

THE ATTITUDE TOWARDS E-DEMOCRACY

Empirical Evidence from the Viennese Population

Alexander Prosser, Yan Guo, Jasmin Lenhart
University of Economics and Business Administration, Vienna
Augasse 2-6 A-1090 Vienna

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Abstract: Systems for citizen participation have become technically feasible and are currently being developed. But what are the preferences of the citizens and which factors determine their attitude towards e-democracy? This paper reports the results of a representative survey in the Viennese population investigating the attitude towards e-democracy, the relationship to the respondents' current Internet usage and possible motives for e-democracy.

1 INTRODUCTION

The Internet is increasingly used for citizen participation and voting processes (for an Introduction, see Prosser and Krimmer 2003, 2004). The authors of such systems in many cases implicitly assume that (i) citizens are interested in electronic participation via the Internet and (ii) that such systems are attractive to more or less all groups of the population. Based on a representative survey conducted among the Viennese population, this paper attempts to clarify whether the population actually is interested in electronic citizen participation, whether this attitude depends on demographic factors and where citizens would prefer to use such systems. The questionnaire distinguished between e-voting (e-elections, referenda etc.) and e-participation (e-discussion and exchange of opinions).

The survey was conducted in interviews with 300 persons over 15 years of age; the respondents were representative for the Viennese population in terms of age, sex and educational background following the data published by Statistics Austria (2001); a χ^2 test for goodness of fit was performed on a 95% significance level.

Two main hypotheses of independence were used as a starting point:

H1: The attitude towards e-voting and e-participation, resp. is independent of sex, age and education.

H2: The perceived advantages and disadvantages of electronic democracy are independent of sex, age and education.

2 ATTITUDE AND DEMOGRAPHIC FACTORS

2.1 Attitude

Figure 1 shows the attitude towards e-voting and e-participation. It is obvious that a considerably higher number of respondents are interested in e-voting (44% are either strongly interested or interested) than in e-participation (14%).

e-participation					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	very interested	8	2,7	2,7	2,7
	interested	34	11,3	11,3	14,0
	moderately	69	23,0	23,0	37,0
	hardly	52	17,3	17,3	54,3
	not interested	137	45,7	45,7	100,0
	Total	300	100,0	100,0	

e-voting					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	very interested	54	18,0	18,0	18,0
	interested	78	26,0	26,0	44,0
	moderately	60	20,0	20,0	64,0
	hardly	29	9,7	9,7	73,7
	not interested	79	26,3	26,3	100,0
	Total	300	100,0	100,0	

Figure 1: The attitude towards e-participation and e-voting.

Before analysing the motives for this (lack of) interest let us first explore its demographic distribution. Pairwise X^2 tests for independence are performed with sex, age and educational background on the one hand and the interest in e-participation and e-voting on the other. To facilitate the tests and to avoid too small frequencies in some categories, the variable age was summarized in 3 categories (15-29, 30 - 49 and 50+), and the interest in e-voting/e-participation was combined to three categories (very interested/interested, moderately, hardly/not interested). The results of the pair wise X^2 tests (95% significance level) for independence are summarized in Figure 2.

	e-voting	e-participation
Sex	Not significant	7.6 % of female and 21.1% of male respondents (strongly) interested
Age	52.5% and 52% (strongly) interested in age groups 15-29 and 30-49, resp. 32% interested in age group >50	17.5% of 15-29 year old, 16.3% of 30-49 year old and 9.8% of > 50 year old respondents are (strongly) interested
Education	Not significant	12.7% (grammar and high school), 7.5% (apprenticeship), 22.4% (college), 10.5% (high school exit exam) and 23.3% (university) are (strongly) interested

Figure 2: The attitude towards e-participation/e-voting and demographic factors.

The positive attitude towards e-voting is largely independent of demographic factors, only age proved to be a significant factor: Respondents over 50 years of age were significantly less interested in e-voting, however, even in this age group one third of the respondents are interested which runs against the opinion that the older generation does not adopt Internet services. With an increasing general Internet penetration and over time this rate can be expected to rise even higher. The picture is completely different with e-participation. Not only is the general attitude far less favourable, it is also strongly fragmented: Summarizing, well educated, young male citizens are interested in e-participation. Possible explanations may be the unawareness of the means and areas of application of e-participation, time constraints, a preference to participate in decision making rather than discussion and deliberation. Hence, hypothesis H1 has to be rejected for e-participation, but can be maintained insofar as the interest in e-voting is independent of sex and educational background.

