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Abstract. Argument visualisation (AV) tools enable structured debates around issues, positions and arguments. These tools have the potential to substantially improve transparency e.g. by enabling understanding complex legislation and debating. In this paper we present the results of the evaluation of an AV platform by experts and policy makers. The results suggest the potential of such tools is large particularly for understanding complex legislation and debates. The results indicate an AV tool can be also potentially used for massive deliberations when however usability is further improved. They further suggest an AV tool seems particularly relevant to the analysis and policy formation stages of policy making, where identification, elaboration and presentation of complex topics are needed. In this paper we employed a mature AV tool and concentrate on evaluating general aspects of such platforms hence we believe the results can also apply to other AV platforms.

Keywords. Argument visualisation tools, WAVE project, Debategraph

1   Introduction

During the past few years there is an increasing interest in open and transparent governance. New policy approaches are needed which "*use the right tools to get the job done*" as well as possible and ensure that "*the voices of those affected are being heard*" [1]. For example, the EU mandate 'Smart regulation' calls for stakeholder consultations and impact assessments as essential parts of the policy making process and argues evidence-based policy making is an essential element for improving the policy making process in today's world [2].

In this context, consultations and deliberations, also supported by modern information and communication technologies and particularly Web technologies, are very common. In Europe, these initiatives mainly aim to inform citizens about relevant policies and consult them with regards to policy alternatives also enabling them to debate online [3]. Online consultations and debates are particularly important in policy decisions regarding complex societal problems (also termed wicked issues [4]) that do not hold optimal solutions for all involved stakeholders.

To facilitate online deliberation a family of tools, termed Argument Visualisation, have been developed (e.g. Debategraph, Cohere [5], AVER [6], Parmenides [7], etc.)

[8]. Unlike e-forums and other media where people debate in an unstructured manner (using posts consisting of plain text), these tools enforce online deliberation in a structured way. The users are therefore required to contribute in terms of issues, positions, positive arguments, counter arguments, etc. and to put their thoughts in the context of others' debates, hence avoiding repetition and enhancing clarity. These tools have gained considerable usage but are still not widely used in online debates. There is therefore a need for a thorough evaluation of such tools in order to gain a better understanding on their strengths and weaknesses. Following electronic participation evaluation methodologies, we believe that evaluation should be conducted not only by end-users but also by experts and policy makers. We feel that experts and policy makers can provide deeper insight particularly in the potential use of such tools in policy making.

The main objective of this paper is to evaluate an argument visualisation platform by experts and policy makers. The argument visualisation platform under evaluation has been developed within WAVE, a project co-funded by the European Commission, and employs Debategraph, one of the most mature and stable argument visualisation tools as also indicated by the large number of organisations that have utilised it including the White House, UK government, CNN etc.[1]

The rest of this paper is constructed as follows. In Section 2 we present the main functionality of WAVE platform. In Section 3 we present the evaluation methodology while in Section 4 the evaluation results are presented. Finally, Section 5 presents the main results and future work.

2   Argument Visualisation Platform

WAVE is a Web-based, argument visualisation platform developed to facilitate understanding and debating of European legislation. From a technical point of view, WAVE comprises a customised content management system (based on Drupal) which integrates Debategraph, an argument visualisation tool developed by Thoughtgraph and provided free as a service to everyone to use of embed in a website. In WAVE, the Drupal interface and Debategraph are integrated, thus enabling data flow between the two sub-systems [9].

Since the end of 2009, the platform facilitates debating on climate change at European level[2] but also national level in France[3], Lithuania[4] and the UK[5] (Figures 1 and 2).

