

**The political click:
political participation through e-petitions in Germany**

by

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Abstract

In 2005 the German Bundestag implemented an electronic petition system. Individuals were given the opportunity to send in private petitions to the German parliament via an online platform and also to submit petitions of public interest which in turn were published by the German parliament on the platform to enable other users to express their support of these public petitions through electronic co-signatures. The German Bundestag documents the co-signature lists of these public petitions on its petition platform. This enables researchers to examine typical patterns in the dynamics of e-petition support and usage patterns of the e-petition platform users. This paper, informed by the Computational Science and Digital Methods approaches attempts just that. The authors present a first exploratory overview of dynamics in e-petition support and usage patterns of e-petition platform users.

1. Introduction

A widespread position among supporters of e-democracy and online deliberation states that these concepts serve to bolster participation in the political process. The increasing use of electronic tools - so the argument goes - will lessen (if not eliminate) the impact of social, psychological, motivational and language barriers to the political process.

While this makes for sound theory, this claim is hard to test empirically. Not only do e-participation tools vary greatly among different countries; the legislative frameworks which support them do as well. Countries have chosen different ways to implement e-democratic elements, and thus defined different possibilities for e-participation. A direct comparison is complicated further by the influence of the wider national context of political participation.

So instead of undertaking a thus impeded comparative study, the authors seek to examine the underlying assumptions through a case study. Drawing on recent developments in the German electronic petition system, we attempt to empirically re-evaluate the basic proposition: Do online tools broaden the public discourse on political topics and do they lead to broader political participation?

Germany's constitution (Grundgesetz) grants citizens the right to petition - among other institutions - the national parliament. In 2005, the Bundestag implemented a procedure for accepting submissions through an online petition platform (<https://epetitionen.bundestag.de>). This is true for petitions that are of a private nature - these petitions can be submitted online but are in turn not published on the e-petition platform - and petitions that are deemed of public interest by the submitter of the petition. These public petitions are examined after submission if they comply with the "Guidelines for Public Petitions" (Deutscher Bundestag, 2008a) and in turn published on the e-petition platform. From the moment of their publication it is possible for users of the e-petition system to electronically co-sign public petitions that they support. Petitions that surpass 50.000 co-signatures in the first three weeks after they are made public are heard before the parliament's petition committee in the presence of the submitter of the petition. Following legal transparency requirements, data on co-signers are available for electronic petitions, supplying a name and date for every signature in every petition. This paper makes use of this readily available data in order to make a number of basic observations about the use of this particular e-participation tool.

Grouping by the frequency and time-density of an individuals' participation, we find four distinct user types among the users of the petition system:

1. New Lobbyists: Users whose names we found on multiple petitions that cover similar topics and who use the petition system over a long period of time.
2. Hit and Run Activists: Users whose names we find on multiple petitions that cover similar topics and who used the petition system in only one or two sessions.
3. Activism Consumers: Users whose names appear on multiple petitions that cover a multitude of not directly linked issues.
4. Single Issue Stakeholders: Users whose names appear on only a few petitions with clearly linked topics.

While these categories are only a first attempt to make sense of online participation through the German e-petition platform, these categories already raise questions about our current conception of e-mediated politics. If, for example, a large amount of the well-publicized successes of e-democracy applications were driven by Hit and Run Activists and Activism Consumers, can we then still speak of e-democracy as a tool for broadening the political discourse? We hope that this paper inspires further discussion and scrutiny regarding the nature and consequences of e-participation and its legal and technical design.

2. Why examine usage patterns of e-petitions?

E-petitions make for an interesting research object for two reasons. For one e-petitions become an ever increasing popular tool for political participation online. Be it as a tool used by governments as an easily quantifiable aspect of e-democracy (Riehm and Trénel 2009), or employed by political activists to marshal and express popular support around political issues (Mosca and Santucci 2009). This makes it important to understand the dynamics associated with e-petition systems and their usage. Are the high supporter counts of popular e-petitions necessarily an indication for strong popular support for the topic in question or a just a byproduct of network effects connected to the channels e-petitions are advertised on? Or as Speth (2007) puts it, do political activists focus too much on the theatrics of their campaigns (i.e. high supporter counts) and lose therefor in the quality of political discussion? This is an important question since

popular reception of e-petitions tend to focus on the quantity of supporters of a given cause (see for example Vitzthum 2009; Rath 2009; Schmollack 2010). While this offers activists a very real possibility to put their topics on the public agenda it is also important to understand how the support of e-petitions is motivated. When political support and political participation is expressed by a simple click it raises questions what effects these drastically lowered participation costs have for political participation and collective action (for a discussion of the effect of ICTs on collective action see Lupia and Sin 2003; for a critical discussion of the effect of ICTs see for example Shulman 2008).

This introduces the second reason for studying usage patterns of e-petition systems. Traditional studies interested in the motivations behind the support of petitions would use surveys (PPC 2006), interviews (Macintosh et al. 2002; Riehm and Trénel 2009) or selected case studies (Mosca and Santucci 2009) to find causes for support or to identify common demographical attributes among petition supporters. While common, these approaches are fraught with mayor problems, one being the high cost of studies of this kind and second the usual inadequacies of self-reported motivations by actors (Bernard et al.1984), also demographic attributes while easy to measure are not the most accurate predictors for human behavior (Granovetter 1985). The German e-petition system provides researchers with data that allows to avoid these problems. The data provided by the system allow an analysis of the actions of each user of the system, be she petitioner or supporter. While this does not provide us with the exact motivation of her action it allows us to examine her actual behavior and thus establish typical usage patterns. These patterns can then be discussed with regard to their correspondence with the goals that were expressed by advocates of the e-petition system.

This data, process produced and available on an individual level, makes a data driven approach to this research question possible (for a discussion of further effects on the social sciences of data of this nature see Savage and Burrows 2007). This corresponds with the “Computational Social Science” approach that seeks to leverage new data sources based on digital traces of human interactions (Lazer et al. 2009). Another corresponding approach has been termed by Richard Rogers as the “Digital Methods” approach (Rogers 2009; 2010). This approach also recognizes the potential of new digital data sources but also emphasizes the role of the internet as source for research into phenomena more general than just internet related questions (Rogers 2009,

8). Most studies that follow these approaches use these new data to construct social networks and determine network analytical metrics to characterize human interaction (for an overview of this approach see Newman 2003). In this paper we follow a different approach. We use data on e-petition co-signage frequency to gain a deeper understanding of e-petitioner user types. This corresponds with the approach taken by Barabási (2005) and Malgren et al. (2009) in the analysis of e-mail usage patterns.

As Margetts (2009, 17) states the new policy environment online and freshly available data sources make new methodological as well as theoretical approaches for the social sciences necessary. This paper is an exploratory attempt to do just that. Naturally, the quantitative approach based on transactional data, provided by the e-petition platform itself, taken by this paper is not the only possible approach (for an alternative based on experiments see for example Margetts et al 2009a; Margetts et al 2009b). Still, we hope to show that this approach holds a strong potential.

