveal that party affiliation and incumbency are strong predictors of website sophistication, and candidates from major parties or those seeking reelection are more likely to have an online presence and have more sophisticated websites. The study concludes with the suggestion that the process of “normalization,” the idea that cyberspace reflects the real world, is inevitable in Japanese politics.

Data and Methodology

During the House of Representatives election, between October 10 and November 8, 2003, a survey of 1159 candidates’ websites was conducted. In this election, 688 candidates (59.4%) had presence on the Web. Figure 1 illustrates the rate of establishment of websites by political parties. The finding reveals the dominance of major parties. The establishment rates of both the

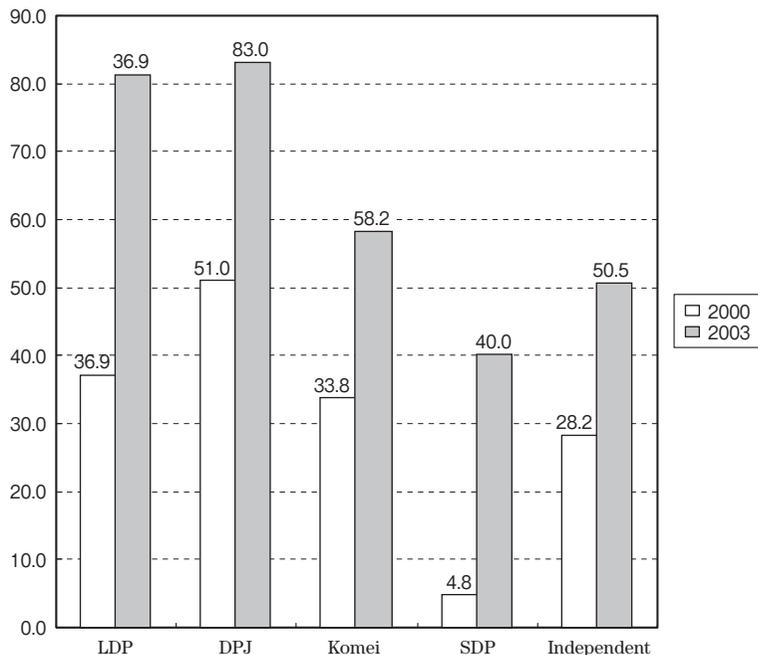


Figure 1. Website Establishment Rate by Party (%)

Table 1. Summary Statistics of Content Indexes

	Min.	Max.	Average	S.D.
Interactivity	0	3	1.7375	0.6681
Information Provision	0	5	2.6129	0.8288
Presentation	0	5	1.8079	0.8498
Accessibility	0	3	0.3592	0.6929

long-dominant Liberal Democratic Party (LDP) and the Democratic Party of Japan (DPJ), which has become a serious challenger to the LDP, were over 80%, while minor parties such as the Social Democratic Party of Japan (SDP) and the Japan Communist Party (JCP) lagged behind the major parties. Regarding the status of candidates, incumbents tended to be more dominant in cyberspace than challengers, with the establishment rate of incumbents amounting to 91.9% (384 of 418), contrasted with 41% for challengers. The difference between them is statistically significant, with p less than 1% ($\chi^2 = 99.987$, $p < .000$).

To quantify website content, a content analysis of four key functions was conducted on the 688 candidates' websites, mainly following Gibson and Ward (2000): (1) interactivity, (2) information provision, (3) presentation, (4) accessibility. These functions can be briefly described as follows: Interactivity (1) is a function that allows a multidirectional exchange of information whereby input from one side has a strong expectation of producing a response from the other side. Information provision (2) refers to efforts to disseminate information about candidates to the public via websites. Presentation (3) is a component consisting of audio-visual appeal and entertainment. Websites with high level of presentation deliver messages more effectively than static, plain-text messages. On the other hand, websites with full of audio-visual elements may be burdensome for some users, particularly those who have lower-performance Internet access. Accessibility (4) is a function that makes it easier for Internet users in any computer environment to access websites and to find information they want.