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[1] Source: www.debategraph.org

[2] http://www.wavedebate.eu/

[3] http://www.debatclimat.eu/

[4] http://www.wave-diskusijos.lt/

[5] http://www.jointhewave.org/

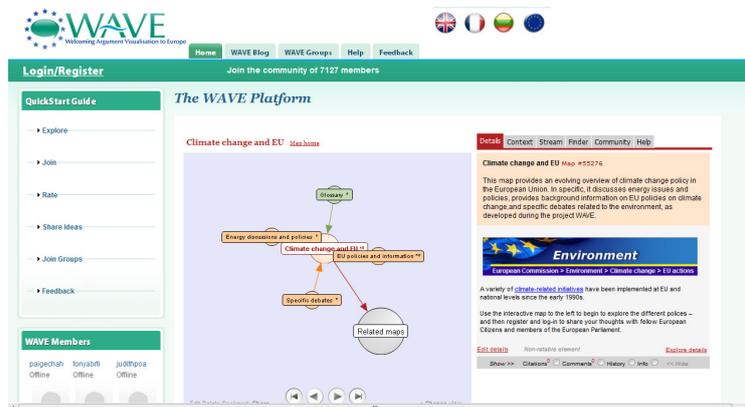**Fig. 1.** WAVE Platform Home Page (EU pilot)

Fig. 2. Exploring a map

The main functionality of the platform is now presented to make more clear what experts and policy makers evaluated.

The platform enables users to perform three main groups of actions.

1.   Explore the map, rate and share ideas

The most important functionality of an argument visualisation tool is the ability to explore debates and participate. WAVE platform embeds Debategraph argument visualisation tool [9]. Debategraph is a wiki-based tool featuring both a graphical (flash-based) but also a text interface. Debategraph enables anonymously exploring maps by clicking on an idea which will result in presenting all ideas directly related to the clicked idea. Hence, by clicking the visitor can transverse from idea to idea throughout the whole map.

Debategraph also enables ranking and managing ideas (for registered users). There is a plethora of idea types available (e.g. issue, position, supporting argument, opposing argument, protagonist, etc.) as well as different link types. Adding a new idea involves typing a short description (70 characters maximum) and, if desired, also

provide additional details e.g. a larger description (300 characters maximum), text, photos, video (e.g. from youtube), links etc.

Everyone is able to change any idea on the map. Normally, there is a moderator in each map, who is responsible for editing ideas, deleting irrelevant or offensive contributions etc.

2. *Create and join groups/ invite others*

WAVE enables registered users to create and manage groups. The website of each group can embed its own home map. The platform also enables writing to blogs, creating events, creating and contributing to a poll, and inviting others to groups and maps.

3. *Create account, login and provide feedback*

Finally, the platform enables registering by simply requiring a valid email address. It also provides an online form for users to evaluate the platform.

3   Evaluation Methodology

Evaluation methodologies for electronic participation initiatives have recently emerged in the literature, e.g. [10][11][12]. The evaluation methodology presented in this paper is heavily influenced by the methodology created by MOMENTUM project [12], which however is customised to fit the purposes of this paper. According to the selected methodology experts and policy makers would be identified and a questionnaire would be used for evaluation purposes. In cases where email communication was not successful an interview would be scheduled.

Experts should be academics, consultants and/or practitioners having extensive experience with eParticipation and possibly argument visualisation. Policy makers should be from UK, France or Lithuania since pilots were run in these countries having produced rich relevant content. In order to assure objectivity [13] all invited experts and policy makers are external to the WAVE consortium organisations and accepted to offer their assistance without payment or other remuneration of any kind.

The questionnaires have been constructed to assess four different axes as follows:

A. AV Platform. This axis assesses the current state of the platform in terms of usability, potential for further use, and possible enhancements.

B. AV Potential. This axis assesses the areas where an AV tool has the greatest potential in terms of its purpose, suitable policy stage, level of engagement and administration level.

C. AV Utilisation. This axis assesses how an AV tool should be utilised in terms of relevance to eParticipation, realistic use and the role of stakeholders.

D. AV SWOT. This axis assesses AV tools' strengths, weaknesses, opportunities and threats in reaching out widely and maintaining sustainable interest. This axis serves as a means to assess additional issues not directly referred to by the first 3 axes.