2.2 Perceived Advantages and Disadvantages

Respondents were also asked about the perceived advantages and disadvantages of e-democracy.

Starting from the hypothesis of independence, a series of pairwise X^2 tests with sex, age and education yielded the significant deviations, where independence had to be rejected as depicted in Figure 3 (95% significance level). None of the perceived advantages/disadvantages showed any significant dependence on the sex of the respondent. The most important advantage as perceived by the respondents is the independence of place and time, where agreement is particularly high in the “middle” age group and with a higher educational background. A possible explanation could be the increased professional (and also private) mobility of the respondents which makes easier access to democratic decision making interesting to them.

“Access to political information” scored second. Interestingly only 17.3% are interested in obtaining their information from politicians, 20% from other citizens and 21.7% from experts (45.3% no response). Neither this question nor “cost cuts in public administration” showed any significant deviations. The latter seems to indicate the high awareness for public administrative expenditure in general and for the cost-saving effects for e-government in particular. It may also indicate that little awareness exists for the costs of, for instance, an e-voting system, which would cause additional costs as the conventional paper-based election system must remain in place. “Increased direct democracy” scores 50% over all age groups but is particularly strong in the age group of 15-29 (65% (strong) agreement) thereby renouncing the prejudice that this age group would not be interested in politics. One may conclude that the interest may be there, but the instrument to voice adequately this interest is also needed.

Of all disadvantages a possible digital divide scores highest; interestingly, the digital divide does not seem to be automatically linked to a social divide which scores much lower. The divide between Internet “haves” and “have nots” as perceived by the respondents does not seem to be uniquely defined by income and social status. It is obvious that other factors play a role as well (possibly age). The fear of a digital divide is pronounced in the age groups of 30-49 and 50+. Possible manipulations and the corruption of anonymity also play an important role and may serve as an indicator of the increasing awareness of the inherent dangers of e-democracy, here particularly e-voting, systems. It is interesting to note, that none of the perceived advantages was gender-specific or (except for independence of place and time) education-specific, which fits in with the result that the positive attitude towards e-voting is independent of these factors as well.

Advantage/disadvantage	% (strong agreement)	Age	Education
Increased direct democracy	50.3%	Strong agreement in 15-29 age group	
Access to political information	59.4%		
Contribute ideas	48.3%		
Efficient communication	39.7%	Stronger agreement in older age groups	
Independence of place and time	68.7%	Extremely high agreement in group of 30-49	Agreement massively and positively correlates with educational background
Cost cuts in public administration	57.0%		
Manipulation	60.6%	Very strong agreement in group 50+	
Anonymity corrupted	64.0%		
Digital divide	69.0%	Strong agreement in groups 30-49 and 50+	
Social divide	49.7%	Same as above, but less pronounced	
Trivialisation of politics	45.7%	Strong agreement in group 50+	

Figure 3: Perceived advantages/disadvantages by age and education.

In terms of the advantages/disadvantages listed, the hypothesis of independence stated in H2 can hence be accepted for sex and (except for independence of time and place) also for education. It has to be rejected for age: Nearly all perceived dangers and disadvantages are stronger in the higher age groups, particularly the fear of manipulation due to electronic media, whereas increased direct democracy is particularly perceived by the lower age groups.

3 INTERNET USAGE AND ATTITUDE

Respondents were also asked about the current Internet usage of the respondents, whereby the fields of usage suggested to the respondent fall into the well-known categories of information – feedback – transaction (cf. Prosser et al. 2004 and the literature quoted therein). The assignment to an explanatory factor, however, was not done a priori, but is the result of a factor analysis yielding profiles of usage (for an introduction, see Gaensslen and Schubö 1976). The type of factor analysis is the same as in the last section. The rotated component matrix yielded the factors shown in Fig. 4 (left-hand side). Services included in several profiles were eliminated and the analysis was re-run. In this second analysis (not shown in Fig. 4), also e-Media was present in several factors and was eliminated as well. A final run yielded the factors depicted in Fig. 4 (right-hand side).

