Visual Culture and Electronic Government: Exploring a New Generation of E-Government

Victor Bekkers and Rebecca Moody

Erasmus University Rotterdam, Burg. Oudlaan 50, PO Box 1738,
3000 DR Rotterdam, The Netherlands
{bekkers,moody}@fsw.eur.nl

Abstract. E-government is becoming more picture-oriented. What meaning do stakeholders attach to visual events and visualization? Comparative case study research show the functional meaning primarily refers to registration, integration, transparency and communication. The political meaning refers to new ways of framing in order to secure specific interests and claims. To what the institutional meaning relates is ambiguous: either it improves the position of citizens, or it reinforces the existing bias presented by governments. Hence, we expect that the emergence of a visualized public space, through omnipresent penetration of (mobile) multimedia technologies, will influence government-citizen interactions.

Keywords: e-government, visualization, visual culture.

1 Introduction

The outlook of electronic government is changing. The emphasis was primarily on the processing of text and number based data, now however, pictures play an increasing role in the interactions between governments and citizens. The popularity of YouTube which is also being used by governments to inform citizens, illustrates this. From a sociological viewpoint, this trend can be understood in terms of rapid penetration of visual culture in government-citizen-relationships**.** Although pictures in terms of propaganda or public information services have always been an important policy instrument, the meaning of pictures can go beyond these established practices. Human experiences have become more visual and visualized than ever before, for example, everybody can place their experiences on YouTube. However, the emergence of this visual culture does not depend on the pictures themselves. It is rooted in a tendency to picture and visualize existence, in a more compulsory way: compulsory because pictures create and contest meanings, relate to other meanings in the public domain [21].

In this contribution we theoretically and empirically explore and understand the increasing role which pictures (as visual events) and visualization play in e-government practices and the significance for the involved stakeholders. The question can be asked, whether these pictures give meaning to the relationships between government and citizens and how they (re-)define these relationships [2]. Firstly, we explore the notion of visual culture (section two). In section three we will address the different meanings which pictures have in the shaping of e-government relationships as well how this could be understood. In section four we explore how pictures are used in

M.A. Wimmer et al. (Eds.): EGOV 2009, LNCS 5693, pp. 257–269, 2009.

e-government practices, what their meaning actually is and how they are shaped. In section five conclusions will be drawn.

2 Visual Culture: Nature and Backgrounds

Mirzoeff defines "visual culture as being concerned with visual events in which information, meaning or pleasure is sought by the consumer in an interface with visual technologies. [21]

Three developments have contributed to the emergence of a visual culture. Firstly the omnipresent penetration of television in our daily life. In contrast to news papers, television stimulates our association (through amusement and pleasure) much more than the printed word which is more based on reason and order. [6]. Secondly, we can refer to rise of the multi-media networks and systems, in which pictures and videos are integrated with sound and words. The third development is the increased interactivity of these new (multi)media, which comes also forward in the emergence of web 2.0 technologies. Web 2.0 has been called the 'social web', because its content, in terms of the creation and sharing of experiences, can be easily generated by individual users as well as the collective intelligence of users [5] Users are not the passive consumers of content but function as co-producers and co-creators, which presupposes interaction. In expressing these experiences, pictures and videos have become very important (e.g You Tube, MySpace).

Visual technologies are defined as "any form of apparatus designed to be looked at or to enhance natural vision, from the oil painting to the internet" [21] Typical for a visual culture is first, besides textuality, pictures have become increasingly important [21]. An indication is the emergence of a complete industry producing and distributing pictures. [21; 6] Secondly, this visual culture is a post modern culture, implying that it is in essence very fragmentized and disrupted, which adds to the fact that is a dynamic culture. [21] It represents an endless, often real time and thus changing, stream of divergent and convergent (thus) multiple pictures with which people are confronted [6; 8]. This implies that different notions of viewing and interpretation should be taken into account. Visual events are highly contingent; its interpretation depends on the specific (historical) context of the viewer. [21] Thirdly, originally the relationship between a citizen or consumer and these pictures could be understood in terms of 'spectatorship' (with an emphasis on the look, the gaze, the glance and practices of observation). Nowadays, this relationship has become one of reading, of understanding the complex and multiple meaning of pictures that come together in the mind of citizens, thereby creating experiences [21] In the so-called experience economy, consumers are invited to join a open story in which they can participate, adding past of wanted future experiences. [26] Pictures, very often in combination with sound, try to seduce people to be part of this unique story.