The coding scheme employed here is basically drawn from Gibson and Ward (2000), the details of which are described in the Appendix. By simply adding together the items for each function, four indexes were created to measure the emphasis on each of the functions. Table 1 shows summary statistics for the indexes. These will be used in the analysis of the following section.

Bivariate Analysis

Before turning to the multivariate analysis, the simple bivariate relationship between each of the four index scores and each of the following three factors was examined: candidates' party affiliation, incumbency, and candidacy type.

Party Affiliation

In Figures 2 through 5, the average scores of each index by political parties are presented. We find that the LDP and the DPJ contested the lead. The LDP scored high on presentation and accessibility, while the DPJ scored high on interactivity and information provision. The New Komei Party, the coalition partner of the LDP, scored relatively high on every index. On the other hand, the JCP lagged behind other parties in all of these functions.

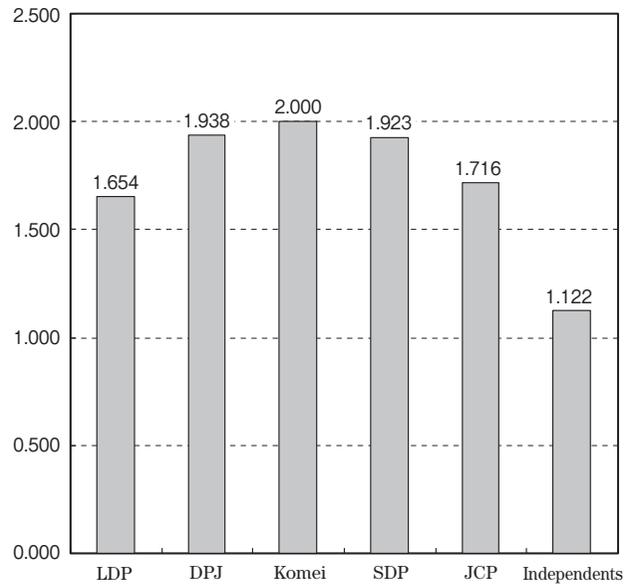


Figure 2. Mean Score of Interactivity (by Party)

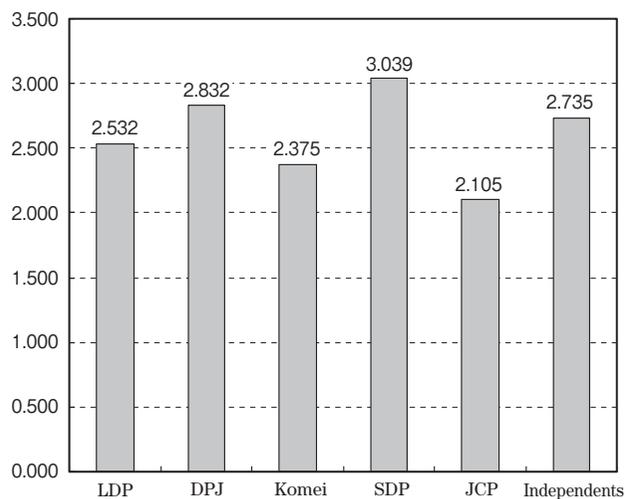


Figure 3. Mean Score of Information Provision (by Party)