A total of 11 metrics have been used to assess the three first axes as provided below. Metrics 1-3 refer to AV platform, metrics 4-7 refer to AV potential, and metrics 8-10 refer to AV utilisation:

1.   AV platform usability
2.   AV platform potential for continuous use

3. AV platform enhancements
4. AV purpose [choice between "Understand complex legislation", "Contribute to new legislation" and/or "Evaluate legislation (existing/drafted)". Multiple choices possible and a scaling from 1 to 5 is also requested].
5. AV platform suitability for Policy Making Stage [choice between Analysis-Drafting, Policy formation, Policy implementation, Policy evaluation/impact]
6. Level of citizen engagement [choice between Informing, Consulting (discussing for opinion gathering), Engaging (discussing decisions with politicians), Empowering (decision making at citizens' hands)].
7. AV platform suitability at the EU, national or local level.
8. AV tools and technologies appropriateness for eParticipation.
9. Realistic use of AV platform by public bodies (considerations should include which stakeholders should be involved, at what level, for what purpose and through which processes).
10. Role of different types of users (citizens and other stakeholders) within the processes that could be employed by the AV platform.

The policy makers' questionnaire has been intentionally kept shorter than the experts' one in order to engage them easily in the evaluation process. Therefore, metrics 2, 8 and 10 as well as the SWOT axis were assessed only by experts. However, all questions were followed by relevant sections asking for further elaboration if relevant.

We recognise that many scientists are usually in favour of quantitative evaluation methodologies targeting at a high number of responses for assuring representativeness. However, qualitative evaluation methodologies similar to the selected one are common in social sciences; some scholars even argue that qualitative evaluation methodologies may be equally acceptable as quantitative ones [14][15].

4   Evaluation Results

Five experts and seven policy makers participated in the evaluation. Experts were from Denmark, Spain, Slovenia and the UK working in academia, Non-Governmental Organisations (NGOs) and as consultants for policy makers. Their main areas of interest are society related aspects, and government and public administration issues. Policy makers were from France, Lithuania and the UK serving at all levels (municipality, region, national and European). The main evaluation results follow.

A. AV Platform

1. Usability

Experts' opinion with regards to usability seems scattered with three of them finding the platform rather easy to use and the other two finding its use rather difficult. The main positions in favour are that the interface is relatively easy and the structure of the platform is logical with combination of arguments, responses and positions. The addition of ideas, discussion and rating are considered as easily performed while the guidance provided is viewed as helpful. On the contrary, arguments for finding that the platform is rather difficult to use suggest that the process of learning the AV functionalities can be rather time-consuming and that the registration process creates further confusion. Experts however tend to agree that

some time is needed to understand the concepts behind AV and how to use it. In the words of an expert: "*As there are many different options for users to take, it can be somewhat time consuming before getting the whole picture about the various applications offered by the platform.*"

Policy makers also disagree on the platform's ease of use. Two policy makers think that the platform is too complex while the remaining five perceive the platform to be easy to use as regards their basic functionalities, i.e. expression/posting of opinions and participation in polls, which are the main aspects users are interested in. The additional functions and possibilities are considered as more complex requiring a long learning curve.

2. Potential for continuous use

Experts were much more in agreement when asked to estimate whether the platform would attract users to continue using it. The opinions converged the platform is rather attractive for users to continue usage. This relates to the time users need to get accustomed to contributing to debates and to the incentive to continue using the service due to the salience of the topic at hand. It is stated that "*the platform is a new paradigm of collaborative thinking across the web, which makes it attractive to participate in anytime and anywhere with an entire community of interested participants, in a similar way as social networking*". Users can easily identify how the debate about an idea/concept is evolving which makes the platform visually attractive and the debate quite well structured. However, it is also stated that the platform is more attractive to users who already have an interest toward the policy under discussion (in our case climate change).

3. Enhancements

Experts suggested improvement of the user interface to allow intuitive handling and the availability of tools for providing discussion summary reports based on participants' inputs.

Policy makers suggested focusing on easy access and navigation. Additional suggestions included the reflection of polls' results in the discussions and integration of social networks' functionalities on the platform (such as Twittering by users).