3. The German e-petition system

In Germany the right of citizens to petition the government is stated in Art. 17 of the Grundgesetz. There it is stated:

“Every person shall have the right individually or jointly with others to address written requests or complaints to competent authorities and to the legislature.”(Grundgesetz 2010).

There are three different kind of petitions:

1. *Einzelpetitionen* (petitions by single actors);
2. *Massenpetitionen* (petitions that share the same topic and petition text but are submitted by single actors);
3. *Sammelpetitionen* (petitions that are submitted accompanied by a list of signatures by co-signers).

Since the 1990s the number of incoming petitions has remained largely stable around 20.000 *Einzelpetitionen* a year with a few outliers to 15.000 or 24.000 petitions (Deutscher Bundestag 2010a, 98f.). Linder and Riehm (2009, 3) identify two functions for petitions. One, as a form of political participation as requests concerning the *Gesetzgebung* (process of law giving), or two as part of the protection of an individual's rights in the form of personal complaints. These petitions are then examined by the *Petitionsausschuss* of the German Bundestag, which decides who in the government,

the parliament or the *Bundesländer* is the appropriate addressee of the petition in question (for a comprehensive account of the German petition system see Schick 1996).

In September 2005 the German parliament started a two year trial run of an e-petition system inspired by the Scottish e-petition system. This trial included the possibility for individuals to submit petitions via e-mail, the establishment of an online petition platform (<https://epetitionen.bundestag.de>) that enabled users to post petitions and in turn to access and co-sign other public petitions on that platform, and finally the decision that each public petition on that platform, which reached 50.000 cosigners in the first three weeks after its posting would get a public hearing before the Petitionsausschuss (for a detailed discussion of the process that lead to the introduction of the e-petition system in Germany see Riehm et al. 2009a, 207-9; for a discussion of the formal procedure following the submission of a petition through the e-petition system and its subsequent publication on the platform see Linder and Riehm 2009, 503-6).

Before moving along it is important to clarify the terminology. In the German e-petition system there is a difference between an *Onlinepetition* (online petition) and an *Öffentliche Petition* (public petition). Under the terminology “online petition” the Bundestag treats petitions that have been submitted via the e-petition system but that are otherwise treated as a normal petition by a single individual, thus comparable to the *Einzelpetition* mentioned above. A public petition is a petition, which has been submitted electronically to the Petitionsausschuss but that is intended for the public by the petitioner in question and that complies with a set of selection criteria expressed in the “Guidelines for Public Petitions” (Deutscher Bundestag, 2008a). If these public petitions comply with the criteria they are published on the e-petition platform and it is then possible for other individuals to cosign petitions on that platform during a period of six weeks starting with the date of publication. It is also possible to discuss each public petition on a dedicated forum (Riehm et al. 2009a, 210). These public petitions are the subject of this paper.

The German parliament is not alone in establishing an e-petition system. Other countries with e-petition systems include Scotland (Macintosh et al. 2008), Great Britain (Miller 2008), South Korea (Lee 2005), Queensland Australia (Finnimore 2008), and municipalities in Norway (Lindner and Blümel 2008, 79-100). In addition to this non state and commercial actors use e-petitions regularly to collect support for ad hoc

campaigns (ibid. 101-14; and ibid. 115-35). E-petitions are thus clearly one of the strongest utilized e-participation tools.

Since its introduction the e-petition system in Germany has already three well publicized causes célèbres. The first public online petition that managed to gain large media coverage and strong public attention was a petition that in late 2008 and early 2009 asked for a basic income guarantee (Deutscher Bundestag 2009a). This e-petition was co-signed by 52,973 supporters. These high supporter count lead to strong public coverage be it on supporter websites (see for example: Steinheuer and Schlee 2009), popular blogs (see for example: Gullinews 2009) or the traditional news media (see for example: Strohschneider 2009; Vitzthum 2009). The e-petition system could show a first public success, although the e-petition did not attracted enough supporters in the first three weeks to herald a public hearing. For this supporters of the new medium had still to wait a few months.

The next e-petition that managed to jump from the platform into the public spotlight was an e-petition against the indexing and blocking of websites, a procedure that was proposed by a then newly proposed law (Deutscher Bundestag 2009). This e-petition was submitted on April 22, 2009 and managed to surpass the 50.000 co-signature count in only four days (Dietrich 2009) to become the most successful e-petition with a total of 134,015 co-signatures. This lead to a public hearing on 22 February, 2010 (Deutscher Bundestag 2010b) and a massive public discussion of the topic in question and e-petitions in general (see for example: Rath 2009).

If critics thought of the e-petition platform as a system that unduly emphasized internet related topics they had to revise their views in the June of 2010. A petition (Deutscher Bundestag 2010c) initiated by the *Deutscher Hebammen Verband* (German association of midwives) managed to attract 105.300 co-signers online in addition to 80.970 offline (Wolber 2010). Again this lead to a public hearing before the Petitionsausschuss (Deutscher Bundestag 2010d). Again this success was met with strong press coverage (see for example: Kailitz 2010; Schmollack 2010).

These three examples show that the e-petition system holds a strong agenda-setting potential for political activists. It is also interesting to note that the coverage of traditional news media put the individuals who started these e-petitions in the foreground and thus made them to unofficial spokespersons for the causes behind their petitions (see for example: Schwab 2009; Beuth 2009). Another interesting point is that

these three successful e-petitions show a strong thematic heterogeneity. They range from the structure of Germany's social support system, internet regulation, to the position of midwives in the German health system. This is an indicator that the success of e-petitions seems more dependent on the campaign supporting them than the connection of their topic to the internet.

In Germany the introduction of the e-petition system was preceded by a two year trial period starting in 2005. This trial was accompanied through an evaluation of the *Büro für Technikfolgen-Abschätzung* with a focus on the possibilities and risks connected to employing the internet as a means for the German petition system. This led in Germany to the very fortunate situation that the early phases of the system are very well documented by the evaluation team (Lindner and Riehm 2009a; Riehm 2007a; Riehm 2007b; Riehm 2008; Riehm et al. 2009b; Riehm and Trénel 2009) leading to their final report (Riehm et al. 2009a). These reports are especially instructive since they were conducted by an independent team of researchers that, unlike as for example in the Scottish case (Malina et al. 2001; Macintosh et al. 2008), were not involved in developing the system they were in turn evaluating. Still, since these reports mostly focus on the German e-petition system before its recent publicly discussed causes célèbres there remains research to be done on the effects these recent successes had on the public perception of the petition system. Also the interaction of the e-petition system with social media channels like for example Facebook and Twitter is little understood.