The three remaining profiles can be interpreted as „transaction user with e-mail“ (1), “browser” (2) and “participation and entertainment user” (3). In the

following step, these profiles are related to the preferences expressed for e-voting/e-participation as shown generally in Fig. 1 to analyze, how current Internet usage influences the attitude towards e-democracy. The attitude thereby becomes the dependent variable and the factors for Internet usage are the independent variable. The method chosen for this step was logistic regression, as its data requirements in relation to model complexity are relatively parsimonious, particularly as compared to log linear models (Andreß et al. 1997, Norusis 2001). Since logistic regression requires the dependent variable to be dichotomous, the responses as depicted in Fig. 1 were re-coded in that strong interest and interest was classified as “interested”, all other values in the Likert scale were classified as “not interested”. Two models were established, one with the interest in e-voting and in e-participation as dependent variable, resp.

The model measures the probability of the dependent variable to be either of the values listed

above as $p = \frac{1}{1 + e^{-Z}}$ with Z being the linear

combination $Z = B_0 + B_1X_1 + \dots + B_nX_n$; the independent variables X_n are the factor values for Internet usage in each individual data record.

The regression coefficients for all factors are negative, which means that a low factor value – a Likert value of 1 or 2, i.e., a frequent usage of the respective Internet service – leads to a high probability of the dependent event (“is interested”). The results for e-voting are highly significant, the Goodness of Fit in the classification table would indicate a meaningful estimate. Hence, the hypothesis of independence H3 can be rejected for e-voting.

Results are mixed for e-participation; all regression coefficients are negative, but only one of the factors is also significant (Factor 2). Hence, it may be concluded that intensive “browsing” (Factor 2 in Fig. 4) leads to a positive attitude towards e-participation; the same conclusion, however, cannot be drawn for the other factors (which is rather surprising in the case of factor 3, the “participation and entertainment” user profile). Generally, H3 cannot be rejected for e-participation on these grounds.

	Component		
	1	2	3
Information retrieval for specific topics	,651		
E-media (eg., newspapers)	,573		
E-mail	,639		
Chat			,849
Discussion (eg., newsgroups, fora)			,692
Entertainment (eg., music download)			,825
Online shopping	,755		
Online banking	,835		
Homepages of public authorities	,585	,575	
Homepages of political parties		,798	
Download of forms of public authorities	,620	,621	
Political fora		,802	
Citizen hotlines online	,623	,606	
Finanz-Online (http://www.bmf.gv.at)		,750	

	Component		
	1	2	3
Information retrieval for specific topics	,671		
E-mail	,658		
Chat			,869
Discussion (eg., newsgroups, fora)			,668
Entertainment (eg., music download)			,824
Online shopping	,795		
Online banking	,857		
Homepages of political parties		,832	
Political fora		,830	
Citizen hotlines online		,760	

Figure 4: Internet Usage Profiles.

4 SUMMARY

The results show that there is a strong interest in e-voting, which is (i) independent of education and gender, (ii) which is lower but still remarkably high in the 50+ age group and (iii) which is considerably higher than the interest in e-participation. Whatever the reasons behind this difference, it clearly shows which e-democracy activities and systems are to be prioritized: Decision making rather than discussion and deliberation. Respondents generally show a

positive disposition towards e-democracy, clearly recognizing the advantages of Internet-based systems. Fears of negative effects are clearly higher among the higher age groups and mainly concern corrupted voter anonymity, manipulation of (election) results and – most prominently and in spite of an increasing Internet penetration rate – a possible digital divide. Interestingly, the wish for direct democracy by digital means is high among the younger age group, which might indicate a way to interest these age groups in democratic processes. A study conducted among the political leaders of the 30 largest cities and of the 9 federal provinces in Austria, which is to complement the study presented in this paper will reveal, whether the focus of the political decision-makers matches the focus of the population in this regard. It is also to reveal whether the dis/advantages as perceived by the politicians and citizens match. This will be subject to future research.

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