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On the Use of the E-Petition Platform of the German Bundestag

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ABSTRACT

E-Petitions have become an important aspect of political participation via the Internet, allowing citizens to publicly support political issues. This paper reports findings from a study on the E-Petition Platform of the German Bundestag, combining an analysis of the platform's database (period: October 2008 to January 2013; n = 2,653 petitions) and an online survey among the platform users (Fieldtime: August/September 2013, n = 244 participants). It reports findings on signature patterns over time as well as between different topical areas, among them evidence for a very uneven distribution of signatures across petitions, for a “spill-over effect” where popular petitions draw attention to the platform to the benefit of other petitions, and for a higher activity of male users. The study also investigated the effect of the introduction of the pseudonymous co-signing option in 2012: No significant change in the amount of signatures was observed, but the majority of co-signers are having a pseudonym rather than their real name displayed in the public list of signatures. This seems to mainly a “default effect”, but results from the survey also show that users consider pseudonymous signatures as serious as real-name support.

KEYWORDS

Political participation, e-petition, online petition, German Bundestag

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1. Introduction: Online petitions as a form of political participation

The German constitution (Art. 17 GG) as well as the constitutions of the federal states, e.g. in Article 29 of the Constitution of the Free and Hanseatic City of Hamburg, lay down the right to address the respective parliaments with requests or complaints – as an individual or together with others (cf. Guckelberger 2011). The tradition of such petitions (from the Latin word "petere" for "to request" or "to ask for") goes back to long before modern democratic states were established. However, the ways petitions are handled have changed significantly over the centuries. Nowadays, petitions can be distinguished in three main forms of institutional embeddedness (cf. Riehm et. al. 2008, p. 37 ff): Firstly, the petition system can be attached to the executive authorities, e.g. local administrative bodies and offices, but also officers or ombudsmen who are independent but associated to the executive authorities. Secondly, petitions can be connected to the legislative authorities, by means of special intermediary instances or committees as in the case of the E-Petition Platform of the German Bundestag. Thirdly and finally, there are non-governmental institutions such as complaints offices or mediation centres that might have been established based on government regulations or on a voluntary basis, but are not subject to the aforementioned constitutional rights to carry out petitions – including platforms and providers that offer "independent petitioning services", such as the service providers Avaaz or Campact (see below).

Riehm et al. (2008) classified the functions of petitioning systems for three different stakeholders – for the petitioners, for those the petition is addressed at, and for the political system (see Table 1): For petitioners, a petition is merely one of several options to claims their rights, to protect their interests or to take part in the process of finding a political decision. Indirectly, petitioners can also use a petition to draw public attention to their concerns and to mobilise others. For the petition recipients – e.g. the German Bundestag, as in the context of this study – petitions can help to gather information by enhancing the visibility of problems and disagreements on the one hand, while on the other, they also include a control function, for the petitioning procedures enable the parliament to further investigate or send inquiries to other federal agencies or the federal government. Thus, the petitioning system can indirectly strengthen or expand the parliament's competencies. For the political system as a whole, petitions are a means to

increase public trust in the separation of powers and its own participation rights, thus serving as a means of social integration.

Table 1: Functions of petitioning systems for different stakeholders

	For the petitioner	For the addressees of petition	For the political system
Main functions	Protection of rights and interests	Information	Trust-building
	Political Participation	Control	Integration
Subsidiary functions	Mobilization	Competency enhancement	

Source: Riehm et al. 2008, p. 35

In recent years, the Internet has greatly influenced practices and structures of political participation (cf. Tsagarousianou et al. 1998; Emmer et al. 2011; Loader and Mercea 2012). This is also true for petitioning systems, both in the state and in the non-governmental sector. A comparative study by Riehm et al. (2013, p. 199 ff) showed that (at the time of the survey in 2010) ten of the 21 European countries had established an independent online service for petitions, while petitions could be submitted by e-mail in eleven states. Four countries (Germany, Portugal, the Netherlands and Romania) had established a possibility to submit petitions via an online portal. Three countries (Germany, Portugal and Austria) offered the possibility to also co-sign petitions online – and only Germany offered the possibility for citizens to discuss petitions to the parliament on the net too (since 2008, see below).

But not only state-operated petitioning systems have led to increased opportunities to participate online. Several other platforms and channels have emerged on the Internet, changing the overall picture of petitioning. These are, first of all, the above-mentioned "independent petitioning services" – platforms that are not subject to the state executive or legislative. Some of them, openpetition.de for instance, only provide functionalities to facilitate the process of setting up and advertising a petition. Others, such as Avaaz.org or Campact.de, are comprehensive campaign platforms that also provide other features of political participation and mobilization, in addition to petitions. In cases where such platforms specialize on featuring or promoting their own issues or organize grassroots campaigns, they become "hybrid organizations" (Voss 2013), side by side with thematically specialized NGOs.

Parallel to the emergence of independent petitioning services, the general transformation of online communication, which is subsumed under labels such as "Web 2.0", "Social Web", "Participatory Web" or "Social Media", has contributed to the change of participation (cf. Schmidt 2011; Meikle and Young 2012). These generic terms describe different genres of web-based communication and information services, for example social networking sites such as Facebook and Google+, blogs and microblogging services such as Twitter or video portals such as YouTube. They afford many different practices, among them to publish petitions, to attract co-signers or to provide information and facilitate further discussions about these topics and issues. The typical form of information dissemination on social media platforms – literally only one mouse click to recommend or spread content among an extended personal network – can lead to so-called viral effects that increase awareness of an issue within a short period of time.

Most of the independent petitioning platforms have set up direct links to social media platforms to make it easier for users to share a petition with their personal network. Thus, it is especially the interaction between petitioning platforms and social media platforms that makes it easier to either win over supporters for one's own political concerns or to learn about other petitions that might match one's individual preferences via the information cascades of social media. In some cases, e.g. when support for a particular petition is growing very rapidly, this becomes newsworthy for mainstream media, and this journalistic coverage might even increase interest in the petition and attract additional supporters.

There are controversial debates whether, or to what extent, such forms of Internet-based participation in general and online petitions in particular are to be seen as sustainable forms of political participation. For example, the label "Slacktivism" (Morozov 2009) expresses the concern that many users reduce their political commitment to simply co-signing petitions, forwarding the respective links or clicking the "like"-buttons on Facebook, without any further (and politically consequential) forms of participation. Panagiotopoulos et al. (2011) conducted an analysis of various Facebook-groups concerning petitions in Great Britain, showing that there were often significantly less signatures for the actual petition than there were Facebook-supporters (measured by the number of the group members). Thus, no decisive connection between Facebook-activities and institutionalized political participation could be proven, at least not for the respective topics.

Bakardjieva's (2009) concept of "Subactivism", on the other hand, has a less sceptical connotation. People using the Internet on an everyday basis to gather information and to communicate might address political issues more casually or en passant. But, as Bakardjieva is arguing, it is precisely this intersection of private personal interests and politics that serves as a starting point for social participation in everyday life, leading to a wider mobilization and to more commitment. For example, if a person posts a petition concerning issues related to energy policy or health policy on Facebook and adds a reference to his/her own experiences and opinions, he or she is providing arguments that might seem more credible or convincing for his/her own social environment than any position papers from NGOs or interest groups.

These opposing views concerning the consequences of lowered technical barriers for personal expression, information dissemination and mobilization clearly show that simplistic technology-deterministic conclusions about the "effects" of online participation technologies are bound to fall short. In the same way that the Internet does not per se lead to more or to less democratic participation (cf. Schrape 2010; Schmidt 2012), platforms for online-petitioning do not automatically create awareness for every concern, nor do they inevitably lead to "digital manhunts"¹ or "Internet smear campaigns"², as journalistic coverage might assume.

This more nuanced perspective is supported by many academic studies which show a moderate outreach of online petitions. For Germany, the representative long-term study "Bürger Online" (Citizen Online) by Emmer et al. (2011, p.186) showed that the share of Internet users who signed an online petition within the last 12 months remained at around ten percent over the different survey waves between 2002 and 2009. Among people with a high level of formal education or with a strong political interest, the share is a few points higher, which is in line with findings from the evaluation studies carried out on the E-Petition platform of the German Bundestag during its establishment and expansion (see below). They draw the modest conclusion that the petitioning platform was not especially successful in addressing population groups that had not been acquainted with petitioning before (cf. Riehm et al. 2013, p. 13).

¹ See <http://www.rtl.de/cms/news/rtl-aktuell/online-petitionen-moderne-demokratie-wird-schnell-zur-digitalen-hetzjagd-372db-51ca-21-1787112.html> [13/03/2014]

² See <http://www.welt.de/debatte/kommentare/article124465675/Das-haessliche-Gesicht-der-Netzdemokratie.html> [13/03/2014]

In addition, previous studies show that the vast majority of petitions on the E-Petition platform did not succeed in attracting a large number of supporters. In their analysis of 886 e-petitions from the period of 2008 to 2010, Jungherr and Jürgens (2011) showed that only 14 petitions reached more than 10,000 co-signatures. More than 80 percent of the users who were active on the platform at that time signed only one or two petitions, meaning they could only be motivated to participate in one or two political issues. At the same time, the authors identified the effect of a "Co-Signing Overspill": In periods with particularly successful petitions, other petitions could attract more supporters too – so they could benefit from the attention towards the popular petition (cf. Jungherr and Jürgens 2010).

2. The E-Petition Platform of the German Bundestag

In 2005, the German Bundestag introduced a reform of the petitioning system in Germany which included the possibility of "public petitions". Since then, petitions can be submitted online for publication on the platform, where they can be signed by supporters and be discussed in a forum. This was considered a pilot project at that time which was accompanied by an evaluation carried out by the Office of Technology Assessment of the German Bundestag (Büro für Technikfolgen-Abschätzung, TAB). The evaluation included desk research, an assessment of the software system (which was also used in a similar online petitioning system in Scotland) as well as several surveys of petitioners, the staff of the petitions' office and of members of parliament who were delegates of the Committee on Petitions.³ All in all, the study came to a positive valuation of the new method and recommended that the German Bundestag should keep it up as a regular offer.

The switch from the pilot project to a regular platform was implemented in October 2008 and included a relaunch of the software system which was designed specifically for the German Bundestag. A follow-up evaluation, again by the TAB, included surveys among the petitioners and a comparative study on the petitioning systems of other European member states.⁴ There was a second re-launch in mid-

³ The results were published as a TAB report (Riehm et al. 2008) and revised and published as a book (Riehm et al. 2009). Lindner and Riehm (2011) provide an English-language summary.

⁴ The results of the study „Elektronische Petitionen und Modernisierung des Petitionswesens in Europa“ were also published in the TAB-series (Riehm et al. 2011) and revised and published as a book (Riehm et al. 2013)

2012⁵: Besides some changes in the layout and design, two changes to the communicative architecture were introduced which are relevant for this study (see also the screenshots in figure 1 to figure 4). Firstly, the forum was modified so users were able to start discussion threads connected to a particular petition. Secondly, co-signers could now opt to be publicly listed as supporters under a pseudonym rather than under their real name. The pseudonym can not be chosen freely but is automatically generated by the platform software and consists of a series of numbers (e.g. "97171"). The actual signing, however, still requires the user to register with his or her real name, which is at least visible to the members of the Petition Committee.

Figure 1: Landing page of the petitioning platform in March 2011 (before the relaunch)

The screenshot shows the landing page of the 'Petitionen' platform of the Deutscher Bundestag. At the top, there is a navigation bar with links like 'Der Bundestag', 'Dokumente & Recherche', 'Presse', 'Kultur & Geschichte', 'Besuchen Sie uns', and 'Service'. Below this, a large banner area contains a welcome message and a login section with fields for 'Benutzername' and 'Passwort'. To the right of the login section, there is a list of public petitions under the heading 'Übersicht über öffentliche Petitionen'. The list is organized into three columns: 'Petitionen in der Mitzeichnung (75)', 'Petitionen in der parlamentarischen Prüfung (884)', and 'Abgeschlossene Petitionen (1220)'. Each row in the list provides details for a specific petition, including its ID, title, petitioner, deadline, and the number of signatures.