Also the theoretical research perspective leaves much to be desired. One especially hot topic is whether e-petition systems really enable deliberative online democracy. This has been a claim of supporters of e-petition system world wide. According to advocates of e-petition systems they are an answer to voter fatigue and entice citizens to political activity (for example Adams et al. 2005). The evaluation of the early phase in the German e-petition system leaves the reader a bit more cautious in this regard. Riehm et al. (2009a, 13f.) state that the e-petition in its trial run between 2005-7 did not achieve a stronger representativity of the body politic (women, individuals from low education levels, and young people remained underrepresented) and although discussion of the published petitions was possible this discussion was not incorporated into the evaluation of the petition in question. This leads to a stronger agenda-setting than deliberative function of e-petitions. In their comparison between e-

petition systems of parliaments in Germany, Scotland, Queensland and Norwegian Municipalities Lindner and Riehm (2009b, 10f.) point out that these institutions chose to develop e-petition systems largely to address perceived problems of legitimacy and not to develop tools with stronger transformational potential. It is probably not remiss to suppose that while public advocates emphasize the perceived deliberatory and mobilization potential of e-petitions the parliaments that instituted these systems had a less binding agenda-setting function in mind.

The approach of this paper, the quantitative analysis of usage data, is not adequate to further the discussion on the possible deliberative function of the German e-petition system. For this question an analysis of the discussion boards accompanying the public petitions would be more fruitful. A potential model for such an analysis would be González-Bailón et al. (2010).

4. E-petitions as a datasource

Computer-mediated petitions are a recent addition to the collection of means through which German citizens can directly communicate with the political system. In September 2005, the Bundestag opened its “ePetitionen” site (accessible at <https://epetitionen.bundestag.de>) epetitionen.bundestag.de (Deutscher Bundestag 2010e). This platform was modeled after a similar project by the Scottish regional parliament (Riehm et al. 2009a, 207-9), it allows for viewing, initiating and signing public petitions to the Bundestag.

As discussed above there are two different types of petitions that can be entered here, private petitions which are only accessible to the addressee of the petitions and public petitions, which are published on the platform. This paper only deals with public petitions available on the e-petition platform. Both, the initiator of a public petition as and the co-signers full names are published. The details of this are discussed in detail in a section on privacy and data safety on the ePetitionen website (Deutscher Bundestag 2006).

Originally, researchers could access the entirety of those public signatures in the convenient form of a “csv” file export. Those files contained all entries of one petition up to the time of access. We downloaded all of those files which were accessible on the 19th of January 2010. Since then, the option to download the entire list of signatures has been disabled (although the webpage pertaining to privacy still makes mention of it).

All of the data can still be viewed, however, through the regular web pages, 100 entries at a time.

Our current analysis is based on the dataset from January. Researchers interested in obtaining newer data have two options: To “scrape” - that is, automatically download and extract - the web pages, or to use the privately-owned service “Deutschland API” (<http://www.deutschland-api.de/>), which offers access to an anonymized but current dataset on the petitions.

As of January 19th, there were 9001 petitions, of which 886 had signatures and were accessible. The earliest entries start at October 14th, 2008 at petition number 679. This appears to be due to a restructuring of the service during which old petitions were only partially conserved (Deutscher Bundestag 2008c). Preceding the analysis, user names were anonymized by converting the unique name + location pairs into a numeric ID.

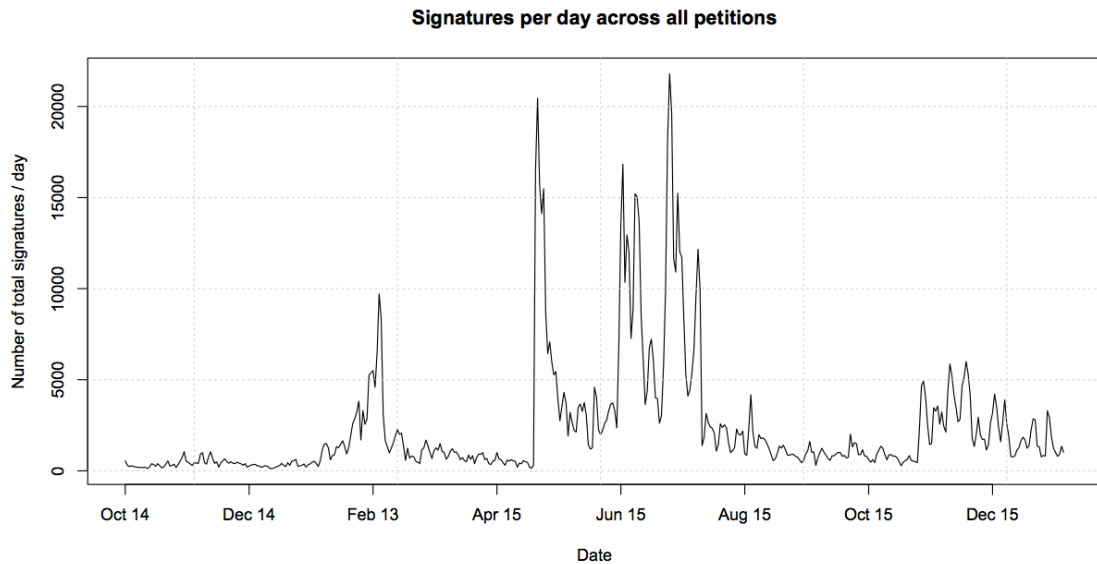
One data point in the described collection consist of three variables: A name, a time stamp, and a place (the home town or area of the signee). A typical entry thus looks like this (the data is fictional):

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Petition 1001: 2008-12-09;"Müller, Michael";"Deutschland /  
Bayern"
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This data allows us to examine usage patterns of the e-petition system. In this paper will will on the one hand analyze the co-signing dynamics of public petitions. In a second step we will analyze patterns with focus on the behavior of the users of the e-petition system.

5. Co-signature patterns in the German e-petition system

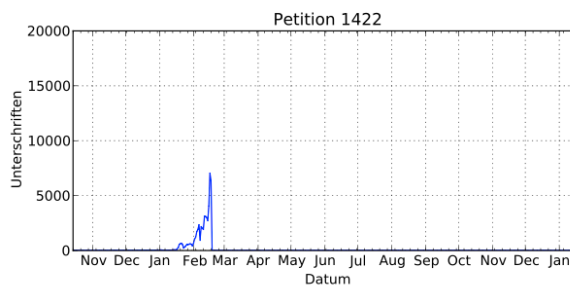
A first step in understanding the usage patterns of the German e-petition system might be the examination of the day by day aggregation of e-petition co-signatures.