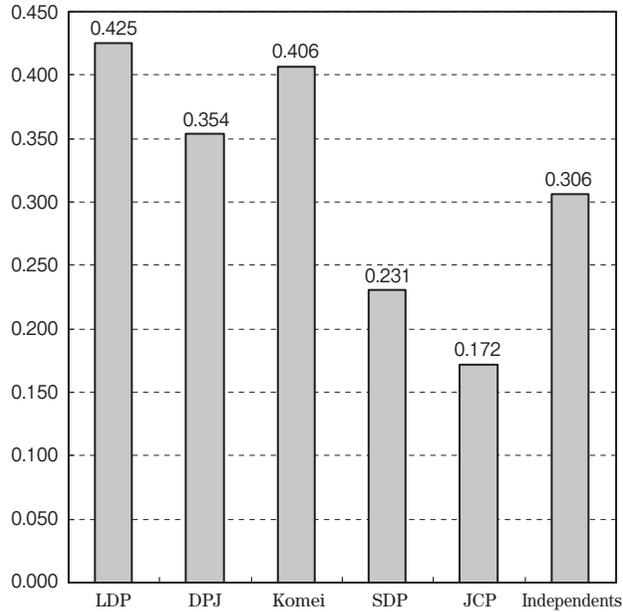


Figure 4. Mean Score of Presentation (by Party)

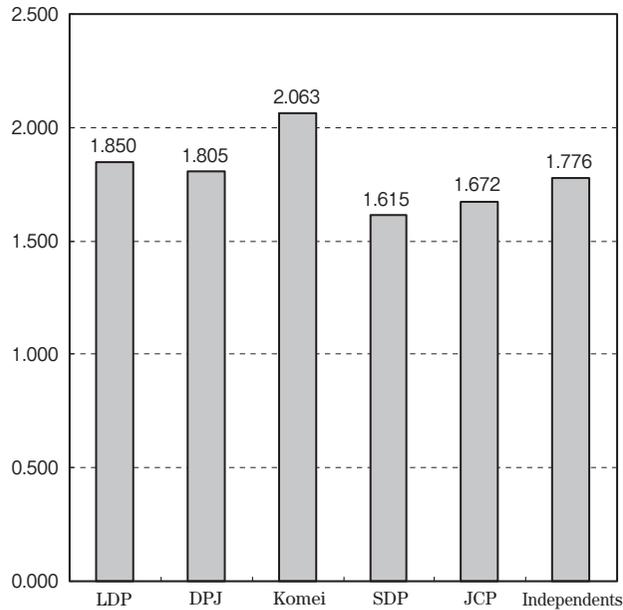


Figure 5. Mean Score of Accessibility (by Party)

Incumbency

As illustrated in Figure 6, the important point to note is that incumbents scored higher than challengers on all indexes, other than presentation. The differences among these are statistically significant, at $p < .05$. The results suggest that incumbents tend to establish more sophisticated

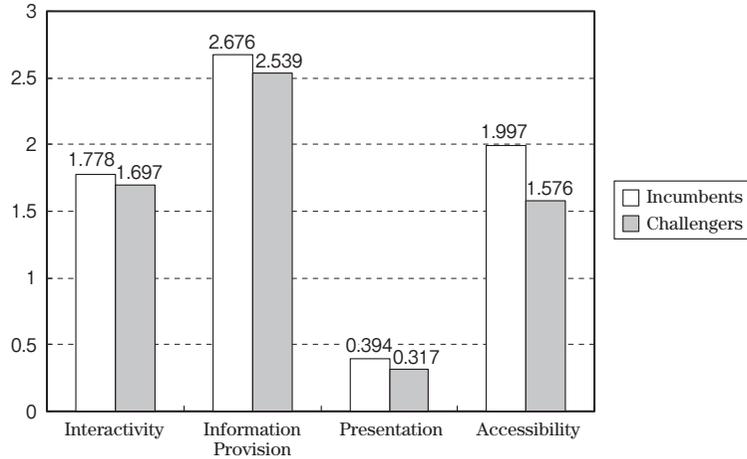


Figure 6. Mean Scores of Contents Indexes (by Candidates Status)

websites than challengers, based on the assumption that the scores employed here can be considered as indexes for measuring the degree of sophistication in websites.