Pet-ID	Titel	Hauptpetent	Ende Mitzeichnungsfrist	Anzahl Mitzeichnungen	Forenbeiträge
16503	Beiträge und Verfahren - Regelungen für Selbständige zur freiwilligen Weiterversicherung in der Arbeitslosenversicherung	Bräutigam, Kai-Ulrik	15.04.2011	58 Mitzeichner	11 Beiträge + neue Beiträge per RSS
16509	Arbeitslosengeld II - Bundes einheitliche Regelungen bezüglich der Kosten der Unterkunft und Heizung	Robertson, Simone	15.04.2011	92 Mitzeichner	14 Beiträge + neue Beiträge per RSS
16356	Arbeitslosengeld II - Einführung einer Heizkostenpauschale für Arbeitslosengeld II-Empfänger	Heidi, Manfred	15.04.2011	45 Mitzeichner	25 Beiträge + neue Beiträge per RSS
16662	Aufenthaltsrecht - Visumsfreiheit für türkische Touristen	Mustafa, Celebi	13.04.2011	92 Mitzeichner	146 Beiträge + neue Beiträge per RSS

Source: <http://web.archive.org/web/20110306152205/https://epetitionen.bundestag.de/> [01/24/2014]

⁵ The conversion of the platform software took place on August 16, 2012. Norbert Lammert, President of the Bundestag, held the official "opening" on September 9, 2012.

Figure 2: Page listing the current petitions (January 2014, after the relaunch)

The screenshot shows the 'Petitionen-Forum' page of the German Bundestag. The header includes the Bundestag logo and the title 'Petitionen'. Navigation tabs include 'Petition einreichen', 'Petitions-Forum', 'Service und Information', and 'Kontakt'. The main content area is titled 'Petitionen in der Mitzeichnungsfrist' and shows a list of petitions. The right sidebar contains search options like 'Schnellsuche' and 'Hilfe'.

Mitzeichnungsfrist	Titel	Id-Nr.	Mitzeichnungen	Forum
noch 6 Tage bis 30.01.2014	Arbeitslosengeld II - Abschaffung der pauschalen Anrechnung von Vermögen	47313	289	28 Beiträge
noch 6 Tage bis 30.01.2014	Regelungen zur Altersrente - Flexible Renteneintrittsregelung	47764	110	38 Beiträge
noch 10 Tage bis 03.02.2014	Arbeitslosengeld II - Einbeziehung privater Lebens- und Rentenversicherungen zum Schonvermögen	47151	207	20 Beiträge
noch 10 Tage bis 03.02.2014	Zulassung zum Straßenverkehr - Sonder- und Wegerechte für ehrenamtliche Mitglieder von Hilfs-, Rettungs- und Katastrophenschutzorganisationen	47678	105	27 Beiträge
noch 10 Tage bis 03.02.2014	Verhalten im Straßenverkehr - Absenkung des Grenzwertes auf 0,0 Promille	47755	225	114 Beiträge

Source: <https://epetitionen.bundestag.de/epet/petuebersicht/mz.nc.html> [24/01/2014]

Figure 3: A petition page (January 2014, after the relaunch)

The screenshot shows the detailed page for Petition 47313. The title is 'Arbeitslosengeld II - Abschaffung der pauschalen Anrechnung von Vermögen vom 23.11.2013'. The page includes the text of the petition, its justification, and a list of discussion branches. The right sidebar shows the petition's status, creation date, and a graph of the signing process over time.

Petition 47313
Arbeitslosengeld II - Abschaffung der pauschalen Anrechnung von Vermögen vom 23.11.2013

Text der Petition
 Der Deutsche Bundestag möge beschließen, dass die Vermögensanrechnung bei Eintritt in den Hartz- 4 Bezug dann unterbleibt, wenn das Jahreseinkommen an Berechnung einer vorher geleisteten Vollzeitätigkeit (derzeit: 160 Stunden) vor Eintritt in die Arbeitslosigkeit, nach Maßgabe zur Höhe des Einkommens bei Altersarmutsbedrohung, den Betrag von 30.000 €/ brutto nicht überschritten hat. Für Ehepartner soll sich der Freibetrag entsprechend verdoppeln.

Begründung
 1.) Millionen von Arbeitnehmern aus der Mittelschicht stehen vor dem Problem, den Anforderungen zur Finanzierung einer Familie, der Teilhabe am Leben und der ... weiter lesen

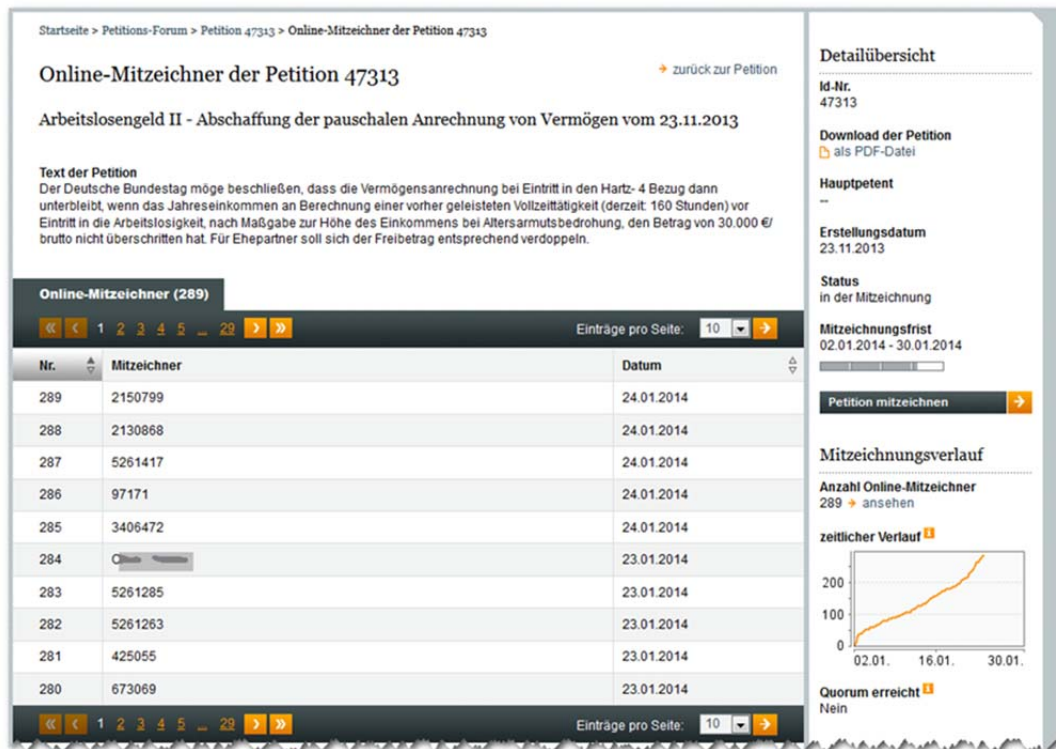
Diskussionszweige (2)

Diskussionszweig	Antworten	letzter Beitrag
Arbeitslosengeld II - Abschaffung der pauschalen Anrechnung von Vermögen Erstellt 02.01.2014 - 09:40 von Petent.	26	19.01.2014 - 21:23 Randberliner
Anrechnung von Vermögen darf nicht vom früheren Einkommen abhängen, sondern von Vermögenshöhe und der SVpflichtzeit und der Dauer ALG-II-Bezug VERSCHOBEN 06.01.2014 - 07:48 von Moderation.	0	06.01.2014 - 07:48 Moderation

Detailübersicht
 Id-Nr. 47313
 Download der Petition als PDF-Datei
 Hauptpetent Thomas Lewrenz
 Erstellungsdatum 23.11.2013
 Status in der Mitzeichnung
 Mitzeichnungsfrist 02.01.2014 - 30.01.2014
 Petition mitzeichnen
 Mitzeichnungsverlauf
 Anzahl Online-Mitzeichner 289
 zeitlicher Verlauf
 Quorum erreicht Nein

Source: [https://epetitionen.bundestag.de/petitionen/_2013/_11/_23/Petition_47313.nc\\$\\$\\$a.u.html](https://epetitionen.bundestag.de/petitionen/_2013/_11/_23/Petition_47313.nc$$$a.u.html) [01/24/2014]

Figure 4: List of co-signatures of a petition (January 2014, after the relaunch)



Source: [https://epetitionen.bundestag.de/petitionen/_2013/_11/_23/Petition_47313.mitzeichnungsliste.\\$\\$.a.u.html](https://epetitionen.bundestag.de/petitionen/_2013/_11/_23/Petition_47313.mitzeichnungsliste.$$.a.u.html) [24/01/2014]

3. Motivation and design of the study

There are few sources for information on the actual use of the platform. The Committee on Petitions publishes regular reports⁶ which contain statistical data: according to them a total of 66.079 petitions were submitted between November 2008 and January 2013 – a monthly average of about 1,300 petitions. Most of them are non-public petitions which are submitted via e-mail, letters etc. The total number of e-petitions, i.e. petitions to be discussed and supported publicly online, submitted during the same period is 2,654 – about 50 e-petitions per month. Thus, in proportion to the total number of petitions, the number of e-petitions is fairly small: about 4 percent, with slight variations from month to month.

Besides these official reports of the Committee on Petitions, there are the scientific studies already mentioned above: The publications by Riehm et al. (2009; 2013) are based on two subsequent and comprehensive evaluation projects, dealing with the value of online petitions in general and the development of the

⁶ The reports are available on the homepage of the "Petitionsausschuss": <http://www.bundestag.de/bundestag/ausschuesse18/a02/index.jsp> [03/03/2014].

system at the German Bundestag. Additional information is provided by Jungherr and Jürgens (2010; 2011) who provide an analysis of the public petitions that could be signed in the period of October 2008 to January 2010.

Neither are there any recent studies, focusing on the impact of the relaunch in 2012 and the introduction of the pseudonymous co-signing feature, nor any analyses that combine reactive methods (e.g. user surveys) and non-reactive methods (e.g. investigations of the petitioning behaviour) to provide a more comprehensive picture of petitioning practices. This study seeks to fill the research gap and – in particular – to find answers to the following research questions:

1. What patterns of petitioning behaviour can be identified over a longer period of time? In particular: How is the distribution of signatures among the petitions, and are there any differences between the various subject areas of the petitions?
2. Did user behavior change after the introduction of the option to sign petitions pseudonymously? In particular: Did this lead to an increase in signatures because a potential hurdle for co-signing was omitted?
3. How do the users of the platform regard the possibility of pseudonymous signing? In particular: Do they approve or disapprove of it individually and in general?
4. What are the motives underlying the submission and co-signing of e-petitions? In particular: Is there any evidence for a connection between possible "Slacktivism" and co-signing?

To answer these questions, we draw on a combination of two data sets: (1) an extract of the petitioning-platform's database and (2) a survey among the users of the platform.

(1) Database

With approval of the Commission on Petitions, the technical service provider that maintains the petitioning platform extracted a partial dataset from the online database for the research team. This dataset contained records for a total number of 2,983 petitions, submitted to the Petition Platform of the German Bundestag between September 2005 and February 2013. In 2009, there was a "climax" with 700 filed petitions, while there were mostly about 600 in the following years (see Table 2). The period in which a petition could be signed varied over time: Since 2012, petitions are open for signing for 28 or 29 days. Between October 2008 and

2011, the timeframe was 43 days. In the years before, there seems to have been no time limit; one of the petitions was even "open" for 279 days.