Graph 1: Signatures per day across all petitions

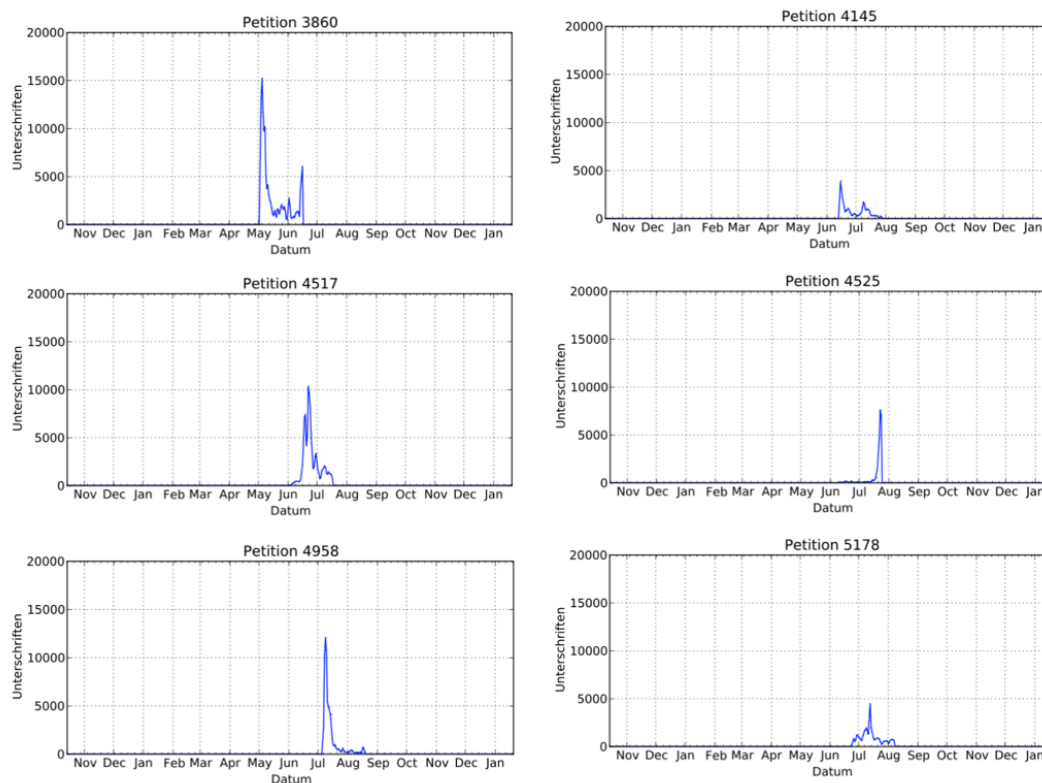
The graph clearly shows that the number of co-signatures per day regularly varies quiet stably around a baseline in the low thousand. This pattern is significantly broken five times (in February, May, June, July and December 2009) when the sum of signatures moves rapidly up and even twice passes an aggregate of 20.000 signatures. After each of these peaks the baseline of co-signatures rises for a while, but still remains in the low thousands.

If we closer examine the spikes in the graph we find that these spikes are mainly driven by only a few popular petitions. As shown in Graph 2 the spike in late February and early March 2009 is mainly dew to e-petition number “1422: Demand for a basic income” the first e-petition that managed to gain strong media attention. Still, we also see that not all of the plus-baseline co-signatures in this time period can be attributed to e-petition 1422. This can be taken as an indicator that popular petitions lead to stronger co-signing activities for other petitions. There appears to be a co-signature overspill.



Graph 2: Signatures e-petition 1422: Demand for a basic income

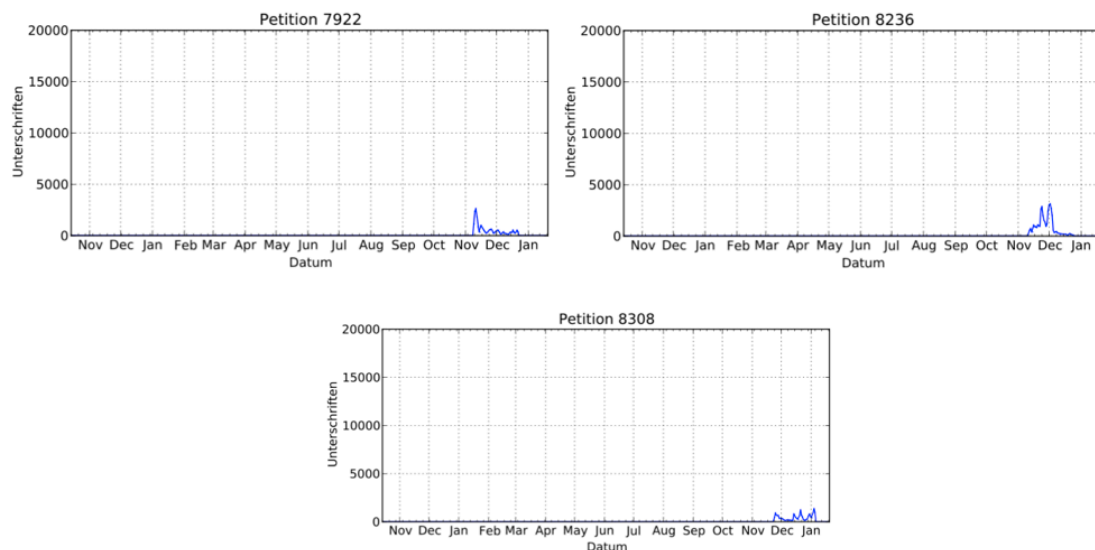
The explanation of the spikes between late April and mid August is slightly more complicated. Here the data shows six petitions that seem to drive most of the co-signatures. These are the e-petitions “3860: No indexing or blocking of websites”, “4145: No prohibition of paintball”, “4517: GEMA”, “4525: Stop to the privatization of public lakes”, “4958: No prohibition against action themed computer games”, and “5178: A guarantee of a place for a Master education for Bachelor students”.



Graph 3-9: Signatures e-petition 3860, 4145, 4517, 4525, 4958, and 5178

As the graphs show, the co-signing periods for these e-petitions are overlapping. We also see that these e-petitions account for a major part of the plus-baseline co-signatures during this time. Also there is a common theme running through these petitions. Starting with the e-petition 3860 against the indexing and blocking of websites, which has become one of the most publicly discussed petitions in Germany, most of these popular e-petitions (with exception of e-petition 4525) deal with computer or media related issues. The highly publicized success of e-petition 3860 seems to have alerted potential petitioners to the existence of the system and to have created synergies

between the cosigners of these related e-petitions. This conjecture is strengthened by the examination of how many co-signers signed two or more of these six petitions. Here we find, that 64,555 individuals signed at least two of the e-petitions in this temporal cluster. Clearly these issues are linked in the minds of their co-signers. It is interesting to note though, that this issue similarity among popular e-petitions seems to weaken in late August. If there was a case of political learning exhibited in a stronger use of the e-petition system it only lasted during the public discussion around e-petition 3860. Again, as in the case of e-petition 1422 there is still a plus in signatures that is not directly attributable to either of these petitions. In this temporal cluster we find a strong overlap between co-signers of e-petitions and a co-signature overspill.