B. AV Potential

4. Purpose

Experts and policy makers assessed AV purpose by rating whether WAVE mostly helps to understand complex legislation, contribute to new legislation or evaluate legislation. The quantitative results are shown in Table 1. An interesting observation is that experts suggest the platform can mainly help in contributing to new legislation while policy makers suggest it can mainly help to understand and evaluate existing legislation.

Table 1. Experts' (E1-E2) and policy makers' (P1-P7) rating on usage of AV platform in legislation processes (1: very weak, 5: very strong). Expert E5 did not answer this question.

	E1	E2	E3	E4	E5	P1	P2	P3	P4	P5	P6	P7
Understand	3	4	2	3	-	4	4	4	4	4	1	1
Contribute	4	4	4	3	-	2	2	3	4	2	2	2
Evaluate	4	3	2	3	-	3	5	4	4	5	4	2

5. Policy making stage

Experts and policy makers estimated the kind of legislation processes that can be supported by the platform, i.e. analysis-drafting, policy formulation, policy implementation and policy evaluation. Table 2 presents the quantitative results.

Table 2. Experts' (E1-E2) and policy makers' (P1-P7) view on appropriateness of AV platform in various policy making stages. Expert E4 did not answer this question.

	E1	E2	E3	E4	E5	P1	P2	P3	P4	P5	P6	P7
Analysis-drafting	✓	✓	✓	-	✓	✓		✓	✓	✓		
Formulation	✓	✓		-	✓	✓			✓			
Implementation	✓			-	✓	✓			✓			
Evaluation	✓	✓	✓	-	✓	✓	✓	✓	✓	✓	✓	✓

Experts indicate that the platform provides more added value to analysis and evaluation processes. An expert pointed out the use of the platform to tackle complex issues; it was suggested: "*The platform can be useful within the legislation processes when identification, elaboration and presentation of complex topics is needed*". The community aspects of the AV platform were considered to be better suited to policy monitoring and evaluation. The context of use however seems also important. As an expert pointed out: "*Answer depends on who your target group is and what the topic is. Personally I doubt that citizens will participate in any of the above four legislative processes unless it is strongly promoted and "localised" to individual citizens' local context*".

Policy makers signified the policy evaluation stage as the most important followed by the analysis-drafting stage. A policy maker suggested "*the ideas reflected on the map might be used for developing draft version of various documents and discussed between experts. […] Also platform can facilitate feedback about outcomes of the policy in particularly finding out the negative sides*". The platform is perceived as less important in the implementation stage, where more specific actions and groups of people are required.

6. Engagement Level

As regards the appropriateness of AV platform for different engagement levels, experts and policy makers provided the quantitative results presented in Table 3.

Table 3. Experts' (E1-E2) and policy makers' (P1-P7) view on appropriateness of AV platform in various engagement levels.

	E1	E2	E3	E4	E5	P1	P2	P3	P4	P5	P6	P7
Informing		✓			✓	✓		✓	✓	✓		
Consulting	✓	✓	✓	✓				✓	✓	✓	✓	
Engaging					✓	✓	✓		✓			
Empowering									✓		✓	✓

Almost all experts stated that the AV platform is more suitable for consulting followed by informing. The engaging and empowering levels were not regarded as relevant since experts could not distinguish the level of deliberativeness on the

platform. Policy makers indicated the informing and consulting level as most effective, followed by engaging and empowering.

The responses seem to indicate that an AV tool can serve all engagement levels but is particularly relevant to consulting i.e. discussing for opinion gathering. Thus, it seems that the level of citizens' engagement is mostly influenced by the use of AV tools and the political process they are embedded into rather than by merely the tools' offered functionality.

7. Administration Level

Experts suggested that the administration level (EU, national, local) is contingent to the topic and the target group and not the tool. For instance, for the EU level, the language barrier has to be taken into consideration to allow for multi-lingual processes. As the tool is deemed more suitable for stakeholders and interest organisations or even public authorities rather than citizens, the level is not essential. Another aspect which has to be considered is that current challenges of European eParticipation are not related to the lack of eParticipation channels but to non-technological issues such as citizenship, political elitism, accountability and trust. In overall, though, experts tend to deem the national level as more appropriate since the platform cannot handle multi-lingual debates at its present form.