Candidacy Type

The House of Representatives contains 480 seats: 300 seats are elected from single member districts (SMD) and 180 from 11 regional districts by closed-list proportional representation (PR). The seats are allocated separately for each tier. One characteristic of this two-tiers system, however, is that candidates may run in both SMD and by PR. A dual candidate who loses in SMD

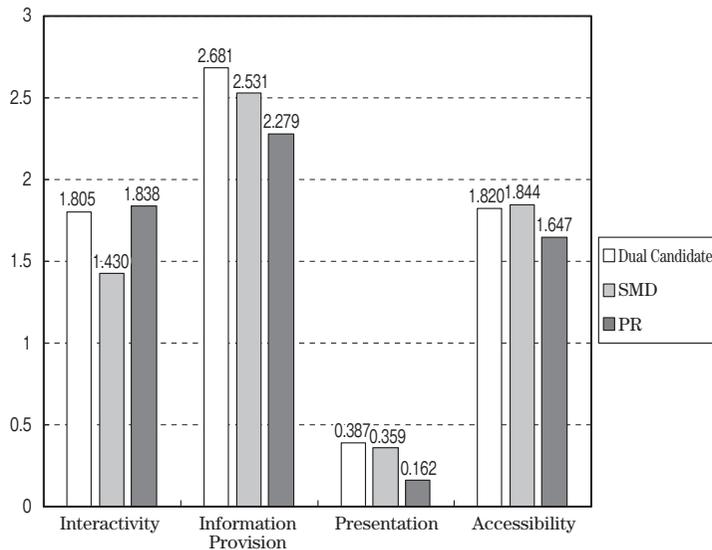


Figure 7. Mean Score of Contents Index (by Candidacy Type)

can possibly secure a PR seat (Shaap 2005: 136-137). Accordingly, there are three types of candidacies in the Japanese House of Representatives Election: SMD candidates, PR candidates, and dual candidates. Figure 7 illustrates the average index scores by the three types of candidacies. The PR candidates' average scores on all indexes, except for that on interactivity, are the lowest among the three types of candidacy. This result suggests the possibility that the electoral system might be a factor that could affect the use of websites as campaign tools by candidates.

Dependent Variable

In examining what factors affect the contents of candidates' websites, this study focused on the sophistication of candidates' websites. The term "sophistication" as used here is defined as the number of web functions mentioned above being offered on candidates' websites. An index to measure the degree of sophistication is employed as a dependent variable.

Here it should be noted that the data on sophistication we have available are only from the candidates who established websites. If some factors exist affecting both whether candidates established websites and what kind of contents candidates provided on their websites simultaneously, eliminating candidates who do not have websites from our analysis may lead to a biased result, a "sample selection problem" (Kennedy 1998: 251).

Taking this problem into account, a dependent variable was created that indicates the degree of sophistication in the following way: To begin with, the four index scores mentioned above were added together (range from 1 to 13), based on the result that there were significant correlations among them. Next, the additive score was broken down into four categories, assigning 1 for 1-3 points, 2 for 4-6 points, 3 for 7-9 points, and 4 for over 10 points. Finally, candidates who did not have websites were assigned 0. As our dependent variable is an ordinal scale ranging from 0 to 4, a higher score indicates that a website tends to be more sophisticated, and an ordered probit is employed as statistical model.

Independent Variables

The independent variables considered here and the procedures to operationalize them are the following: (1) Party Affiliation; five dummy variables, DJP candidates, New Komei candidates, SDP candidates, JCP candidates, and independents / other candidates, are used, with LDP candidates treated as a reference category; (2) Incumbency; this is a dummy variable coded 1 if a candidate is incumbent, otherwise 0; (3) Candidacy; Two dummy variables, SMD candidates and PR candidates, are used, with dual candidates treated as a reference category.

There have been mainly two opposing theses on the impact of the Internet on politics. One is the “equalization thesis,” which predicts that the Internet could have an effect of leveling the playing field of political actors and increasing competition among them. The equalization thesis is based on the property of the Internet that makes it possible to dispatch information at low cost. Small parties or fringe candidates with relatively few skills and resources can exploit the nature of the medium to assert their presence and sit alongside major parties or strong candidates.