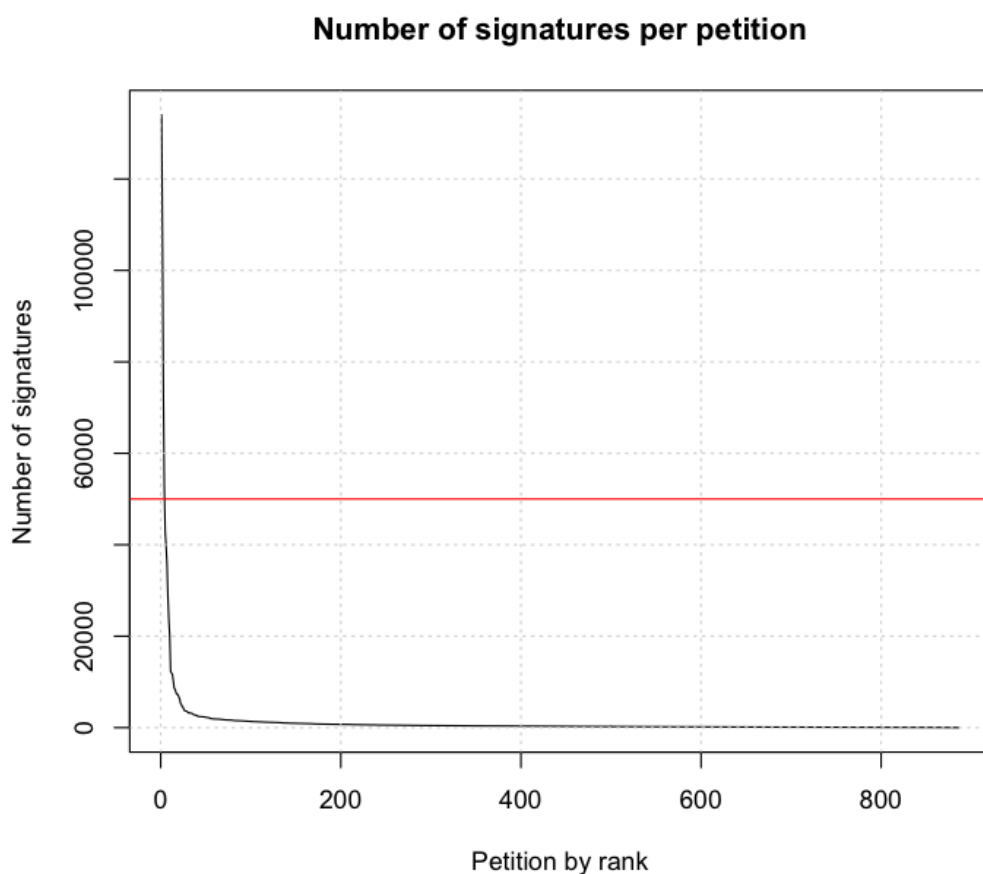


Graph 10-12: Signatures e-petition 7922, 8236, and 8308

The last surge in cosigning activities from November till December 2009 can mainly be attributed to three petitions. E-petition “7922: Free access to scientific publications”, “8236: Introduction of the Robin Hood tax”, and “8308: Prohibition of fines in cease-and-desist warnings if the cause of the warning has been timely removed”. These petitions reach a much lower number of co-signatures than the petitions in the preceding temporal cluster. Their topics are not directly linked to the issue of e-petition 3860. Also the co-signature overlap in this temporal cluster is much lower than before (we find that only 3,500 individuals signed at least two e-petitions in this temporal cluster). Again, as in both cases before the sum of all signatures of these

three petitions does not account completely for the plus-baseline co-signatures during that time. Again, popular e-petitions seem to have a c-osigner spillover to other e-petitions.

This first cursory examination of the patterns contained in the usage data of the German e-petition system already shows that only a small number of e-petitions are responsible for the majority of co-signatures. This first impression is strongly supported by Graph 13. Here the number of co-signatures per e-petition is documented. We clearly see that not even 100 e-petitions account for the vast majority of co-signatures. Also we see that only a fracture of all e-petition ever make it above the 50.000 co-signatures demanded for a public hearing (marked in Graph 13 by the thin red line). This again is an indicator that most of the attention and activity in the e-petition system focuses on only a few select e-petitions.



Graph 13: Number of signatures per petition

As indicated by Graph 13 only a fraction of the e-petitions in our data set could attract more than 50.000 co-signers. This number is crucial since this is the number of signatures an e-petition must attract in the first three weeks after its publication if it is to

be publicly heard before the Petitionsausschuss. In Table 1 we collected all e-petitions that during October 2008 and January 2010 achieved more than 10.000 co-signatures.

ID	Category	Title	Signatures	Skewness
3860	Internet	Keine Indizierung und Sperrung von Internetseiten	134,015	0.896
4517	Bürgerliches Recht	Gesellschaft für musikalische Aufführungs- und mechanische Vervielfältigungsrechte (GEMA)	106,575	0.741
4958	Straftaten gegen die öffentliche Ordnung	Gegen ein Verbot von Action-Computerspielen	73,002	2.556
1422	Reformvorschläge in der Sozialversicherung	Bedingungsloses Grundeinkommen	52,973	-1.494
5178	Hochschulwesen	Masterstudienplatz für Bachelorabsolventen	42,740	0.497
8236	Steuerpolitik	Einführung einer Finanztransaktionsteuer	39,565	0.508
4145	Waffenrecht	Gegen ein Verbot von Spielen z.B. Paintball	35,827	0.405
4525	Bodenverwertungs- und -verwaltungs GmbH	Verzicht der weiteren Privatisierung von Gewässern	28,612	-2.937
7922	Wissenschaft und Forschung	Kostenloser Erwerb wissenschaftlicher Publikationen	23,631	0.744
8308	Schuldrecht	Kostenfreiheit bei fristgerechter Beseitigung des Abmahngrundes	20,113	-0.291
3827	Bürgerliches Recht	Offenlegung der Abrechnungsmethoden der Gesellschaft für musikalische Aufführungs- und mechanische Vervielfältigungsrechte (GEMA)	12,322	-1.043
4006	Urheberrecht	Kopierschutzmaßnahmen	11,931	0.175
4724	Einkommensteuer	Häusliches Arbeitszimmer	11,646	-0.162
1471	Heilberufe	Vergütung der Ausbildungskandidaten	10,244	-0.930

Table 1: E-petitions with more than 10.000 cosigners

This table shows that from October 2008 to January 2010 only four e-petitions managed to attract 50.000 or more co-signatures and only 14 e-petitions of a total of 886 public e-petitions attracted more than 10.000 co-signatures. This is a further indicator that the mayor activity on the German e-petition system is driven by only a few e-petitions. As was shown before quite a few of these successful e-petitions overlapped during their signage periods. Because of their common themes it is reasonable to assume that they each profited from the success of the other petitions. Still, we find a certain degree of topical heterogeneity in the most successful e-petitions. If we look at the six most successful e-petitions, four address the usage practices of experience internet users, one demands a mandatory basic income, one addresses the

education system and one demands a new tax. Although internet related topics are highly popular, it would be wrong to suppose the e-petition system is only advantageous to internet-friendly topics.