Table 2: Petitions submitted per year in database

Year	Absolute number	Percent	Cumulative Percent
2005	10	0,3	0,3
2006	47	1,6	1,9
2007	145	4,9	6,8
2008	259	8,7	15,5
2009	701	23,5	39,0
2010	559	18,7	57,7
2011	611	20,5	78,2
2012	577	19,3	97,5
2013	74	2,5	100,0
Total	2983	100,0	

For our analysis, we considered only those 2,653 petitions submitted after October 13, 2008 (the date on which the co-signing timeframe was set to 43 days) and completed before February 1, 2013. For every petition, the dataset contained information on the signing period and the number of co-signatures. In addition, the dataset also contained separate tables with information concerning the approximately 1.32 million users (gender and postal code, but no personally identifiable information such as name or E-Mail address) as well as details concerning the approximately 3.5 million individual signatures (date and time; use of full name yes/no). The data from the different tables could be linked via unique identifiers for petitions and users, respectively, to allow for data aggregation and construction of new variables (e.g. share of male co-signers for every petition).

In addition, the 2,653 petitions were manually classified by subject areas based on their titles. These are given by the Administrative Office of the Petitions Committee) and follow the uniform pattern "category – description – date of petition", for example: "unemployment benefits – increase of pension entitlements for recipients of unemployment benefits form, January 20, 2010". As a first step, the titles were extracted from the website and merged with the dataset via the unique petition ID. There were 24 petitions for which no information could be found on the website, leaving 2,629 petitions to be coded. In a second step, the 447 categories were condensed to 13 subject areas and one residual group ("other"); the subject areas were inductively chosen and are similar to standard

policy areas. A student coder took care of compiling the categories according to subject areas, while the definition of the topics and the subsequent classification of the petitions was implemented based on iterative consultations with the authors of this paper. Table 3 lists the topics, their relative proportions as well as two exemplary petition titles.

Table 3: Overview of the subject areas

n=2629	Cases	Percent
Justice (e.g. 20624: Law of obligations – Legal validity of contracts concluded over the phone; 22697: Copyright issues – Suspend the ratification of ACTA)	335	12,7
Health (e.g. 14388: Statutory health insurance – Benefits -- equality of naturopathic medicine and conventional medicine; 14551: Medicinal products – Intelligibility of patient information leaflets)	333	12,7
Finance & Taxes (e.g. 37573: VAT – Reduced rate for eBooks (7%); 20232: Net worth tax – Reintroduction of a net worth, reduction of VAT)	326	12,4
Labour (e.g. 16287: Unemployment benefits (II) – Adjustment of the fixed rate for public transport; 3157: Working time – No working time regulation for voluntary work in fire departments)	317	12,1
Social Policy (e.g. 14259: Social law – No standard rate calculation based on the lower income groups; 9596: Child benefits / supplementary child allowance – Child benefits only for income groups below 60,000 €)	247	9,4
Traffic (e.g. 14355: Traffic Regulations – Speed limit of 30 km/h within villages; 25256: Road traffic licensing – No foreshortening of the TÜV-cycles)	212	8,1
Economy (e.g. 15389: Energy economy – No use of comestibles for the production of fuels; 9937: Waste management – Ban on plastic bags)	199	7,6
Environment (e.g. 16323: Animal protection – Tegulations on the import of goose down; 13587: Nuclear power supply and disposal – Compliance with the contract to shut down nuclear power plants by 2023)	164	6,2
Home Affairs (e.g. 13968: ID cards – Prohibition of the introduction/use of RFID chips; 8057: Elections – Introduction of an abstention-option)	143	5,4
Consumer Protection (e.g. 19370: Consumer protection – Ban on cigarettes; 3888: Customer protection in the telecommunications sector – Connections without detours)	136	5,2
Education & Science (e.g. 5423: BaföG, Federal Law on Support in Education – Longer eligibility periods for single parent students; 6059: Supportive measures for vocational training – Reimbursement of travel costs)	69	2,6
Parliament & Government (e.g. 5333: Federal government – Disclosure of involvement by external staff in federal ministries; 4748: German Federal Parliament – Parliament TV via satellite)	65	2,5
Media (e.g. 9149: Internet – Open, free-of-charge and non-discriminatory access to online content; 15601: Privacy policy – Mandatory annual report on collected data)	49	1,9
Other	34	1,3

(2) Online survey

To gain further insight about the users of the petitioning platform, we conducted an online survey in cooperation with the Office of the Committee on Petitions. The survey was announced in the current news section ("Aktuelle Mitteilungen") on the homepage of the platform between August 2 and September 29, 2013. In addition, the link was spread via Twitter accounts, blogs and discussion boards focusing on network politics. During the survey period, a total number of 724 users opened the survey's landing page – and about one third of them finished the survey. After cleaning up the data (e.g. deleting the results of "zapping" through the survey), there were $n = 244$ (33.7 %) survey participants left that could be used for the evaluation. Considering the recruitment channels, the results of the survey cannot be seen as representative for all the users of the petitioning platform. Regular and more active users are most probably overrepresented in comparison to occasional users and to people who followed a direct link to an individual petition instead of looking up the platform's landing page.

4. Empirical Findings

The following section presents the findings of the two empirical approaches. It starts with results from the database analysis (Chapter 4.1), followed by the online survey (Chapter 4.2).

4.1 ANALYSIS OF THE DATABASE

The structure of the database offers several possibilities for analysis. Listed below are the findings concerning the initial petitioners (Chapter 4.1.1), the co-signers (Chapter 4.1.2), the subject areas of the petitions (Chapter 4.1.3), the petitions' development over a certain timeframe (Chapter 4.1.4) and the "Spill-Over" effects of successful petitions (Chapter 4.1.5).

4.1.1 CHARACTERISTICS OF THE PETITION SIGNERS

During October 13, 2008, to January 1, 2013, there were 1.32 million people registered as petition signers. About two thirds (67.9 %) had signed only one petition, while another 14 percent had signed two petitions. About one percent of

the registered users had participated in 25 or more petitions during the respective period – the "leader" even managed a total number of 1952.

Among the registered users, there are slightly more men (55.4 %) than women (44.6 %). On average, the men had supported three petitions each (std.dev. = 12,691), the women only 2.2 petitions (std.dev = 7.647). In combination, both factors – more male users and their higher activity in signing petitions – lead to the fact that almost all petitions (92.2 %) show a majority of male signers, with an average percentage of male signers of 69.1 percent (see section 4.1.3 for a more detailed differentiation by different subject areas).

A regional overview of the petition signers was created based on the first two digits of the postcode-information in the database (see Table 4). In terms of the number of petition signers compared to the total population, some regions are over-represented – including, in particular, users from postal code region 1 (which includes Berlin) and Region 8 (which includes Munich), whereas users from the regions 0 (Saxony and adjacent regions) and especially Region 4 (the western Ruhr area and the northern surrounding regions) are under-represented.

Table 4: Distribution of petition signers and number of inhabitants by postal code regions

	Percent	Valid Percent	Population share ^(a)	Difference in %-points
Region 0	6,6	6,64	8,10	-1,46
Region 1	13,8	13,87	8,63	5,24
Region 2	11,0	11,01	10,62	0,39
Region 3	9,4	9,46	10,84	-1,38
Region 4	9,7	9,75	12,52	-2,77
Region 5	10,7	10,72	11,20	-0,48
Region 6	9,2	9,25	9,24	0,01
Region 7	10,2	10,25	10,68	-0,43
Region 8	11,4	11,44	9,53	1,91
Region 9	7,6	7,60	8,66	-1,06
Total		100,0	100,0	
Unassigned	0,3			
Total	100,0			

^(a) Source: Statistisches Bundesamt (Federal Office of Statistics): December 31, 2011

A table in the annex shows the share of users for the total of 93 postal code regions designated by the first two of five digits; Table 5 lists the five regions with the highest difference to the population share (in both directions). The city of Berlin and the neighbouring regions to the south – Dahme-Spreewald as well as Potsdam and Havelland – are over-represented, just like Cologne and the Rhine-Erft region (to the north-west of Cologne) as well as Ahrensburg and Wedel (the

north-western region around Hamburg). However, users living in the city of Hamburg itself are under-represented – as well as users from western Lower Saxony between Osnabrück and the Emsland, the region around Duisburg and Kleve, the areas between Hamm and the Hochsauerlandkreis and between Halle/Saale and Quedlinburg.

Table 5: Postal code regions with the lowest and highest difference between petition signers and total population (in %)

Postal code region	Petition signers	Population share ^(a)	Difference in %-points
Petitions signers are over-represented			
Region 12 (Dahme-Spreewald)	2,78	0,02	2,76
Region 22 (Ahrensburg, Norderstedt, Wedel)	2,66	0,32	2,34
Region 10 (Berlin Innenstadt)	5,75	4,28	1,47
Region 14 (Potsdam, Brandenburg/Havel, Havelland)	1,61	0,83	0,78
Region 50 (Köln, Rhein-Erft-Kreis)	2,36	1,81	0,55
Petitions signers are under-represented			
Region 49 (Osnabrück, Cloppenburg, Emsland, Vechta)	0,97	1,49	-0,51
Region 47 (Duisburg, Krefeld, Kleve, Viersen, Wesel)	1,08	1,62	-0,54
Region 59 (Coesfeld, Hamm, Hochsauerland, Soest, Unna)	0,80	1,42	-0,62
Region 06 (Halle/Saale, Quedlinburg, Zeitz)	0,89	1,65	-0,76
Region 20 (Hamburg)	1,05	2,20	-1,15

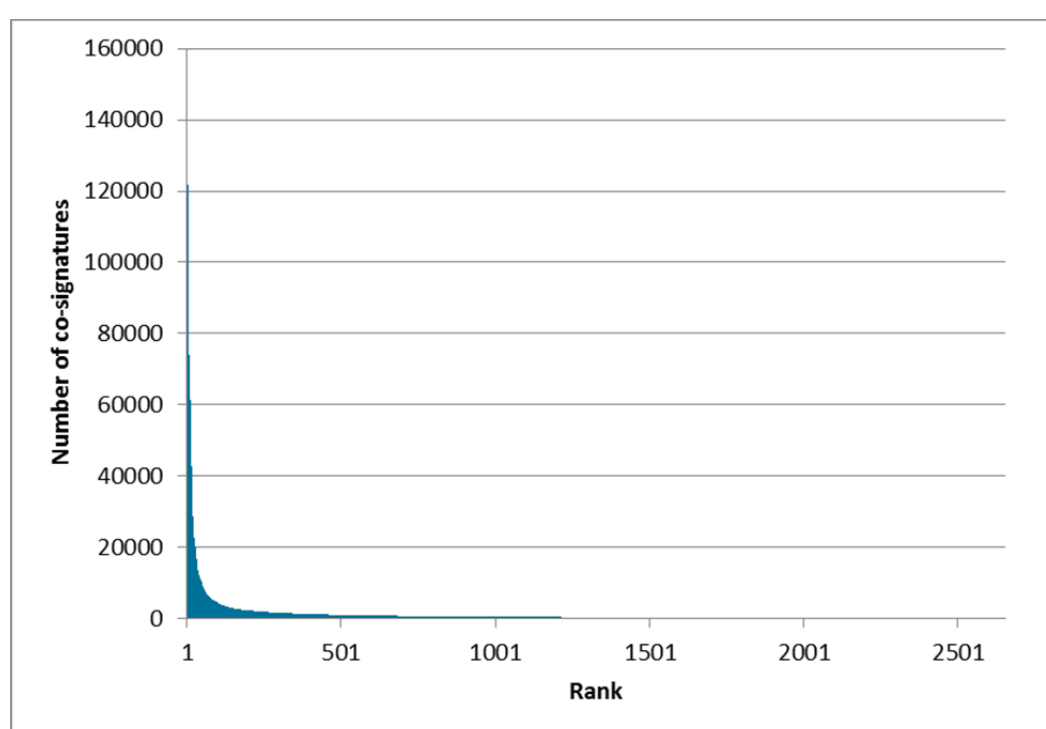
^(a) Source: Statistisches Bundesamt (Federal Office of Statistics), December 31, 2011

4.1.2 NUMBER OF CO-SIGNATURES

The number of co-signatures per petition varies significantly. Since October of 2008, a total number of eleven petitions reached a quorum of 50,000 signatures. The most popular petition in the evaluation period was the "# zensursula"-petition in spring of 2009, a campaign against the "Zugangerschwerungsgesetz" (Access Impediment Act) initiated by Ursula von der Leyen, who was Federal Minister for Family Affairs at that time. The petition reached 133 445 co-signatures. With regard

to all of the petitions however, there is evidence of a pattern that is typical for other forms of online participation too (see Figure 5): A few petitions received a lot of resonance, but most of them did not attract many co-signatures. This is also clearly shown by the quartiles: 25 percent of the petitions reached 173 signatures or less, the next 25 percent reached a number of signatures between 173 and 351 (= median) and another 25 percent reached 766 or less. In other words, 75 percent of the petitions reached only 766 signatures or less. The overall average is 1,311 signatures, but about 85 percent of the petitions reached less than that.