The other thesis, “normalization,” has challenged such a “cyber-enthusiastic” view. The normalization thesis claims that cyberspace reflects the real world. Running sophisticated websites has been becoming increasingly expensive. Consequently, parties or candidates with abundant resources, in terms of finance and staff, could outdo those with few resources, in cyberspace as well as in the real world.

Evidence has been provided by some political scientists to suggest that the normalization process is in progress in some developed countries, such as the U.S., the U.K., and Germany, (Margolis, Resnick, and Wolfe 1999; Margolis, Resnick, and Levy 2003; Gibson, Rommel, and Ward 2003). On the other hand, some scholars argue that the possibility that the Internet is beginning to level the political playing field cannot be entirely ruled out, based on empirical evidence from some European countries (Cunha, Martin, Newell, and Ramiro 2003).

If the normalization thesis holds true also in Japan, we should find that candidates of major parties, such as the LDP and the DPJ, tend to have more sophisticated websites, and that websites of incumbents tend to be more sophisticated. Conversely, candidates of minor parties and challengers would outdo major party candidates and incumbents in sophistication of websites, if the equalization thesis is correct.

As for the effects of candidacy type on the contents of websites, the prediction presented in this paper is based on the assumption that the ultimate goal of candidates’ use of websites is to increase the probability of being elected. Websites can be considered as tools for cultivating personal reputations of candidates to maximize vote share.

The important point to note is that the strength of candidates’ incentives to cultivating personal reputations depends on the type of electoral system (Cary and Shugart 1996). Personal reputations are expected to be less important in systems where voters are limited to one vote per party than in systems where voters cast a single vote below the party level (Swindle 2002: 283). Therefore, it is predicted that SMD candidates would tend to have more sophisticated websites than closed-list PR candidates.

Prediction of the effect of dual candidacy on website content appears to be more complicated. As mentioned above, dual candidates can secure a PR seat, even if they lose in SMD. This system (the *sekihai-ritsu* system) works as follows: Political parties can lump dual candidates into common PR list ranks. After the voting, any dual candidate who wins his or her

district is removed from the party PR list. All dual candidates who lose their districts, however, are re-ranked in descending order of the ratio of their SMD votes to those of the winners in their respective districts. Then the number of PR seats the party earns is allocated to dual candidates who lost in their SMDs, according to the re-ranked list. What is important is that this system induces dual candidates to garner as many votes as possible in their SMDs, because winning a seat via PR depends on the votes they obtain in SMD (Bawn and Thies 2003: 22). For that reason, dual candidates would have as strong incentive as SMD candidates to cultivate personal reputations, and have stronger incentive in that regard than PR candidates. Consequently, the predictions regarding dual candidates' websites presented here are that they would tend to have more sophisticated websites than PR candidates, and that there would be no difference between dual candidates and SMD candidates, in terms of the sophistication of websites.

Besides the three factors mentioned above, there are other factors that may affect the contents of websites. Ward and Gibson (2003: 195) argued that electoral competitiveness was pushing candidates each to get a "cyber-pulpit," based on empirical evidence. Focusing on the candidates who ran both for the 2003 election and for the previous election in 2000, the effect of electoral marginality was assessed in the present study. As an index to measure the degree of marginality, the ratio of candidates' SMD votes to those of the winners in their respective districts (the ratio of candidates' SMD votes to those of the second-ranked candidates, that is, "the best losers," in case that a candidate was a winner.) of the 2000 election was used. The resulting prediction on the marginality effect is as follows: The more marginal the results of the previous election were, the stronger the incentives for candidates to cultivate personal reputations with sophisticated websites would be in the next election (Ward and Lusoli 2004: 12-13). Thus, the expected effect of this variable is positive.