As described above the German e-petition system holds a special provision for e-petitions that manage to collect more than 50.000 co-signatures during the first three weeks of their six week co-signing period. These e-petitions are heard publicly before the Petitionsausschuss while the petitioner herself is present. Thus the system holds incentives for the organizers of petitions to marshall support quite early in the process. It might even be a determining element for the total number of co-signatures for a petition how many co-signatures could be collected early on. A simple statistical metric that informs on whether an e-petition attracted the bulk of its supporting co-signatures early in the signature period or late is the skewness value. Skewness describes the asymmetry of a distribution. In the words of Hand et al. (2001, 57):

“A distribution is said to be *right-skewed* if the long tail extends in the direction of increasing values and *left-skewed* otherwise.”

We detect a right-skewed distribution if the skewness metric takes a positive value. Negative values indicate a left-skewed distribution. A value of zero would indicate a symmetric distribution. When using this metric on the day by day aggregate of e-petition co-signatures a right-skewed distribution would be a sign that the e-petition received its bulk of support in the first half of its signature period, a left-skewed distribution would be an indicator that the support was collected during the second half of the signature period.

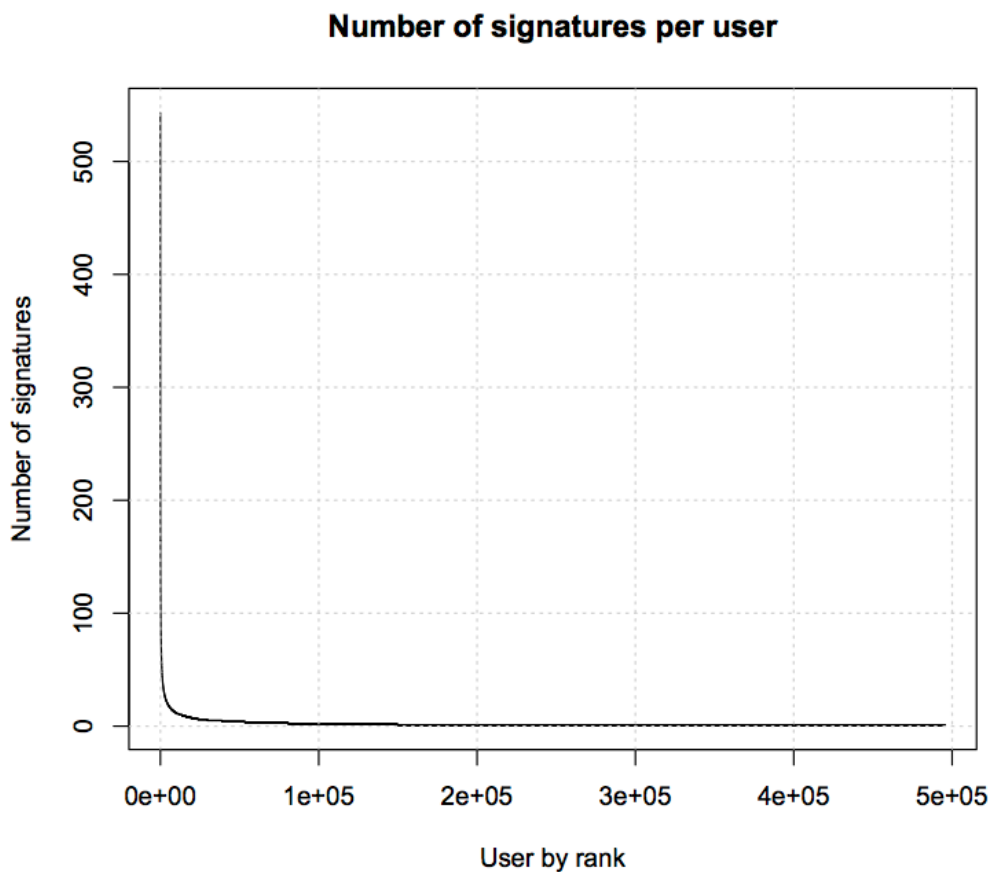
As Table 1 shows the fourteen most successful e-petitions have no common skewness value. Eight e-petitions show positive skewness values and thus collected more co-signatures during the first half of their cosigning periods than in the second half. For six e-petitions the opposite is true. Thus early or late support for an e-petition does not seem to be a determining factor for its overall number of signatures.

Even if the skewness value only serves as a descriptive metric of these e-petitions the graphs show, that there are sudden surges in co-signing activity for each of the successful e-petitions. The data analyzed for this paper can not explain these surges. They are probably based on external events and activities outside of the e-petition

system. For a future study it would seem advantageous to compare the activity of vocal supporters of an e-petition on social media channels to the sudden co-signature surges. This would open a window to the viral dynamics of political content on and across social media platforms.

6. User profiles

After showing that we find distinct and meaningful usage patterns when analyzing our data set focusing on e-petitions, we now switch our focus to the users of the e-petition system. In Graph 13: “Number of co-signatures per e-petition” we saw that only a small amount of all e-petitions attracted the vast majority of signatures. It is natural to wonder if a similar dynamic exists on the user side.