Most policy makers think that the AV platform could support eParticipation at all levels. However, there is again a tendency towards the national level being the most suitable, as policy makers suggested it would be too complex to use at European level and it would be easier to attract many active users at national level than at local level.

C. AV Utilisation

8. Relevance to eParticipation

Concerning the appropriateness of AV tools and technologies for eParticipation, experts rated them as rather appropriate and fully appropriate. As a positive aspect it was noted that the platform encourages continued involvement and genuine deliberation; two very crucial conditions for eParticipation. However, it was also suggested that more background info would be beneficial for eParticipation as well as geo maps presenting spatial information. Furthermore, the AV platform should also present detailed evidence of impact to the political and decision-making processes.

9. Use of AV

Respondents were required to indicate how the AV platform could be realistically utilised by public bodies and through which processes. Experts' suggestions here vary as it is indicated that an AV tool can be used either by citizens for agenda setting (i.e. ask citizens what should the government do next) or better serve stakeholder and interest organisations to organise debates. It was also suggested that a simplified version of the AV platform should better be used by organisations such as the United Nations (e.g. when setting up Millennium development goals) and the European Union (e.g. when preparing the EU Constitution document in the future) than by national governments to prepare national policy documents. Additionally, public bodies could use the AV platform for "*structured debate during policy formation, expertly and independently facilitated and with considerable resources for processing, analysing and summarising responses for policymakers*".

Policy makers suggest that AV platform could be used for cooperation between governmental intitutions and other public organisations serving as an information exchange tool in various policy areas. Another suggestion is to use it for pan-

european debates like the Youth Panel; the AV platform could serve as the debate platform for the youth panels before the conduct of a face-to-face conference. However, policy makers also refer to the importance of a deep understanding of the benefits and possibilities of AV platforms by public bodies and to the need of allocating additional resources for platforms' utilisation. Both experts and policy makers underline the significance of the feedback process as a prerequisite.

10. Role of Stakeholders

Finally, experts were asked what kind of role different types of users (citizens and other stakeholders) could have within the processes employed by the platform. It was suggested here that citizens are more likely to contribute with personal opinion and ideas associated to specific local issues, whereas a more prominent and visible role for government representatives/policy makers is needed in order to assure users about debates' impact. However, the responses received signal also the role of civil society and NGOs as very important. NGOs are likely to contribute with more data and arguments phrased in a language and format suitable for legislation, covering both local and wider issues and perspectives. Civil society organisations can contribute with activities such as promoting, explaining and facilitating use, and providing content. It was finally suggested that an external study could identify additional roles to be undertaken by each stakeholder group, as their strategies to influence policy making vary.

D. AV SWOT

The results of experts' SWOT analyses are presented in tables 4 and 5.

Table 4. Results of the experts' SWOT analysis on reaching out widely

Strengths	Enhancement of inclusiveness and transparency of decision-making processes at the national and European level using Argument Visualisation techniques.
	New and novel way to gather public opinion on any issue.
	Can be sustained and utilised from merely all European institutions to provide information on controversial issues of the internal market.
Weaknesses	Many citizens feel that policy development is a process that they do not understand and have little control over.
	Different ICT skill are required – such as map reading.
	Time-consuming service to learn.
Opportunities	Further use in other countries/languages at other levels (e.g. local, regional) and for other topics (e.g. education) depending on the focus and target group.
	To provide a platform to learn about policy at the EU/national level and find out what particular policies mean to citizens on the national level so they can contribute to policy drafting and impact assessments.
	Easily available over the Internet, requires no special downloads, integration with mobiles and online social networks could enhance participation.
Threats	Stagnating debate and input without moderation.
	Need to focus on one theme targeting one stakeholder at a time.