Figure 5: Distribution of signatures per petition (sorted by rank)



There is a statistical correlation between the timeframe in which a petition was open for signing and the total number of co-signatures. There are several aspects to this effect: Firstly, it must be recalled that the signing periods differ over the evaluation period. Petitions between 2008 and 2011 with a signing period of 43 days ($n = 2,035$) reached an average of 1,373 co-signatures, while petitions with a signing period of 28/29 days ($n = 618$) reached an average of 1,105 co-signatures. The difference in mean values is not significant. However, the picture changes if the successful "outliers" ($n = 46$) are left out by only considering petitions with less than 10,000 signatures: Petitions with a signing period of 43 days received an average of 749 signatures while petitions with a signing period of 28/29 days reached only 607 signatures. This mean difference is statistically significant ($T =$

4.941, df 2605, ***) which is not particularly surprising, because it is evident that a petition with a longer signing period has more time to attract supporters.

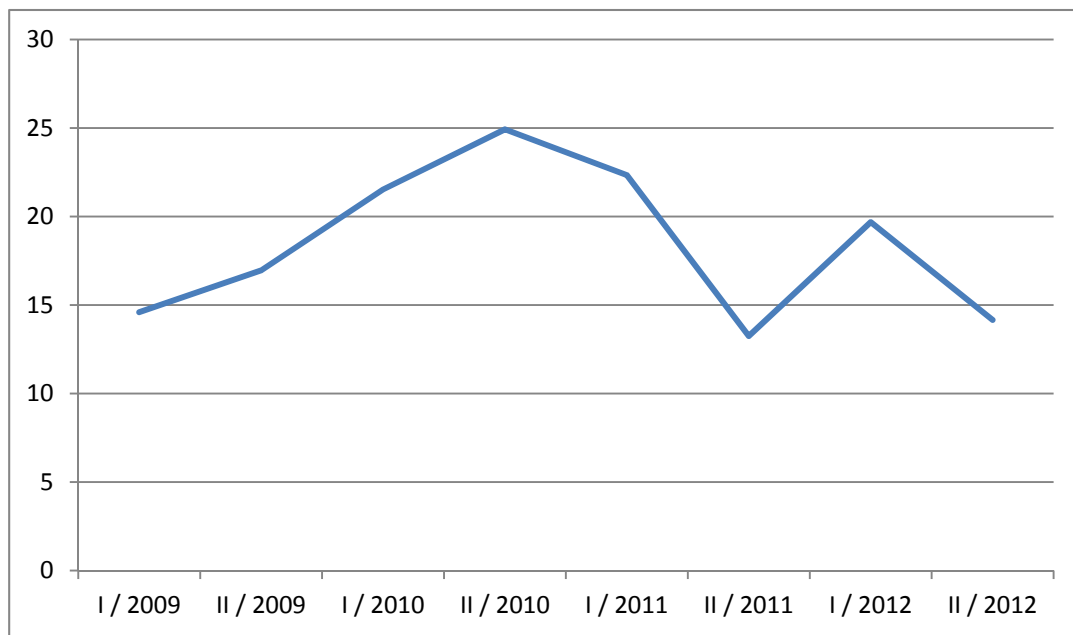
Thus, the petitions can only be compared over the entire period of time with regard to the number of signatures per day. The overall average is 33.4 signatures per day (SD = 163.56) while the median value is 9.1 signatures per day. If the successful outliers are left out, the average value is 17.5 (std.dev. = 26.68) and the median value is 8.9 signatures per day. There is no significant difference between the petitions of longer duration (MV = 17.42) and shorter duration (MV = 17.65) and there is also no significant connection between the respective months since October 2008 and the number of signatures per day ($r = .014$, n.s.). Thus, there is no general "awareness effect" as result of a growing general knowledge of the platform over the years. A breakdown of the average signatures per day by half-year steps even shows an inverted U-shape curve: In the first half of 2009, the petitions reached an average of about 14.5 signatures per day. This value increased to about 25 signatures in the second half of 2010 but decreased again after that, back to 14 signatures per day in the second half of 2012 (see Table 6 and Figure 6). Here, the "outliers" were again not taken into account. If one does, the differences turn out to be statistically insignificant.

Table 6: Average signatures per day, in 6-month-steps (without outliers, n = 2404)

Half year	Mean value	Standard deviation
1.1.2009-30.06.2009	14,59	21,663
1.7.2009-31.12.2009	16,96	25,143
1.1.2010-30.06.2010	21,53	29,191
1.7.2010-31.12.2010	24,93	34,724
1.1.2011-30.06.2011	22,34	30,449
1.7.2011-31.12.2011	13,25	18,618
1.1.2012-30.06.2012	19,68	29,672
1.7.2012-31.12.2012	14,16	26,424
Total	18,24	27,292

Mean differences are significant ($F=7.201$, $df=7$, ***)

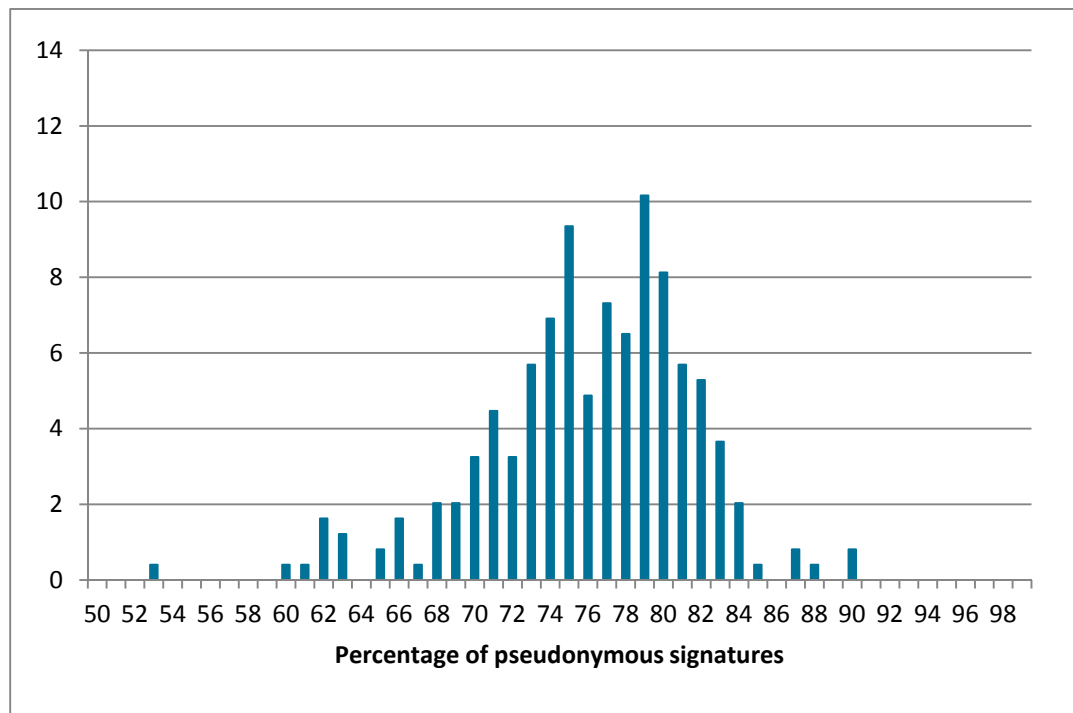
Figure 6: Average signatures per day by half-years (without outliers, n = 2404)



As explained above, since August 16, 2012 users can chose to be listed with a pseudonym rather than their real name on the publicly accessible list of supporters. After this date, there is a small, but statistically not significant increase in signatures: For all of the petitions, the average number of co-signers rose from 32.8 per day (before the change) to 39.9 (after the change). If the outliers with more than 10,000 signatures are left out, the number shows a slight decrease from 17.7 to 15.7 instead, but this difference is also statistically not significant.

The more substantial difference is in the relative share of pseudonymous vs. real name signatures, since co-signers who use their real names are now in the minority: The average proportion of pseudonymous signatures of petitions after the date of change (n = 246) is about 76 percent, while only a quarter of the supporters had their real names displayed. Across petitions, the share of pseudonymous signatures ranges from 53 percent to 90 percent, while the real-name signatures range from 10 to 47 percent, respectively (see Figure 7). Hence, none of the petitions went completely without a real-name signing, but there was also no petition with a majority of real-name signatures.

Figure 7: Petitions with a certain percentage of pseudonymous signatures (in %)



Example: About eight percent of the petitions (vertical axis) showed a ratio of 80 percent pseudonymous signatures (horizontal axis).

4.1.3 PETITION TOPICS

When the Administrative Office of the Petition Committee is checking the petitions for suitability, they assign a topical category to its title. Overall, there were 447 different topics; the ten most common categories represent about 25 percent of the total number of submitted petitions (see Table 7).

Table 7: The ten most common categories

n=656	Cases	Percent
Unemployment benefit II ("Hartz IV")	128	4,8
Statutory health insurance	104	3,9
Consumer protection	77	2,9
Energy industry	71	2,7
Tax policy	56	2,1
Road traffic regulations	56	2,1
Income tax	54	2,0
VAT	41	1,5
Tax laws	36	1,4
Road traffic licensing	33	1,2

The further analysis is based on the compressed set of 14 main subject areas that were manually coded (see above) There are four subject areas that cover about twelve percent of the petitions each and about 50 percent in sum(see Figure 8):

Justice, Health, Finance & Taxes and Labour. All other subject areas represent less than ten percent of the total number of petitions each.

The average number of signatures across all petitions within a subject area differs significantly (see Table 8). Petitions that belong to the subject area "Media" were signed almost 120 times per day, which is nearly twice as often as petitions of the next category "Environment". However, the outliers – i.e. petitions with more than 10,000 signatures – are not evenly distributed among the subject areas: they are significantly more common among the media-related petitions (6.1%) and the environment-related petitions (4.3%) than, for example, in the subject areas of "Economics" (0.5 %) or "Labour" (0.3%). Thus, if we omit these outliers, the subject areas of "Media", "Environment" and "Parliament & Government" show a similar average of about 35 signatures per day. Petitions related to "Consumer Protection" gained about 25 signatures per day, while other topics range between 10 and 20 daily signatures.