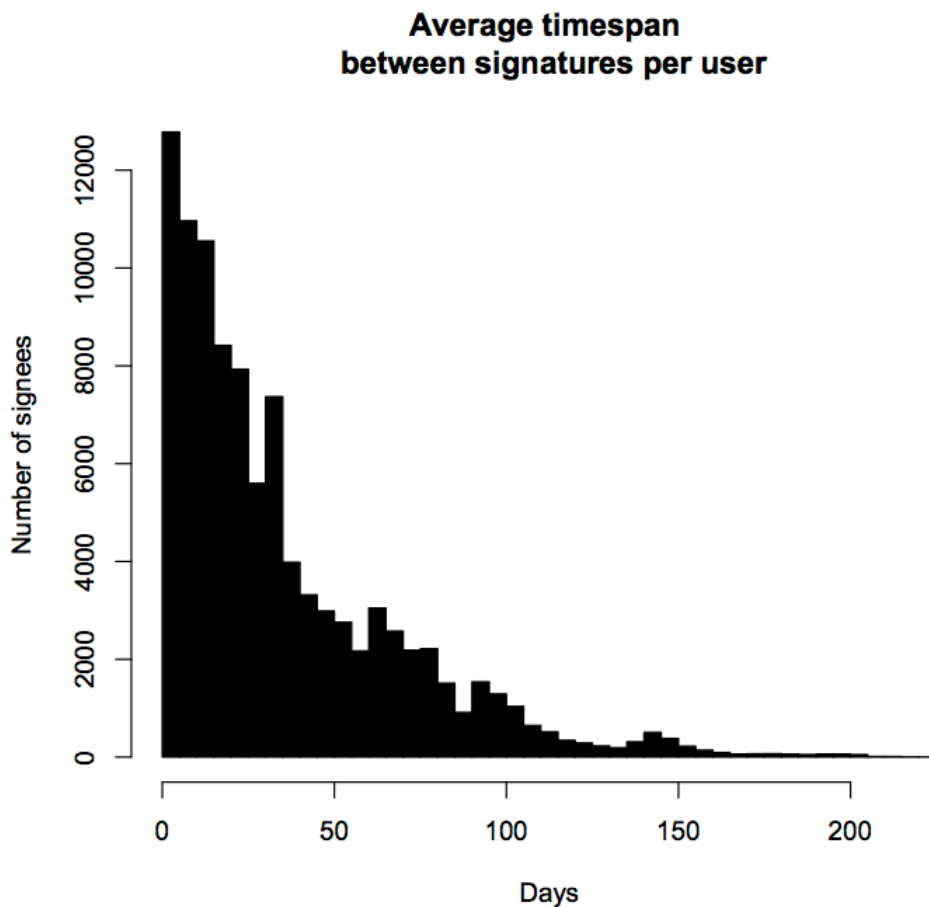


Graph 14: Number of co-signatures per user

Indeed Graph 14 shows that there are clear differences in the number of e-petitions the users of the system sign. But, although we find a group of users who co-signed up to 500 petitions this group does not account for a majority of all co-

signatures. Thus, while these users clearly use the e-petition system differently from the average user they as a group are not click-happy enough to outweigh the support expressed by more abstinent users. Still, we find strongly divergent co-signature counts between users of the e-petition system.

Another usage pattern that can be found in our data set is the time frequency in which users co-sign e-petitions. This is an interesting metric since it might give us insight in the nature of the political participation expressed by a co-signature.

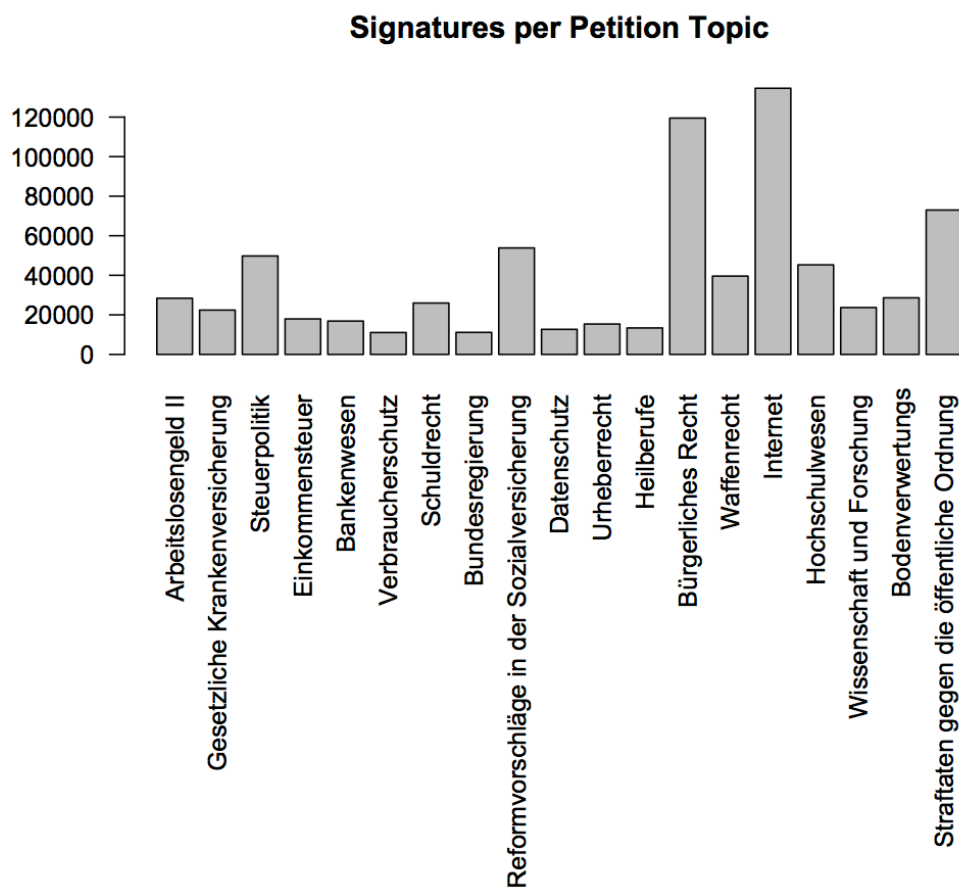


Graph 15: Average timespan between signatures per user (one-time users of the petition system are excluded)

Graph 15 shows that most users of the e-petition system who co-signed multiple e-petitions did so in a time interval of less than thirty days. This can be read as an indicator that users who were attracted to the e-petition system and who are interested in more than one e-petition only seem to use the system during a rather short amount of time. This might be either a sign that users grow disillusioned by the rather low transformational power connected to an e-petition or could be interpreted as a sign that

users have to experience a strong activation impulse to use the platform and that this impulse weakens over time. Although there are users who co-signed e-petitions in a time-span of up to 150 days most activity of users happens during less than thirty days. There is little indication of increasing activity grounded in usage-based learning by co-signers.

Before we come to a definition of user types based on these behavioral factors there is still one element of the e-petition system left to be introduced. Public petitions are grouped under topical categories (i.e. internet, education system or taxes). Graph 16 shows the top 19 topical categories with more than 10.000 co-signatures.



Graph 16: Topical categories with more than 10.000 co-signatures

While very precise, these categories are only partially useful to categorize e-petitions for the purposes of this paper. While very detailed with regard to the topics addressed by e-petitions these topical categories do not map very successfully onto the shared interests of co-signers. One example of the limitations of the categories can be found in the case of the three e-petitions with the highest co-signature counts. E-petition 3860 “No indexing or blocking of websites” has been categorized under the heading

“Internet”. The e-petition 4517 “GEMA” addresses licensing practices of music and film rights. This petition is categorized under Bürgerliches Recht (civil law). While the last petition 4958 “Against a prohibition of action themed computer games” falls under the category “Straftaten gegen die öffentliche Ordnung”. As discussed above these three petitions are clearly temporally and thematically linked (they all deal with usage practices of heavy duty online users). Still, this link is not expressed in the categories as provided by the e-petition system. But, albeit flawed, these categories as provided by the e-petition system help us to understand if users tend to co-sign e-petitions that are topically linked. In future studies we hope to improve on the precision of the categories.

Based on these three elements, aggregate co-signature count per user, co-signature frequency per user, and topical linkage of e-petitions co-signed by a given user, we are able to construct three idealtypes of e-petition co-signers. We call them *New Lobbyists*, *Hit and Run Activists*, *Activism Consumers*, and *Single Issue Stakeholders*. We then operationalize these idealtypes and check for them in our usage data. This is a theory driven approach. An alternative would be to exploratory analyze the data and construct categories around patterns found in the data.