It was also predicted that the Internet adoption rate in a district may have a certain effect on the Internet use of candidates. The more voters go online, the more likely candidates would be to conceive the Internet as an effective campaign tool and to have more sophisticated websites for the purpose of making personal appeal to voters. It is therefore expected that the effect of the Internet adoption rate would be positive. However, there is no direct measure of the adoption rate by district level in Japan. Therefore, the population in Densely Inhabited Districts (DID), which indicates a degree of urbanity, was used as an approximation, since we know that there is a strong association between the Internet penetration and urbanity (Adler, Gent, and Overmeyer 1998: 593). The DID variable employed here is an ordinal variable consisting of the five following categories: 1 for rural district, 2 for semi-rural district, 3 for middle district, 4 for suburban district, and 5 for urban district. A higher number indicates that a district is more urban in nature.

In addition to the variables mentioned above, three socio-economic status variables are

included in the analysis as control variables: age, education, and gender of candidates. Education is a dichotomous dummy variable that is coded as 1 when a candidate graduated from college or above, otherwise 0. Gender is also treated as a dichotomous variable, with 1 for male candidates and 0 for females. The expected effect of age and education is positive because younger individuals and those with higher educational backgrounds lead the way in information technology use. With regard to gender difference, it is generally agreed that most of the gender gap in IT skills has vanished over the years (Mossberger, Tolbert, and Stansbury 2003: 122), and thus we cannot predict whether the coefficient of this variable is positive or negative.

Results and Discussion

In Table 2, the results of ordered probit analysis are presented. A positive coefficient implies that an increase in the level of an independent variable will indicate an increase in the sophistication of a website, while a negative coefficient implies a decrease in sophistication.

A brief look at the estimates of the control variables follows: In both of the regressions (Model 1 and Model 2), age is shown to be significant, at $p < .01$. Education has a significant effect on the sophistication of websites only in the model aimed at the SMD candidates who ran both for the 2003 election and for the previous election in 2000 (Model 2). The effects of both variables are in the expected directions.

With regard to party variables, the JCP dummy has a significant effect on the sophistication

Table 2. Ordered Probit Results: Probability of Website Establishment and the Degree of Site Sophistication

<i>Independent Variable</i>	Model 1			Model 2		
	<i>Coefficient</i>	<i>S.E.</i>	<i>Pr</i>	<i>Coefficient</i>	<i>S.E.</i>	<i>Pr</i>
SMD	-0.438	0.136	0.001	-0.047	0.188	0.801
PR	-0.616	0.133	0.000	*	*	*
Incumbent	1.012	0.085	0.000	0.592	0.123	0.000
DPJ	0.180	0.094	0.056	0.225	0.124	0.071
Komei	0.014	0.189	0.940	-0.119	0.415	0.774
SDP	-0.621	0.170	0.000	-0.437	0.260	0.094
JCP	-0.743	0.143	0.000	-1.268	0.238	0.000
Independent	0.080	0.179	0.653	-0.145	0.300	0.629
Age	-0.013	0.003	0.000	-0.015	0.005	0.004
Education	0.261	0.126	0.038	-0.020	0.226	0.927
Gender	-0.616	0.110	0.268	0.094	0.175	0.591
DID	*	*	*	0.210	0.040	0.000
Electoral Marginality (2000)	*	*	*	0.515	0.268	0.055
	N	1159		503		
	LR χ^2	540.12***		239.61***		
		*** p < .01		*** p < .01		

of websites in both Model 1 and Model 2, while the SDP dummy is significant in Model 2. The coefficients of both variables are shown to be negative. Since the reference category here is the LDP candidates, these results indicate that the JCP and SDP candidates' websites tend to be less sophisticated than those of the LDP candidates. As to the DPJ dummy, the coefficient is positive, but fails to reach statistical significance at $p < .05$, which means that there is no significant difference between the DPJ and the LDP candidates in terms of sophistication.