Figure 8: Overview of the subject areas (percentage; n = 2,629)

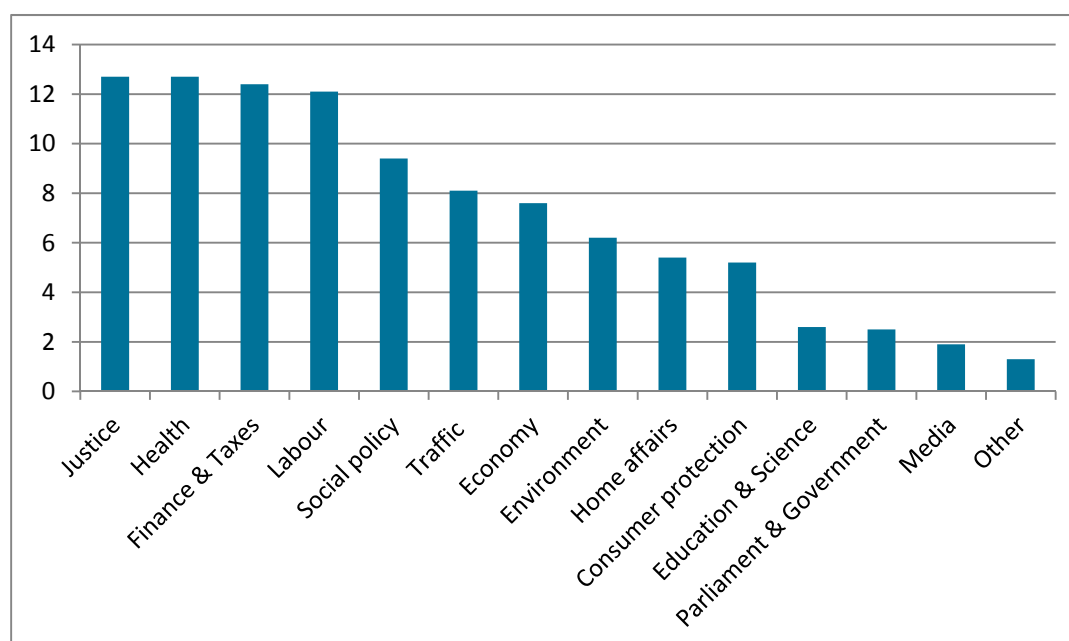


Table 8: Average number of signatures per day and subject area (with vs. without outliers)

n=2628 (with outliers) n=2582 (without outliers)	Share of outliers (%)	Average (with outliers) ⁽¹⁾	Average (without outliers) ⁽²⁾
Total	1,8	33,7	17,6
Media	6,1	118,2	36,0
Environment	4,3	63,6	35,1
Justice	3,3	56,7	16,5
Health	2,7	41,6	17,0
Education & Science	2,9	36,4	14,5
Parliament & Government	0	35,6	35,6
Social policy	2,0	32,9	12,9
Finance & Taxes	1,8	25,8	12,8
Consumer protection	0	25,7	25,7
Home affairs	0,7	23,0	20,0
Economy	0,5	20,1	17,9
Labour	0,3	13,7	12,5
Traffic	0	12,5	12,5
Other	0	12,2	12,2

Note: ⁽¹⁾ F=2.920; df=13; significance: 0.000 ⁽²⁾ F=14.089; df=13; significance: 0.000

The average share of male petition signers is 69.1 percent, and again we find significant differences between the different subject areas (see Table 9): Petitions dealing with "Traffic", "Parliament & Government" and "Media" have 75 percent male petition signers on average, while their share among "Health" and "Environment" petitions is significantly lower at about 60 percent.

Table 9: Average proportion of male/female petition signers by subject area (%)

n=2628	Men	Women
Total	69,13	30,87
Traffic	77,48	22,52
Parliament & Government	77,41	22,59
Media	76,98	23,02
Home affairs	74,17	25,83
Finance & Taxes	73,40	26,60
Justice	73,01	26,99
Economy	71,74	28,26
Other	71,06	28,94
Labour	67,97	32,03
Consumer protection	65,62	34,38
Social policy	63,76	36,24
Education & Science	63,55	36,45
Health	61,12	38,88
Environment	60,21	39,79

Note: F=50.755; df=13; significance 0.000

We can also calculate the share of petitions which were signed by a majority of men or women, respectively (see Table 10). Overall, almost all petitions (92.2 %) were signed by a male majority. In each of the four subject areas of "Social policy", "Consumer protection", "Education & Science" and "Health", between 10 and 20 percent of the petitions were signed by a majority of women, and even more than a quarter (26.8%) of petitions from "Environment".

Table 10: Percentage of petitions with a majority of male/female petition signers by subject (%)

n=2628	Male majority	Female majority
Total	92,2	7,8
Economy	98,5	1,5
Parliament & Government	98,5	1,5
Finance & Taxes	98,2	1,8
Traffic	98,1	1,9
Media	98,0	2,0
Labour	97,8	2,2
Other	97,1	2,9
Home affairs	96,5	3,5
Justice	96,4	3,6
Social policy	88,7	11,3
Consumer protection	83,8	16,2
Education & Science	82,6	17,4
Health	82,0	18,0
Environment	73,2	26,8

The five petitions with the highest proportion of women among the petition signers are listed in Table 11. Three of them reached a four-digit amount of signatures. Table 12 shows the five petitions with the highest percentage of male petition signers, which however all have less than 500 signatures. The petition "Against a ban on Action Computer games" shows both a notable total number of signatures and also a striking percentage of male supporters: it received more than 70,000 signatures, 92 percent of them by male signers.

Table 11: Petitions with the highest proportion of female petition signers

Petition ID	Title	Female signers	Total signers
18362	Gender Equality Law – No change to the Federal Equal Opportunities Act concerning active and passive voting rights (14/06/2011)	89,55	220
17335	Gender Equality Law – Increase of the proportion of women and a female quota for supervisory boards (24/03/2011)	89,31	5583
16939	Gender Equality Law – A Quota for women in management positions (08/03/2011)	85,29	2108
13215	Panel Doctor's Law – Recalculation of practice-related standard benefits for gynaecologists (26/07/2010)	77,54	423
20125	Plant Protection – Obligation to report and abatement of the highly toxic ragwort plant (20/09/2011)	76,35	4046

Table 12: Petitions with the highest percentage of male petition signers

Petition ID	Title	Male signers	Total signers
8059	Federal Council – Unanimity in dismissals by the Federal Council (28/10/2009)	97,22	36
24009	Armament projects – Delayed implementation of armament projects (08/04/2012)	96,12	103
5764	Badge of Honour – Medals for military duty (02/07/2009)	95,97	347
4479	Aviation Regulation – Commercial use of single engine airplanes (7/05/2009)	95,93	295
...	...	...	...
4958	Offences against public order – Against a ban on Action Computer Games (05/06/2009)	92,29	72829

As mentioned above, only about 25 percent of the signatures are still displayed under the real names of the petition signers. In this respect, slight, but statistically not significant differences can be found between the different subject areas (see Table 13). The subject area "Parliament & Government" has the highest proportion of real-name signatures (28%), while the "Media"-category has the lowest proportion (20%).

Table 13: Real-name signatures: average percentage of signatures per topic (with/without outliers)

n=245 (with outliers) n=240 (without outliers)	Share of real names (with outliers) ⁽¹⁾	Share of real names (without outliers) ⁽²⁾
Total	24,04	23,98
Parliament & Government	28,00	28,00
Social policy	25,92	25,92
Justice	25,91	26,10
Labour	25,35	24,94
Home affairs	24,60	24,21
Economy	24,11	24,11
Environment	23,73	23,73
Finance & Taxes	23,68	23,56
Education & Science	23,44	23,44
Other	23,00	23,00
Health	22,65	22,65
Traffic	22,47	22,47
Consumer protection	21,78	21,78
Media	20,33	20,33

Note: ⁽¹⁾ F=1.427; df=13; significance: 0.148 ⁽²⁾ F=1.414; df=13; significance: 0.154

4.1.4 SIGNING OVER THE COURSE OF TIME

The success of petitions, regardless of online or offline, largely depends on how successful the petitioners are in mobilising other supporters. Analytically, several different distributions of signatures over time possible: e.g. a consistent activity throughout the signing period, peak activities at the beginning of the signing period or a rush towards the end ("final sprint"). Empirically, we assessed the prevalence of these distributions with a (relatively coarse) procedure: We divided the signing period in three phases and calculated the share of the total number of signatures a petition gained within each phase (an overview of the ideal-typical forms can be found in Figure 9). We then defined four different types:

- Type A: More than 50% of the total number of signatures were made in the *first phase* of the signing period and less than 30% in each of the other two phases each;
- Type B: More than 50% of the total number of signatures were made in the *second phase* of the signing period and less than 30% in each of the other two thirds;
- Type C: More than 50% of the total number of signatures were made in the *third phase* of the signing period and less than 30% in each of the other two thirds;
- Type D: More than 25% and less than 40 % of the total number of signatures were made in each of the three phases.

It is to be noted that about 35 percent of the petitions could not be assigned to one of the categories, e.g. when they had relative peaks of 45% in two of the three phases and a mere 10 percent in the remaining phase. Of the almost 1,700 petitions that we were able to assign to one of the four types, the vast majority (85%) was of Type A, i.e. they gained more than half of their total signature within the first third of the signing period (see Table 14).

Figure 9: Visualization of the ideal-typical patterns of signing over time

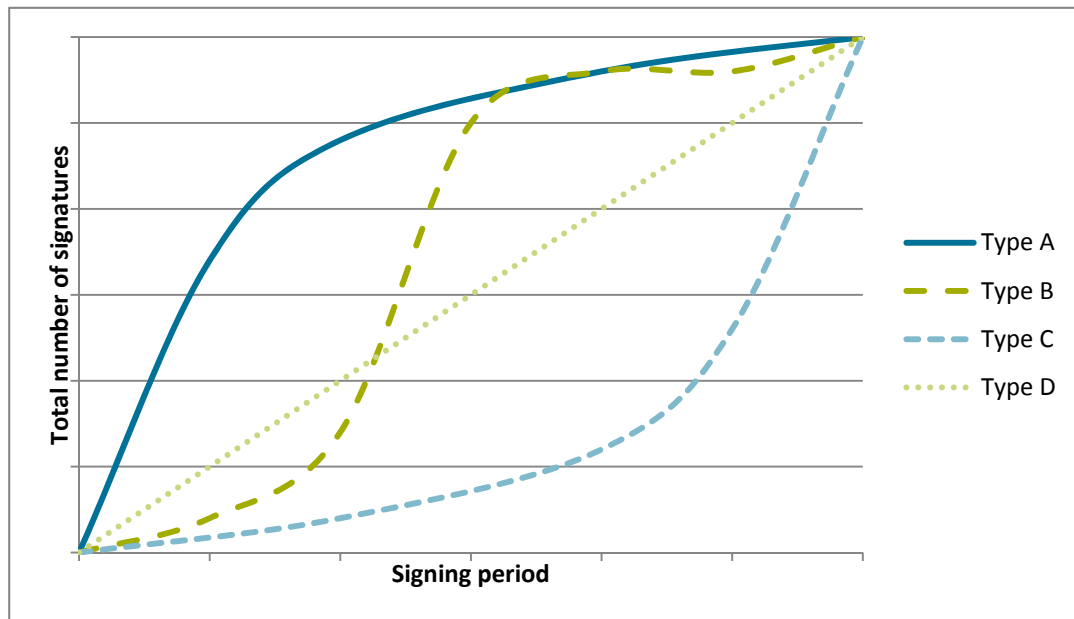


Table 14: Share of different trend types

n=1682	Absolute	Percent
Type A (>50% in 1st phase)	1423	84,6
Type B (>50% in 2nd phase)	24	1,4
Type C (>50% in 3rd phase)	86	5,1
Type D (uniformly)	149	8,9

For the categorized petitions, the average number of signatures per day is about 32.5 (see Table 15). Type B and C petitions get significantly higher amounts of signatures per day, ranging at about 150. On the other hand, petitions that reached more than half of their total number of signatures during the first phase of the signing period range at an average of only about 22 signatures per day.