Under *New Lobbyists* we group all users whose names were found on multiple petitions that fall in similar topical categories and who used the petition system over a extended period of time. The exact operationalization read: users with signatures on three or more e-petitions that fall in a maximum of half as many topical categories (as defined by the e-petition system) as the total count of their co-signed e-petitions. These users co-signed e-petitions over a period of more than three weeks. An example of such a user would be someone who co-signed an e-petition in early 2009 that fell under category “taxes”, another e-petition four weeks later again under the category “taxes”, and finally signed an e-petition in June 2009 that fell in the category “civil law”. The existence of such an idealtype we would take as an indicator that certain users learned about the significance of the e-petition system and then tried to influence topics in their realm of interest by long term investment in the e-petition process.

Hit and Run Activists are for us all users whose names we found on multiple e-petitions that are grouped in the same topical categories but who used the e-petition system only during a short period of time. The exact operationalization read: users with three or more e-petitions that fall in a maximum of half as many topical categories (as defined by the e-petition system) as the total count of their co-signed e-petitions. These

users co-signed e-petitions over a period of less than three weeks. A possible example would be a user who on June 12 co-signed an e-petition that fell under category “internet”, another e-petition on the same day under the category “civil law”, and finally one day later an e-petition that again fell in the category “civil law”. The existence of such an idealtype we would take as an indicator that users in this category were attracted to a specific e-petition, logged in and co-signed said e-petition. They then used there time on the platform identified other e-petitions of interest before leaving the platform. In the case of these users we have no long-term commitment to the e-petition platform as channel for them to participate politically.

Activism Consumers under our definition are users whose names appear on multiple petitions that fall under a large group of topical categories. The exact operationalization read: users with signatures on three or more e-petitions and that are not covered by the other definitions. This could be a user who co-signed an e-petition in early 2009 that that fell under category “taxes”, another e-petition four weeks later this time in the category “internet”, and finally signed an e-petition in June 2009 that fell in the category “civil law”. The existence of such an idealtype we would take as an indicator of users who have no discernible long term interest in specific political topics but who received an impulse to co-sign a given e-petition and do so without too much personal investment.

Under *Single Issue Stakeholders* we grouped all users whose names appear on only one or two petitions that fall in the same topical category. The exact operationalization read: users with one or two signatures on e-petitions that fall in the same topical category as defined by the e-petition system. This could be a user who signed in early Jun 2009 an e-petition in the category “taxes” and then again in September 2009 signed another e-petition in the same category. Also all users who only co-signed one e-petition fall in this category. The existence of this idealtype would be for us an indication of the classic petitioner. An individual that is concerned by a specific political issue and tries to remedy this situation by petitioning the institutions in question.

One has to keep in mind that these idealtypes are based on theoretical considerations and there possible appearance in the data-set has to be interpreted very cautiously. Still, we hope that these idealtypes help us to categorize users with distinct usage patterns and to discuss their behavior with regard to its possible consequences on

political participation. Table 2 shows the idealtypes discussed above and the count of users that fit to our operationalization.

Idealtype	Number of users who fall into that category
New Lobbyists	269
Hit and Run Activists	235
Activism Consumers	80,278
Single Issue Stakeholders	414,829

Table 2: Idealtype of user profiles

This data shows that the majority of users of the German e-petition system use the system as Single Issue Stakeholders. They use the system once or twice to co-sign clearly topically related e-petitions. Another strong group of users falls under the profile of Activism Consumers. These are individuals who use the system without a strong topical interest. They sign a multitude of e-petitions without any topical relationship between them. These users co-sign e-petitions as if shopping around. Much lower user counts show the idealtypes New Lobbyists and Hit and Run Activists. There are users who show these characteristics but they clearly are surpassed by users falling to the other idealtypes.

7. How political is a click?

In this paper we used a research approach informed by Computational Social Science approach and the Digital Methods program to examine if we could detect meaningful patterns in the transactional usage data of the German e-petition platform. As shown above this was successful. While the analysis did not advance the deliberation/non-deliberation debate raging through the e-democracy literature we were still able to discern meaningful patterns in the interaction of users of the e-petition platform.

We showed that only a few e-petitions attract the majority of co-signatures and activity on the platform. Thus not all e-petitions are created equal. Also we were able to define idealtypical user profiles (based on co-signature count, frequency and the similarity of co-signed e-petitions) that could clearly be identified in the empirical data. We hope that these user profiles help to discuss the type of political participation of types of participants, based on their actual usage behavior.

We are convinced that the point most strongly made by this paper is the potential that lies for social scientists in the examination of data of this kind. We hope to advance this research in the near future through the incorporation of a longer timeframe of data by the e-petition system, a reframing of the topical categories of e-petitions that more closely resembles the actual behavior of co-signers, and finally the examination of viral effects connected to e-petitions on social media platforms like Facebook or Twitter.

At the beginning of the paper we asked the questions: Do online tools broaden the public discourse on political topics and do they lead to broader political participation? The facilitation of participating in e-petitions (for example through web site like petition24.de or e-petition widgets) might lead to systematical high supporter numbers for e-petitions advertised on these channels. Right now these high supporter numbers make for enticing headlines and thus serve to support the agenda setting efforts of the respective petitioner. Still, the question remains if this corresponds with the ideas of deliberative democracy online. But as Chadwick (2009) argues e-democracy initiatives should not necessarily be judged on their correspondence to existing theories of democratic participation or deliberation, instead one has to accept the new forms of participation that emerge around the usage of online channels.

If we accept this view we can state that e-petitions in Germany prove to be a tool that allows activists to use network effects to marshal fast support for their campaigns and with high supporter numbers get their issue heard before the parliament. Three campaigns from the recent past illustrate this quite clearly (Vitzthum 2009; Rath 2009; Schmollack 2010). While this political participation through a click might not be the political participation envisioned by advocates of the deliberative online democracy or the new public sphere e-petitions clearly have an agenda setting function. To dismiss this as “couch potato activism” does no justice to the phenomenon. Our reading of the data of the German e-petition system suggests a more balanced interpretation. This reading of the data corresponds with the view articulated by Ward et al. (2003, 667f.). Where the authors did not interpret political participation via internet tools as a radical game changer to democracy but as a factor that introduces more pressure on established players through ad-hoc campaigns and an increased expectation of direct communication with political institutions. E-petitions in themselves might not lead to redress of the issues in question, as observed by Miller (2008, 164f.), but the high supporter numbers for e-petition campaigns are able to put topics on the public agenda

as diverse as the request for a basic income (Vitzthum 2009), protest against a Access Impediment Act for websites providing child pornography (Rath 2009), and protest for the strengthening of the position of German midwives (Schmollack 2010). Thus the German e-petition system increasingly becomes a tool used by a variety of activists to successfully get their issues on the public agenda.

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