Table 5. Results of experts' SWOT analysis on sustaining interest

Strengths	Can be used in agenda-setting contexts where users can come back at regular intervals.
Weaknesses	Data need to be authored and dated so that longitudinal approaches can be implemented.
	The engagement rates can be reduced if the topics are not motivating enough for the

	community.
	Hard to identify concrete benefits that platform can provide to an average internet user unless it poses some interest into the EU climate change policy.
Opportunities	By using this platform with other tools (e.g. emails, users online meetings) citizens will feel more involved. Technologically, there are possibilities for these strategies to take place.
	Creation of a more open space for people to debate on existing legislations and their impact on their daily lives.
	Connection with similar civil society and NGOs projects can heat up debates.
	Possible for stakeholders to take ownership of the process, producing a strong demonstration effect for other groups.
Threats	Clear demonstration of feedback mechanisms to ensure users maintain interest.
	Establishment of a clear democratic policy impact.
	Lack of trust and support from key stakeholders.

5   Conclusions

In this paper we present an evaluation of an Argument Visualisation (AV) platform by experts and policy makers. Although a particular AV platform has been evaluated, we believe that the results can, to some extent, apply to other AV platforms and tools as well. The reason is two-fold. First, the AV tool under investigation (namely Debategraph) is mature and stable, hence, it constitutes a fair representative sample of AV tools. Second, the evaluation results presented in this paper concentrate on general issues relevant to AV tools as opposed to specific platform and project characteristics. Having said that, we should point out that the results are not directly applicable to all AV tools and to all different contexts these are or can be used.

The evaluation was conducted in four different axes. The first axis assessed the current state of the platform in terms of usability, potential for further use, and possible enhancements.

The evaluation results suggest there is room for improving the usability of the AV tool. However, respondents also agree that easiness of use is substantially improved after a short learning period. This is an important aspect and we feel there is a need to distinguish between difficulties due to the use of argumentation in online debates and difficulties due to a specific interface. Responses seem to indicate that while there is room for improvement in the interface itself, substantial difficulty remains due to the use of structured argumentation. In other words, having to contribute in terms of positions, arguments, etc. is clearly much more difficult than contributing in plain unstructured text and this has to be appreciated.

Policy makers suggested integration of the AV tool with other social media platforms and specifically twitter. This is indeed an interesting suggestion also due to the fact that all map ideas have a very short title (up to 70 characters) which is inline with message length restrictions of twitter and other micro-blobbing tools. Experts

additionally suggested the development of tools for providing discussion summary reports based on participants inputs[6].

Experts expect users to keep using AV tools as they provide a new paradigm of collaborative thinking across the web, similar way to social networking. Users' interest for continuous usage is also linked to the saliency of the debate topic(s).

The second axis assessed the areas where an AV tool has the greatest potential in terms of purpose, suitable policy stage, level of engagement and administration level.

The results here suggest it is important to set up an overall participation process and make clear the role of an AV tool in it. It is interesting to note that for experts, AV tools are better suited for contributing to new policies while for policy makers for understanding and evaluating policies which may be due to the difficulties in contributing (some of them inherent in AV). AV tools seem also appropriate for experts' or organisations' consultations and for informing the public. AV tools can be used at all policy making stages however they are deemed particularly relevant to agenda setting and also to policy analysis and evaluation. This is indeed expected as the debating functionalities of AV tools seem particularly suited for these stages.

Finally, AV tools seem relevant to all administration levels (EU, national, local) depending on the topic and the groups targeted in each case. However, there is a tendency towards the national level being the most suitable as, on the one hand, it is wide enough to engage many active users and, on the other hand, limited enough to overcome issues of complexity and multilingualism.

The third axis assessed how an AV tool should be utilised in terms of relevance to eParticipation, realistic use by public bodies and the role of different stakeholders.