Table 15: Mean values of the number of signatures per day by trend types

n=1682	Mean value	Std.Dev.
Trend type A	22,4	123,6
Trend type B	150,8	497,1
Trend type C	155,1	503,7
Trend type D	35,1	76,2
All categorised petitions	32,2	175,2
All petitions (n=2653)	33,4	163,6

Note: F=19.886; df=3; significance: 0.000

Comparing the (few) petitions that received more than 10,000 signatures and the remaining petitions we find a striking difference: only half of the most successful petitions can be appointed to Type A, but about one-third of them belongs to Type C (see Table 16). Of the petitions that received more than 50,000 signatures and thus reached the quorum, four belong to Trend-type C, three to Trend-type A and one to Trend-type B (see Table 17; three of these petitions cannot be appointed to one of the four types). Thus, all eight successful petitions do not show a relatively stable increase of signatures over time, but had a distinct peak of signatures in one of the three phases. Comparing subject areas, we find some small differences in the distribution of types, but in all cases type A outweighs the other types by far (see Figure 10).

Table 16: Proportions of Trend-types by total number of signatures (in %)

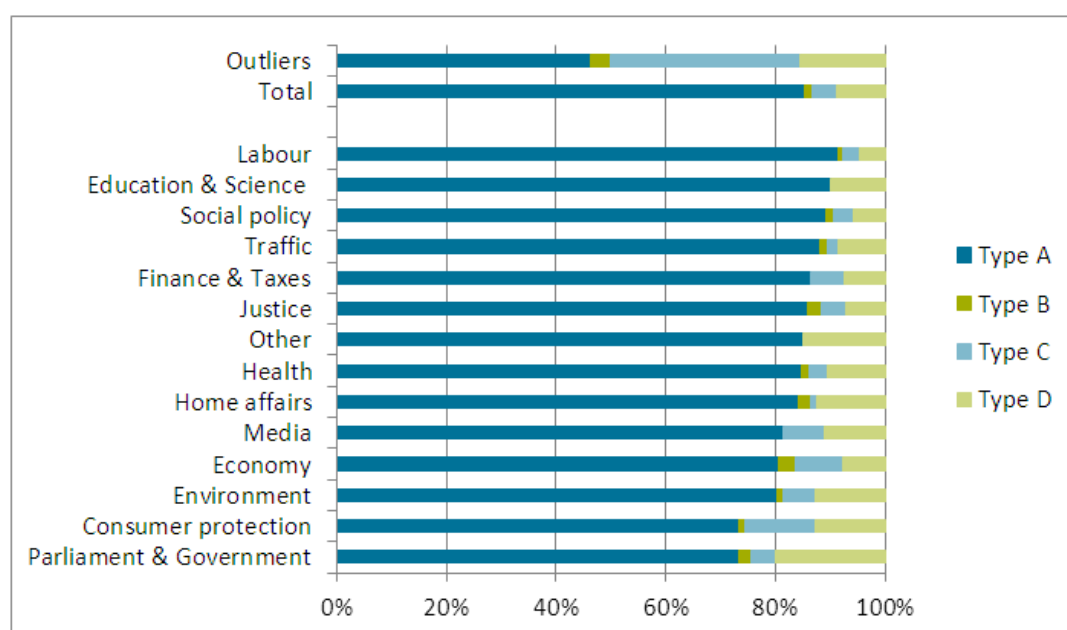
n=1682	Type A	Type B	Type C	Type D
Total	84,6	1,4	5,1	8,9
<i>By popularity ⁽¹⁾</i>				
Less than 10,000 signatures (n=1656)	85,2	1,4	4,6	8,8
More than 10,000 signatures (n=26)	46,2	3,8	34,6	15,4
<i>By duration of signing period⁽²⁾</i>				
Long (43 days)	87,5	1,5	4,7	6,3
Short (28/29 days)	72,3	0,9	6,9	19,8

Note: ⁽¹⁾ Fisher's exact test = 30.060, sig. < 0.000 ⁽²⁾ Fisher's exact test = 53.501, sig. < 0.000

Table 17: Different trend types among "quorum petitions"

Number of signatures	Share in most successful phase	Petition title
<i>Type A</i>		
72.829	88,96% (64.789)	Crimes against public order – Against a ban on Action Computer games (05.06.2009)
105.241	86,01% (90.518)	Health professions – Immediate measures to ensure community-based midwife assistance (14.04.2010)
133.445	64,31% (85.818)	Internet – No indexing or blocking of websites (22.04.2009)
<i>Type B</i>		
106.349	64,00% (68.063)	Civil law – Gesellschaft für musikalische Aufführungs- und mechanische Vervielfältigungsrechte (GEMA - the German equivalent of a Performing Rights Society) (19.05.2009)
<i>Type C</i>		
55.492	77,32% (42.906)	VAT – Tax exemption for private schools of ballet, dance or music (01.08.2012)
73.895	82,54% (60.993)	Nuclear power supply and waste disposal - Compliance with the contracts to shut down the nuclear power plants until 2023 (17.08.2010)
80.600	92,78% (74.781)	Fundamental questions of statutory pension insurance laws – No compulsory pension insurance for self-employed workers (28.03.2012)
121.678	96,66% (117.614)	Drug policy – No implementation of the EU ban on sale of medicinal plants (20.09.2010)

Figure 10: Proportions of Trend-types in the subject areas and among the "outliers" (in %; n=1679 + 26 outliers)



4.1.5 THE “SPILL-OVER EFFECT” OF SUCCESSFUL PETITIONS

Jungherr and Jürgens (2011) had suggested the effect of a "Co-Signing Overspill": especially successful petitions (defined as petitions with more than 10,000 co-signatures) appear to have a positive effect on the other "smaller" petitions that are open for signing in the same period of time. "In times when especially successful e-petitions attract a lot of supporters, the number of signatures for the lesser successful petitions increases too. Thus, political participation leads to more political participation." (Jungherr and Jürgens, 2011, p. 530; own translation).

We found this effect in our data as well – however, due to the data structure, not based on a measure of statistical dependence of time series as in the work of Jungherr and Jürgens, but based on a comparison of the average number of signatures per day. For this purpose, each of the petitions was checked to see whether its signing period overlapped with the signing period of one of the especially successful petitions for at least one day.

43 percent of all the petitions coincided with a "quorum petition", meaning one of the petitions with more than 50,000 signatures. If the limit for a “successful” petition is lowered to 10,000 or more signatures (as in the work of Jungherr and Jürgens) this even applies to 88 percent of all the petitions (see Table 18).

Table 18: Share of petitions where signing period overlapped with successful petitions

n=2653	>10.000 petition signers		>50.000 petition signers	
	Amount	Percent	Amount	Percent
Petition could be signed in such a period	2342	88,3	1139	42,9
Petition could NOT be signed in such a period	311	11,7	1514	57,1

To check for the Spill-Over Effect, all petitions with less than 10,000 signatures were considered (see Table 19). If the signing period coincided with the signing period of one of the “quorum petitions”, the respective petitions reached an average of about 19.1 signatures per day, which is about three more than petitions that did not coincide with such a period (16.3). If the criterion for "successful" is raised in order to include petitions with more than 10,000 co-signatures, the correlation becomes even more evident. Petitions that coincided with a successful petition were able to gather almost twice as many signatures per day (18.5) than the others (9.6).

Table 19: Average number of signatures per day by signing period

n=2607 ^(a)	>10.000 petition signers ^(b)		>50.000 petition signers ^(c)	
	Mean value	SD	Mean value	SD
Petition could be signed in such a period	18,5	27,519	19,1	28,728
Petition could NOT be signed in such a period	9,6	17,247	16,3	24,966

(a) Average calculated by only considering petitions with less than 10,000 signatures.

(b) F=30.494 df=1; significance: 0.000 ***; (c) F=6.908 df=1; significance: 0.009 **

4.2 SURVEY

In this section, we present findings from the online survey among the users of the petitioning platform. After outlining basic socio-demographic indicators and patterns of use (Chapter 4.2.1), we then focus on the petitioners (Chapter 4.2.2), the signers of petitions (Chapter 4.2.3) as well as the forum users (Chapter 4.2.4). We conclude with findings on other forms of political participation among the respondents (Chapter 4.2.5). Where possible, we contrast our results with findings of the studies conducted during the second evaluation of the petitioning platform, especially with regard to the platform users (see Albrecht 2010) and the petitioners (cf. Escher 2010).

4.2.1 BASIC SOCIO-DEMOGRAPHIC INDICATORS AND USER BEHAVIOR

There is a significant majority of men (74.9 %) over women (25.1%) among the survey participants. The overall age average of the survey participants is 39.5 years (Std. dev.: 13.7 years), ranging from 13 to 73 years (see Table 20). Many of the survey participants have a high level of formal education: almost half of them (48.5 %) have a university degree – and another quarter (23.7 %) has a higher education qualification (the German “Abitur”). Our survey shows roughly the same socio-demographic pattern as the ZebraLog study: About three quarters of the survey participants were male – and about three quarters of the survey participants had a higher education qualification. There is a slight difference in the comparison of the age groups: In both surveys, the largest age group is that of the 20-to-29-year-olds, although they are slightly less overrepresented in the present survey in comparison to the ZebraLog study, while there is a larger group of 40-to-60-year-olds in the survey of 2013 than in the survey of 2010.

Table 20: Age groups of platform users (in %)

n=235	2013	2009 ^(a)
19 and below	4,7	6,3
20 to 29	25,5	33,2
30 to 39	21,3	22,4
40 to 49	24,7	20,9
50 to 59	14,9	10,6
60 and older	8,9	6,6

(a) Source: Albrecht 2010, p. 11

On average, the survey participants have been using the Internet for 14.4 years (std.dev.: 5.1 years). About one third (32.8 %) came across the platform during the previous 6 months – and about one in ten survey participants (11.1%) had visited the platform for the first time on the day of taking part in the survey. About two thirds of the survey participants (64.8 %) were familiar with the platform for more than half a year.

Not all respondents use the different functionalities of the platform to the same extent (see Table 21). 90 percent indicated that they had signed petitions on the platform, while only 15 percent stated to have also submitted own petitions. About two out of three (69.3%) indicated to have searched the platform for specific petition topics, while somewhat less than half of the survey participants (45.1%) stated to frequently browse the information-section and the contents for news. Approximately one in five survey participants (21.3%) is using the discussion forum on petitions.

Table 21: Typical use of the platform (in %; multiple answers possible)

n=244	Percent
Submitting own petitions	14,3
Signing of petitions	88,1
Retrieving specific information on one or more petition(s)	69,3
Using the discussion forum	21,3
Browsing the platform to see whether there are any news	45,1

To get an impression of the survey participants' knowledge concerning the formal procedures of petitioning, they were confronted with a knowledge question (see Table 22): Approximately two fifths of the survey participants indicated correctly that the Petitions Committee will usually hear the original petitioner in person if the petition reaches the quorum of 50.000 co-signatures. A similarly large group assumed that this were a mandatory provision.

Table 22: Knowledge question (in %; multiple answers possible)

n=244; "If a petition gets more than 50,000 signatures, ..."	Percent
...the German Bundestag must implement the concerns of the petition	0,8
...the Petitions Committee of the German Bundestag must implement the concern of the petition.	4,1
...the Petitions Committee must hear the petitioner in person.	38,1
...the Petitions Committee will usually hear the petitioner in person. [correct answer]	41,8
...it only gives the petition more ideational weight.	11,9
I don't know.	3,3

4.2.2 SUBMISSION OF PETITIONS

Out of the 14.3 percent of respondents who already had submitted a petition of their own, most (28 of 35)⁷ had submitted a public petition that could be co-signed by others. About half of the petitioners (18 of 35) indicated that their last petition was related to an issue that concerns the entire population. Fewer survey participants (15 of 35) indicated that their petition concerned only a certain population group. Two of the survey participants were not able to answer to this question.

These findings are quite similar to the results of the survey conducted in 2009 (cf. Escher 2010, p. 31) which focused on people who submitted their own petitions. In 2009, about one third of the petitioners who submitted conventional petitions (that could not be co-signed by others) stated that their petition would affect only a single person (themselves or somebody else). The survey participants were also asked to assess several reasons for the submission of their online petition (see Table 23). The statement that that the petitioner had hoped to be able to draw the Bundestag's attention to his/her concerns was agreed to most, followed by the statements that submitting a petition was seen as a cost-efficient possibility to draw public awareness to the respective concerns as well as the possibility to start a public debate. The statements that online petitioning could entail the most public response or raise the most support were seen as less important. The findings of the ZebraLog survey do not match these findings in exact figures, but the ranking of the reasons is similar.