Table 3 offers an interpretation of the ordered probit results for the independent variables that are shown to be statistically significant (the DPJ dummy is included in the Table 3, although the effect is significant only at $p < .10$). The table provides the calculated probabilities that a candidate does not have a website, and that candidates' websites, if they have them, fall into each category of sophistication with all other variables held constant (at their means). Based on the results, it is clear that major parties are dominant in the use of the Internet. The probability that the LDP and the DPJ candidates established their websites reaches nearly 70%, while those of the JCP and the SDP candidates are just around 40% each. Furthermore, we can find a similar

Table 3. Interpretation of Ordered Probit Results (a)

<i>Probability of</i>	<i>No Website</i>	<i>Category of Website Sophistication</i>				
		<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	
Education						
College or above	0.375	0.037	0.380	0.194	0.014	
Other	0.478	0.038	0.343	0.134	0.007	
Candidacy Type						
Dual	0.305	0.034	0.393	0.245	0.024	
SMD	0.499	0.038	0.333	0.123	0.006	
PR	0.604	0.036	0.278	0.079	0.003	
Candidacy Status						
Incumbent	0.176	0.026	0.377	0.365	0.056	
Challenger	0.533	0.038	0.317	0.108	0.005	
Party						
LDP	0.319	0.035	0.392	0.234	0.020	
DPJ	0.337	0.036	0.389	0.221	0.018	
SPD	0.619	0.036	0.269	0.073	0.002	
JCP	0.601	0.036	0.279	0.079	0.002	
Urbanness of District						
Rural	0.295	0.047	0.468	0.179	0.011	
Semi-Rural	0.227	0.042	0.479	0.234	0.018	
Middle	0.169	0.035	0.472	0.294	0.030	
Semi-Urban	0.121	0.029	0.448	0.359	0.048	
Urbanness of District	0.084	0.022	0.408	0.413	0.072	
Marginality (2000)						
Max.	0.120	0.029	0.447	0.357	0.048	
Median	0.159	0.034	0.469	0.306	0.033	
Min.	0.245	0.043	0.478	0.218	0.016	

(a) All other variables were held at their mean.

pattern in terms of website content. Holding all other variables at their means, the LDP and the DPJ candidates' websites are much more likely to fall in the category 4, which means that the website is more sophisticated, (2% and 1.8%, respectively), than those of the JCP and the SDP candidates (0.2% for each). The 2003 election was supposed to have opened a new era of a two-party system (Yomiuri Shinbun Tokyo Honsha Yoron Chosa-Bu 2004). The results produced here suggest that a period of a two-party system is coming not only in terms of the share of seats among political parties, but also in terms of Internet use by political parties.

The result on the effect of incumbency also indicates the possibility that normalization is progressing in Japanese politics. The probability of incumbents establishing websites is over 80%, in contrast with 46.7% for challengers. Such a dominance of incumbents can also be found in the sophistication of the websites. Incumbents' websites are much more likely to fall in categories 3 and 4 (with probabilities of over 40%), than are those of challengers (about 11 %). These results are expected on the condition that normalization thesis holds true in Japanese politics³⁾

As to the effects of the electoral system, support for our expectations is mixed. Other than in model 1, where the SMD dummy is shown to be not significant, both SMD and PR candidate variables have statistically significant effects on the contents of websites with dual candidates treated as a reference category. The directions of the effects are negative in both variables.

As illustrated in Table 3, the probability that dual candidates establish their websites is nearly 70%, while those of the SMD candidates and the PR candidates are 49.9% and 39.6% respectively. When it comes to sophistication, the websites of dual candidates are more likely to fall in categories 3 and 4 than are those of the SMD and PR candidates.

The result that the sophistication of PR candidates' websites is less likely to be high than those of dual candidates is as expected, based on the assumption that websites are used as tools for cultivating personal reputations of candidates to maximize their vote share. Of course, candidates from SMDs in one election might move to PR in the next, and vice versa. That might cause some homogenization of incentives between them, which biases our test against finding a difference in candidacy type (Cox, Rosenbluth, and Thies 2000). The finding here indicates that there is a difference between SMD (or dual) candidates and PR candidates, despite the possible homogenization effect; thus we could say that the effect of the electoral system would be all the more powerful.