AV tools were deemed particularly relevant to eParticipation although it was noted that they may not be relevant to all cases and that sometimes dialogue should not necessarily be restricted by the semantics imposed by such tools. In terms of AV platforms' possible utilisation respondents believe that such a tool can be realistically utilised by public organisations for communicating with the public (e.g. for agenda setting and other kinds of debates) but also for inter-institutional cooperation (e.g. expert panels in different policy areas). The latter is an interesting suggestion as in this case many usability issues can be easily overcome by expert users and result in a fruitful utilisation of AV in policy-making. Either way, public bodies still need to appreciate the need for dedicated resources and deep understanding of argumentation processes. Finally, apart from citizens and government organisations/policy-makers, it is noted that NGOs and civil society should play an important role by contributing their specialised knowledge and networks.

The fourth axis consisted of experts' SWOT analysis. Experts' SWOT analysis on the potential of AV tools to reaching out widely suggested AV tools provide a new way of participating with the potential of inclusiveness and transparency that can be also used for learning policy. However, they require some time to learn, have one specific focus at a time and the role of moderator is crucial.

Experts' SWOT analysis on sustaining interest suggested AV tools enable creation of communities, should be integrated with other tools and provide a possibility for contributors to take ownership of the process. On the other hand, data need to be

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[6] Actually, it should be noted that the AV tool now provides the possibility to create summary reports of discussions.

authored and dated, topic should be motivating, and process should be clear including benefits for participants, feedback and impact while trust and support from key stakeholders should be evident.

Acknowledgements

References

1. European Commission, Better Regulation – Simply explained (2006) http://ec.europa.eu/governance/better_regulation/documents/brochure/br_brochure_en.pdf
2. European Commission, Smart Regulation in the European Union, COM(2010) 543 final
3. Panopoulou, E., Tambouris, E., Tarabanis, K.: eParticipation initiatives: How is Europe progressing? European Journal of ePractice No. 7, pp. 15--26 (2009)
4. Rittel, H.W.J., Webber, M.M.: Dilemmas in a General Theory of Planning, Policy Sciences 4, pp. 155--169 (1973)
5. Shum, S.B.: Cohere: Towards web 2.0 argumentation. In: Hunter, A. (eds.) Proceedings of the 2nd International Conference on Computational Models of Argument (COMMA). IOS Press, Amsterdam, The Netherlands (2008)
6. Van den Braak, S.W., Vreeswijk, G.A.W.: AVER: Argument visualization for evidential reasoning. In: Legal Knowledge and Information Systems, JURIX 2006: The Nineteenth Annual Conference, pp. 151-156. Amsterdam, The Netherlands (2006)
7. Atkinson, K., Cartwright, D.: Political Engagement through Tools for Argumentation. In: Proceedings of COMMA 2008, pp. 116--127 (2008)
8. DEMO-net Deliverable D5.2: eParticipation: The potential of new and emerging technologies (2007)
9. Lee, D., Menda, Y.P., Price, D., Tambouris, E., Peristeras, V., Tarabanis K.: Platforms To Facilitate Online Political Debates: The Wave Platform. In: Chappelet, J.L., Glassey, O., Janssen, M., Macintosh, A., Scholl, J., Tambouris, E., Wimmer, M.A. (eds.) Electronic Government and Electronic Participation: Joint Proceedings of Ongoing Research and Projects of IFIP EGOV and ePart 2010, pp 303--310. Trauner Duck (2010)
10. Macintosh A., Whyte A.: Towards an evaluation framework for eParticipation. Transforming Government. People, Process and Policy 2(1), pp. 16--30 (2008)
11. Aichholzer, G., Westholm, H.: Evaluating eParticipation Projects: Practical Examples and Outline of an Evaluation Framework. European Journal of ePractice No. 7, pp. 27--44 (2009)
12. MOMENTUM Deliverable D2.5: e-participation projects evaluation methodology (2008)
13. Chess, C.: Evaluating Environmental Public Participation: Methodological Questions. Journal of Environmental Planning and Management 43(6), pp. 769--784 (2000)
14. Lawrence, D.P.: Quantitative versus Qualitative Evaluation: A False Dichotomy? Environmental Impact Assessment Review 13(1), pp. 3--11 (1993)
15. Thomas, D.R.: A general Inductive Approach for Analyzing Qualitative Evaluation Data. American Journal of Evaluation 27, pp.237--246 (2006)