⁷ Since the group of survey participants who had already submitted a petition was fairly small – 35 individuals – we will give absolute numbers instead of percentages in this subsection.

Table 23: Reasons for submitting an online petition (mean values)

n=28-32; "I submitted my last petition, because..."	2013	2009 ^(a)
... I hope that the Bundestag will consider my concerns.	1,19	1,42
... it is important for me to discuss my concerns publicly.	1,75	1,56
... e-petitions will help me to receive the most support.	2,00	1,64
... e-petitions will help me to gain the most public attention.	2,59	1,89
... e-petitions can be filed without much effort.	1,60	-*

Note: The scale ranged from 1 ("I fully agree") to 4 ("I strongly disagree"). *=not queried

^(a) Source: own calculation based on Escher 2010, pp. 119ff

4.2.3 SIGNING OF PETITIONS

Many of the survey participants (88%) stated to have signed at least one petition before. About half of them indicated to have signed several petitions a year on the platform of the German Bundestag, while about a quarter even do so once or several times a month (see Table 24).

Table 24: Frequency of petition signing

n=214	Percent
Once per week or more	8,9
Approximately once per month	17,3
Several times a year	50,9
Rarely	18,7
For the first time today	4,2

Also, the majority of the co-signers stated that the last petition they signed concerned the entire population (see Table 25). Slightly more than one fifth signed a petition for a group they do not belong to themselves, slightly less signed a petition for a population group to which they belong.

Table 25: Persons/groups affected by the petition

n=215	Percent
A single person	1,9
A group of people or part of the population that I belong to	17,2
A group of people or part of the population I do not belong to myself	22,3
The entire population	56,3
I can't say	2,3

About a quarter of the co-signers always make use of the possibility to sign a petition pseudonymously, while about 13 percent do so in most cases (see Table 26). Conversely, about 17 percent mostly sign petitions with their real names displayed – and roughly a third of the survey participants do so in any case.

Table 26: Using pseudonym vs. real name when signing petitions

n=215	Percent
Always under a pseudonym	27,0
Mostly under a pseudonym	13,5
Sometimes under a pseudonym and sometimes by real name	11,2
Mostly by real name	16,7
Always by real name	31,6

About half of the respondents came across the petition they signed on the platform itself (see Table 27). About one third were notified via social media services such as Facebook or Twitter – and about one fifth learned about the petition by journalistic coverage, press releases, via e-mail or by an especially designed website.

Table 27: Learning about the petition (multiple answers possible)

n=215	Percent
On the petition platform itself	46,5
Via social media, such as Facebook or Twitter	34,4
Via journalistic coverage	22,8
Via e-mails	21,9
Via an especially designed website for the petition	21,4
Via press releases	18,1
Via a personal conversation	11,2
Via supporting organization(s)	10,2
Via another way	4,7
Via leaflets, posters or other information on paper	1,4
I can't remember	1,4

The petitioners primarily hope that the Bundestag will show consideration of the petition's concerns (see Table 28). Largely, the survey participants also agree to the other given reasons, whereas the possible reason that a petition can be signed without much effort turned out to be the least adoptable.

Table 28: Motives for signing petitions (in %)

n=211-215; "I signed my last petition, because..."	Mean value	SD
... I want the Bundestag to address the concerns	1,14	,414
... I am convinced of the concerns and arguments of the e-petition	1,47	,621
... I want the concerns to be discussed publicly	1,48	,730
... it reflects my opinion well	1,57	,600
... e-petitions can be signed without much effort	1,79	,978

Note: The scale ranged from 1 ("I fully agree") to 4 ("I strongly disagree"). * = not queried

4.2.4 USE OF THE FORUM

The petitioning platform of the German Bundestag includes a discussion forum to comment on any of the petitions. The majority of the survey participants (86.9 %) are aware of this feature, but about one third does not use the forums at all (see Table 29). A slightly larger group (35.7 %) follows and reads the comments – and about 20 percent of the survey participants stated that they post own messages to the forum.

Table 29: Use of the forum

n=244	Amount	Percent
Yes, I know the forum, but do not use it	77	31,6
Yes, I write and read posts	48	19,7
Yes, I read posts	87	35,7
No, I don't know about the forum	32	13,1

The two latter groups – the active users and the "Lurkers"⁸– were asked to assess the forum in general as well as other users' contributions (see Table 29). Active forum users are not only more convinced that the forum enables them to interact with other citizens than the Lurkers, but they also showed a higher approval of the forum as a means to shape one's own opinions. Both groups, however, are similar undecided whether the forum could also be of help for the Committee on Petitions. Further, both groups tend to disagree that the forum could further an exchange between the public and the members of parliament.

Table 30: Comparison of mean values of the forum-assessment (by use of the forum)

n=110-133	Active users	Lurkers	Total
Using the forum helps me to shape an opinion on certain petitions	1,77	1,91	1,86
Using the forum helps the Petitions Committee to address the respective petition	2,51	2,56	2,55
The forum enables me to exchange views with other citizens *	1,65	1,95	1,84
The forum helps to improve the exchange between citizens and members of parliament	3,18	3,12	3,14

Note: The scale ranged from 1 ("I fully agree") to 4 ("I strongly disagree"). The mean value was calculated by leaving out the answer "I don't know". Significance of differences between means: * <0.05 ** <0.01 *** < 0.001 (ANOVA).

⁸ Here, the term "Lurkers" describes Internet users who follow communication (e.g. on a mailing list or in a forum) but don't actively contribute posts and comments. Therefore, they usually remain invisible for other users.

The active users and the Lurkers both more or less agree as to what extent the comments are informative or an useful supplement (see Table 31). They are slightly less convinced that user comments are "objectively formulated" or "of high quality". Among the active users, comments are seen as slightly more credible than among the Lurkers.

Table 31: Comparison of mean values of the forum-post assessment, depending on use of the forum

n=129-134	Active users	Lurkers	Total
credible*	2,43	2,71	2,61
of high quality	3,00	2,94	2,96
informative	2,31	2,45	2,40
a useful supplement to the petition	2,21	2,22	2,22
objectively formulated	2,87	2,79	2,81

Note: The scale ranged from 1 ("I fully agree to") to 5 ("I strongly disagree"). The mean value was calculated by leaving out the answer "I don't know". Significance of differences between means: * <0.05 ** <0.01 *** < 0.001 (ANOVA).

4.2.5 POLITICAL PARTICIPATION

There are a number of other Internet platforms that support the submitting and signing of petitions, but lack a similar connection to parliamentary processes and structures as the platform of the German Bundestag. Four of these platforms – openpetition.de, Avaaz, Campact and change.org – have each been used before by around 40 percent of the respondents (see Table 32), while care2.com and petition24.de are not as commonly used. About one-fifth had already used one (20.5%) or two (21.7%) of these platforms, more than a quarter (27.5 %) had even used three or more. About a third (30.3%) of the survey participants had not yet used any of them.

Table 32: Use of different online petition platforms (in %)

n=233-240	Used before	Known, but not been used before	Unknown
openPetition.de	36,6	24,8	38,7
Avaaz.org	38,9	16,3	44,8
Campact.de	41,3	15,0	43,8
Change.org	41,0	21,4	37,6
Care2.com	1,7	11,2	87,1
petition24.de	8,5	21,3	70,2

Survey participants were also asked about other forms of political participation, drawing on questions from population-representative ALLBUS survey of 2008

(GESIS 2010). First, we asked which other forms of political participation would be imaginable (see Table 33). The results show that, firstly, the platform users are more likely to participate in other forms of participation than the overall population of Germany and that the difference in numbers is mostly (much) higher than ten percentage points. The only suggested answer that reached more or less the same results in both samples was the option to boycott an election as a form of protest, which less than 15 percent can imagine to do.

There is a particularly high discrepancy concerning the option to actively take part in an online-protest action: Only 17 percent of the German population surveyed in 2008, but 90 percent of the platform users questioned in 2013 could imagine to do so. However, it must be suspected that there is an especially strong effect of the time interval between the interviews and also of the fact that the findings are based on a comparison between an “online-only”-sample and a population-wide sample. The platform users also showed considerably more readiness to boycott products for political or ethical reasons, to take part in demonstrations or to participate in meetings or citizens' initiatives.

Table 33: Assessment of political participation possibilities (%)

n (HBI/HIIG 2013)=240-243 n (ALLBUS 2008) = 3333	imaginable, in principle	
	HBI/HIIG 2013	ALLBUS 2008
Turn out to vote	96,3	83,4
Express one's opinion among friends or at work	95,9	80,2
Participate in a petition / signature campaign	93,8	66,4
Participate in an online protest	90,9	17,1
Buy or boycott a product based on political, ethical or environmental reasons	84,0	39,4
Participate in an approved demonstration	81,0	37,1
Participate in meetings or public discussions	70,7	41,0
Participate in citizens' initiatives	70,4	31,9
Vote for another party than the usual favourite as a form of protest	43,6	23,1
Become an active member of a political party	41,5	13,8
Take part in an unauthorized demonstration	38,8	7,7
Boycott an election as a form of protest	14,9	13,1

The differences in the general tendency for political participation can also be found in the results for the question what forms of participation the survey participants had actually exercised recently (see Table 34). Again, the discrepancy concerning online protests is especially distinct. In addition, more than three quarters of the users of the petition platform, but only about a third of the

population, had taken part in a collection of signatures for political purposes (online petitions or other forms) during the past two years.

Table 34: Use of political participation possibilities (%)

n=36-231 (HBI/HIIG 2013) n=3032 (ALLBUS 2008)	performed / involved in recently (since 2011) HBI/HIIG 2013	involved in from the beginning of 2006 until 2008 ALLBUS 2008
to express one's opinion in a circle of friends or at work	91,8	76,5
to buy or to boycott a product based on political, ethical or environmental reasons	83,3	22,8
to participate in a petition / signature campaign	78,3	32,0
to participate in an online protest	77,2	6,1
to turn out to vote	75,3	67,7
to participate in meetings or public discussions	55,6	16,0
to participate in an approved demonstration	44,6	6,7
to vote for another party than the usual favourite as a form of protest	33,0	5,8
to become an active member of a political party	30,3	2,3
to participate in citizens' initiatives	19,6	4,7
to boycott an election as a form of protest	19,4	3,6
to take part in an unauthorized demonstration	11,8	0,6

Finally, the survey participants were asked to assess various general statements about politics and online participation (see Table 35). The findings show that a majority of the survey participants seem to be rather sceptical towards "politics" in general, because they tend to agree to the statement that politicians don't care much about the "people's" concerns. Those respondents who had already submitted a petition before showed more approval of this statement than the other survey participants. Initial petitioners seem to be also slightly more sceptical concerning the possibilities for citizens to influence government decisions than users who had so far merely signed petitions. However, they do not tend to think that politics are too complicated. These differences are statistically insignificant.

However, there is a very clear and statistically significant difference to be found in the evaluation of the pseudonymous petitioning: The users who only signed a petition clearly reject the statement that only real-name-petitioners can be taken seriously, while petitioners tend to disagree less. All survey participants rejected the

statement that politics could only be influenced by participation beyond the Internet.

Table 35: Political attitudes, depending on activity on the platform

n=233-240	Petitioners	Co-signers	Neither	Total
Politicians don't really care about what the people think.	1,91	2,10	2,09	2,07
Ordinary citizens have no means to influence government decisions.	2,31	2,63	2,32	2,56
Sometimes, politics are too complicated for someone like me.	3,03	2,82	2,91	2,86
If a petition is not listed by real name, the petition signer is not to be taken seriously. ***	2,94	3,48	2,71	3,34
Politics can only be influenced by participation beyond the Internet.	2,73	2,99	2,86	2,94

Note: The scale ranged from 1 ("I fully agree") to 4 ("I strongly disagree"). The mean value was calculated by leaving out the answer "I don't know". Significance of differences between means: * <0.05 ** <0.01 *** < 0.001 (ANOVA).