On the other hand, the fact that dual candidates' websites tends to be more sophisticated than that of SMD candidates does not support our hypothesis. One explanation for this may be

3) On the other hand, Druckman, Kifer, and Parkin (2007: 435) revealed from analysis of the data on U.S. House and Senate candidates websites that incumbents' websites tended to be less sophisticated than challengers', in terms of multimedia use and updating information on their sites.

that candidates who run in SMDs only tend to be originally so “strong” that they do not need to be rescued by PR. If this holds true, SMD candidates would not feel much need to cultivate personal reputations with sophisticated websites, which may lead to the result that the websites of SMD candidates tended to be less sophisticated than that of dual candidates. Our data on the 2003 election, however, shows that the percentage of votes obtained by the dual candidates in their districts was higher (the average is 39.2%) than that of the SMD candidates (average 14.4%). In any case, more data and further discussion will be required to assess the effects of electoral system on websites.

Next, we discuss the effect of electoral marginality. The direction of the coefficient is as expected, although it is statistically significant only at $p < .10$. To assess the effect of electoral marginality at length, Table 3 illustrates how a change in marginality index (from the maximum value, 0.9967, through the median, 0.6688, to the minimum, 0.0611) affected the sophistication of websites. As the degree of electoral marginality decreases from the maximum to the minimum, the probability of the websites falling into category 1 or 2 increases. On the other hand, the probability of the websites falling into category 3 or 4 increases as the degree of marginality increases from the minimum to the maximum value. In particular, the probability of falling into category 4 when the result in 2000 was the most competitive is shown to be three times as high as when it was the least competitive.

Finally, a look at the effect of DID index, which is an approximation of the Internet adoption rate, shows that it exerted a statistically significant effect in the expected direction. That is, candidates who ran in urban districts were more likely to have sophisticated websites than those in rural districts. As shown in Table 3, the website of a candidate from an urban district is roughly seven times more likely to fall into category 4 than that of a candidate from a rural district.

Conclusion

These findings offer some important insights into the use of websites by Japanese candidates. First, it is suggested that the normalization process is occurring in Japan as in other developed countries, such as the U.S., the U.K, and Germany. Second, there is a possibility that electoral systems can affect the candidates’ use of the Internet, although not all of our hypotheses were supported. As predicted, the degree of sophistication of PR candidates is lowest among the three types of candidacies (SMD, PR, and dual). This finding provides an impetus for study on the relation between electoral systems and campaign styles. On the other hand, as opposed to the prediction, dual candidates tended to have more sophisticated websites than SMD candidates.

We should note here that it is premature to draw a conclusion based only on the results

produced in this study. What is offered here is a description of the state of Internet use by candidates over a particular time period. A research agenda concerning the Internet should be longitudinal, as the Internet is always changing. Accordingly, it is necessary to analyze the Internet over time using a similar framework (Klotz 2001: 188).

Appendix: Coding Scheme for Content Analysis

Interactivity

- Link to e-mail address / present (1), absent (0)
- Link to party website to which a candidates affiliate / present (1), absent (0)
- Online donation accessibility / present (1), absent (0)
- Bulletin board / present (1), absent (0)

Information Provision

- Candidate profiles / present (1), absent (0)
- Candidate photos / present (1), absent (0)
- e-mail magazine registration / present (1), absent (0).
- Information on how to join the Koenkai (personal support organization for the candidate) / present (1), absent (0)
- Account number for donations / present (1), absent (0)

Presentation

- Audio / present (1), absent (0).
- Movie / present (1), absent (0)
- Flash / present (1), absent (0)

Accessibility

- What's New information / present (1), absent (0)
- Frame option / present (1), absent (0)
- English (or other foreign language) translation / present (1), absent (0)
- Site Map index / present (1), absent (0)
- Registered on Yahoo! / Yes (1), No (0)
- Site retrieval / present (1), absent (0)
- Accessible from mobile phone / Yes (1), No (0)

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