5. Discussion

During recent years, online petitions have become an important element of political participation and, as a consequence, of academic research. The present study aimed to provide insights on the Petitioning Platform of the German Bundestag by combining an analysis of the platform database with the results of an online-based user-survey. Our findings are mostly in line with those of previous studies, in particular the evaluation studies conducted by the Office of Technology Assessment at the German Bundestag and the work of Jungherr and Jürgens. At the same time, our study presented some new findings as well, mainly regarding the introduction of pseudonymous signing in 2012 and its effects. Based on the key questions mentioned in Section 3, we can summarize our results as follows:

1. *Which patterns of petitioning behaviour can be identified over a longer period of time?*

Measured by the number of signatures, support for petitions is distributed quite unevenly: only some of the petitions manage to reach several thousand supporters or even the quorum of 50,000 signatures; the vast majority of public petitions collects only a few hundred co-signatures or less. This comes as no surprise, as it confirms the findings of the previous studies on the E-Petition Platform of the German Bundestag (Jungherr and Jürgens 2010; 2011), and also a study on the

petitioning platform of the British government (Yasseri et al. 2013). Beyond these previous works, the present study is able to identify differences between the subject areas of the petitions. Almost half of the petitions are related to four out of 14 subject areas (Justice, Health, Finance & Taxes, Labour). However, these subject areas are not the ones in which the most successful petitions can be found. The most signatures per day – on average – go to petitions related to media-issues, followed by petitions focusing on environmental issues and Justice, if all petitions are included. If the average values are calculated without the most successful outliers, the topics of Media, environmental issues and the subject area of Parliament & Government are on roughly the same level.

Based on the available data we cannot verify whether these differences are due to the fact that such subject areas generally tend to show a higher campaigning- or mobilization capacity. However, we can see that successful and unsuccessful petitions differ in the trend of signatures over time. The vast majority of petitions reach more than half of the total number of co-signatures during the first third of the signing period. Simply spoken, these petitions fail to gather support over a longer period of time or even to mobilize a "final sprint" in signing. Among the petition topics that receive the most attention, there is a significantly higher number of petitions with a continuous accumulation of signatures or even a peak in the last third of the signing period. In fact, half of the petitions that reached more than 10,000 signatures belong to these two types. Future research should focus more on such time-related patterns to help to understand the dynamics of political support for online-petitions.

The present study also confirmed another temporal effect which Jungherr / Jürgens had labeled "Co-Signature Overspill". Our data also show that petitions can benefit from coinciding with an exceptionally successful petition. The user survey supported these findings, showing that about half of the petition signers come across the respective petitions by visiting the platform itself. It seems plausible that users who visit the platform to sign a widely discussed popular petition will also come across other petitions and decide to support them. Petitioners cannot plan such "deadweight effects", because the Administrative Office of the Petitions Committee needs an audit phase⁹ to approve of the petition

⁹ The audit phase usually lasts a few days, provided that there is no necessity to obtain further opinions or statements from affected bodies such as ministries (oral statement by administrative staff, March 14, 2014).

first. Furthermore, it would probably not be in accordance with the basic concept of democracy if a petitioner were to hold back legitimate concerns in order to wait for a "favourable signing timeframe" that coincides with another successful petition. However, the findings clearly show that there are more factors that determine whether a petition will be able to attract supporters, beyond the basic characteristics of the petition itself. Here, further research is needed which should, for example, examine the influence of whether a petition is announced on the platform's landing page or whether there are links from social media services such as Facebook or Twitter.

2. *Did the introduction of the pseudonymous signing option change user behaviour?*

The option to co-sign a public petition by a pseudonym instead of one's real name which was introduced in 2012 has not led to a general increase in signatures. However, the vast majority of signatures was since then carried out using the pseudonym; none of the examined petitions showed a majority of real-name petition signers. It seems plausible to assume a "default effect": For co-signers, the default option is set to a pseudonymous signing, so anyone who wants his or her real name to appear on the list must actively select this option. Behavioural studies from the fields of Economics or Psychology (cf. Kesan and Shah 2006; Shah and Kesan 2008;) have shown that users tend to not change the software's default settings – possibly because they want to avoid the effort of changing an option or because they trust the platform providers to have pre-selected the "best" option. Thus, the fairly high proportion of pseudonymous signatures would not be an indication for the users' discomfort towards linking their name to a political issue, but rather evidence for a notable structuring effect of software design.

3. *How do the users of the platform evaluate the possibility of pseudonymous signing?*

This question can be answered in two ways: with regard to individual preferences or to general normative assumptions. As we have seen, most individual users tend to sign petitions pseudonymously. Due to the "default effect", we should be careful to see this behaviour as an intentional expression of a preference towards pseudonymity. We can, however, state that those 20 to 40 percent of the petitioners who choose the "real name"-option clearly do this intentionally and decide against the pseudonym. And nearly half of the surveyed

users stated to sign petitions with their real names in most cases or always. Thus, a substantial number of users seem to consider the signing of a public petition as an act of political participation and expression which they wish to contribute to by real name.

The survey participants also assessed pseudonymous signing on a general level. Most of them agreed that pseudonymous signatures should be considered as sincere as real name signatures. Interestingly though, this is mostly due to those who signed petitions – the (much smaller) group of initial petitioners tends to take real-name signatures more seriously. A possible explanation could be that the petitioners assume a stronger identification with the concerns of a petition when it is signed by a user's real name. However, the available data does not suffice to support a conclusive answer on this question.

4. *What are the motives underlying the submission and co-signing of e-petitions?*

The main motivation of petitioners and co-signers of e-petitions alike is to have their concerns be addressed by the German Bundestag. Technology-related features linked to e-petitions, including the greater ease to submit or sign a petition, as well as the potential to draw public attention to a certain issue, do surely play an important role, and in the case of the "co-signature overspill" we can see that there is an effect of the particular technological affordances of the platform: It draws attention to other petitions that are accessible for those who came to sign a popular one. But on the other hand, the survey gives no indication that the platform users submit or sign petitions only or primarily because it is technically easy to do. Substantive concerns and beliefs about political issues are, at least among the survey participants, of greater importance.

6. Conclusion and Outlook

How can this study be contextualized in the broader field of research on Internet-based participation? The findings presented here suggest that opportunities to submit or co-sign public petitions are still not used by all citizens alike. In 2013, male users, younger people and the formally highly educated were significantly over-represented among the users of the petition platform – both in comparison to the total population and in comparison to the group of Internet

users (which in itself does not represent the overall population). The findings also confirm that the users of the platform are more politically active than the overall population. This is not surprising, as it seems plausible that politically interested and active people will also use online petitions to express their opinions and concerns. But the survey shows evidence for an interesting, almost paradoxical constellation: The users show a critical and sceptical attitude towards "politics" in general, but make use of an institutionally regulated form of political participation at the same time.

Future research should address this aspect in more detail and also investigate the extent to which the Petition Platform of the German Bundestag could bring people who are critical towards politics closer to the parliamentary system and thus prevent them from becoming political cynics or even politically apathetic citizens. One way would be to repeat this analysis to track changes over time, but we should also broaden the scope to include more detailed studies on the motives and attitudes of the petitioners and the supporters. Finally, it would be useful to examine the role of the petitioning platform in the context of other possibilities for political participation (online and offline) to improve our understanding of change and stability concerning different forms of political participation.

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8. Annex

Table 36: Platform users and general population in postal code regions

Postal Code Region	Share of users	Share of general population	Difference in %-points
Region 01	1,87	1,53	0,34
Region 02	0,27	0,55	-0,27
Region 03	0,34	0,38	-0,04
Region 04	1,65	1,51	0,14
Region 06	0,89	1,65	-0,76
Region 07	0,66	0,73	-0,07
Region 08	0,38	0,76	-0,39
Region 09	0,78	0,99	-0,21
Region 10	5,75	4,28	1,47
Region 12	2,78	0,02	2,76
Region 14	1,61	0,83	0,78
Region 15	0,63	0,76	-0,13
Region 16	0,54	0,73	-0,20
Region 17	0,44	0,74	-0,30
Region 18	0,58	0,76	-0,19
Region 19	0,24	0,50	-0,26
Region 20	1,05	2,20	-1,15
Region 21	1,37	0,99	0,38
Region 22	2,66	0,32	2,34
Region 23	0,76	0,89	-0,13
Region 24	1,49	1,36	0,13
Region 25	0,63	0,86	-0,23
Region 26	1,04	1,43	-0,39
Region 27	0,72	1,03	-0,31
Region 28	1,19	0,90	0,28
Region 29	0,49	0,64	-0,15
Region 30	1,42	1,11	0,32
Region 31	0,97	1,26	-0,29
Region 32	0,72	1,08	-0,35

Region 33	1,19	1,30	-0,10
Region 34	1,12	0,99	0,13
Region 35	1,27	1,11	0,15
Region 36	0,48	0,66	-0,17
Region 37	0,89	0,92	-0,03
Region 38	1,19	1,44	-0,25
Region 39	0,54	0,98	-0,44
Region 40	1,36	1,20	0,16
Region 41	0,86	1,15	-0,29
Region 42	0,91	1,07	-0,16
Region 44	1,39	1,57	-0,18
Region 45	1,45	1,90	-0,45
Region 46	0,72	1,10	-0,38
Region 47	1,08	1,62	-0,54
Region 48	1,35	1,43	-0,08
Region 49	0,97	1,49	-0,51
Region 50	2,36	1,81	0,55
Region 51	1,14	0,78	0,36
Region 52	1,20	1,17	0,03
Region 53	1,87	1,56	0,31
Region 54	0,57	0,61	-0,04
Region 55	1,10	0,93	0,17
Region 56	0,83	1,02	-0,20
Region 57	0,48	0,74	-0,26
Region 58	0,76	1,16	-0,39
Region 59	0,80	1,42	-0,62
Region 60	1,16	0,84	0,32
Region 61	0,63	0,54	0,09
Region 63	1,41	1,53	-0,12
Region 64	1,22	0,96	0,25
Region 65	1,37	1,20	0,17
Region 66	1,08	1,55	-0,47
Region 67	0,99	1,26	-0,27

Region 68	0,80	0,74	0,06
Region 69	0,90	0,61	0,29
Region 70	1,43	0,99	0,45
Region 71	1,09	1,19	-0,10
Region 72	1,27	1,29	-0,02
Region 73	0,95	1,22	-0,26
Region 74	0,90	1,29	-0,39
Region 75	0,47	0,59	-0,12
Region 76	1,60	1,37	0,23
Region 77	0,39	0,58	-0,19
Region 78	0,81	0,90	-0,09
Region 79	1,69	1,26	0,43
Region 80	1,87	1,68	0,18
Region 82	1,35	0,88	0,47
Region 83	0,96	0,91	0,04
Region 84	0,65	0,81	-0,16
Region 85	1,58	1,30	0,29
Region 86	1,44	1,38	0,06
Region 87	0,59	0,62	-0,03
Region 88	0,91	1,02	-0,11
Region 89	0,80	0,92	-0,13
Region 90	1,44	1,08	0,36
Region 91	1,31	1,21	0,10
Region 92	0,42	0,63	-0,21
Region 93	0,69	0,70	-0,01
Region 94	0,55	0,86	-0,31
Region 95	0,49	0,62	-0,13
Region 96	0,58	0,69	-0,11
Region 97	1,35	1,31	0,04
Region 98	0,22	0,38	-0,16
Region 99	0,83	1,17	-0,34
Gesamt	100,00	100,00	0,00