3 Visual Culture in e-Government: Different Meanings

From an ecological perspective [2;7] e-government practices are shaped by the unique, and thus local, interaction of different environments (socio, political and cultural and

technological) and different stakeholders. In these interactions different meanings are constructed, attached and exchanged [4]. Increasingly, visual events are being created in different e-government practices, while at the same time they give meaning to interactions between government and citizens. Several meanings can be distinguished. Stakeholders may attach a functional meaning to the creation of visual events. The functional meaning consists of the following elements.

First, the classical function of visualization is registration. Through pictures people can register or record people, movements or development in terms of 'freezing' them in time and place. [21] Secondly, visualization can make complicated things rather transparent, in terms of comprehension: one picture can say more than thousands of words. For instance, visualization can make things easier and more understandable, like causes and effects of air pollution. Thirdly, and consequently visualization can also increase the transparency, because it integrates different data in one or a sequence of pictures. In the development of visualized scenarios, relevant information of different data bases can be presented in an integrated way, which can make things (again) easier to understand. Fourthly, visualization facilitates communication. Although a picture says more than a thousand words, people will have different interpretations which are very often an incentive to communicate. Fifthly, visualization facilitates individual and collective learning. Transparency and communication may generate feedback on decisions or arguments.

However, the role visualization may play in e-government practices is not neutral or strictly instrumental. Hence, it is important to address the political meaning of visualization. Visualization supports a process of framing in which social reality is (re-) constructed, thereby including or excluding elements into the constructed picture [28]. In essence this is a political process, in which specific stakeholder try to structure reality in such a way that it may serve their purposes [27; 28] Framing can be seen as an account of ordering that makes sense, because they link facts, values, actions and interpretations in such a way that ambiguity is being reduced and a specific meaning is being created. [9] Hence, visualization is a powerful resource that actors use to manipulate the content and course of their interaction. Consequently, actors attach different meanings to the visualization technologies. [4; 19] In the creation of visual events, used in 21st century e-government, specific biases can be put forward and may be presented as 'reality' [4; 19]. Which 'reality' will be presented as being relevant and who benefits from this kind of representation?

Moreover, in the exploration of the significance of visualization for e-government, another aspect should be taken into consideration, which refers to the combination of visualization with interactivity in relation to the emergence of web 2.0. Web 2.0 does not only stress the importance of citizens as co-producers but also shows us that citizens use their interactive and visual potential in these new technologies to monitor government communications and services by combining individual information, knowledge and experiences, to make processes and outcomes more visible for the general public. In order to do so citizens may also use and exchange pictures. This is the institutional meaning of visualization, because in combination with web 2.0, it may change the established practices and rules in public administration. However, in the literature on the effects of ICT in public administration, there is, repeatedly, empirical support for the so-called 'reinforcement hypothesis' [20] which states that ICT predominantly reinforces the existing interests, positions and frame of references

('bias') of those actors who are already in a powerful positions (but these are not necessarily those providing for the pictures as will become clear later) [1; 23; 24; 25]. Does this also apply to the use of visualization in e-government practices?

4 From Electronic Government to Visual Government: Research Strategy and Empirical Findings

4.1 Research Strategy

In this section we explore several visualized e-government practices in the Netherlands, thereby following the different stages of the policy cycle. In this exploration we assess the following issues:

- the functional meaning which actors attach to the use of visualization in their e-government practice in terms of an instrument or set of tools for registration, transparency, integration, communication and learning;
- the political meaning which actors assess to the shaping of visual event through visualization and the strategic use of visualization in order to achieve specific goals and interests in terms of framing (effects);
- the institutional meaning which actors attach to visualization in relation to the historically established and practices, positions and relationships (effects).

We use a comparative case study approach, in which our empirical findings are based on three data sources: a secondary analysis of research material which has been gathered in other projects, the content analysis of relevant policy documents and the findings that have been based on half open, in-depth interviews with two representatives per case. Through 'triangulation' we have tried to strengthen the validity of our results [29] However, due to the explorative nature of this paper, our research tries to generate findings that contribute to the analytical validity of our research findings, which can be helpful for us to develop new theoretical notions about the use of visual events in e-government practices [29].

4.2 Case Description and Findings

In this section we present several case studies of e-government practices in which visualization is used; practices that can be linked to different policy processes.

Agenda-setting: the Pupils Revolt against the 1040 Norm. Agenda-setting is a process in which specific actors in society try to attract the attention of the general public, policy makers and politicians for their definition of a specific issue in order to put it on the political agenda. [18] Citizens may use ICT to mobilize support and to attract attention. The quality of education has become a widely discussed issue in the Netherlands. In November 2007 pupils revolted against the '1040-hours norm'. This norm refers to the yearly amount of hours pupils have to have education during the first and second years of secondary education. In this revolt, web 2.0 technologies like MSN and YouTube played an important mobilizing role. They partly facilitated local and nation wide protest actions which challenged the educational agenda. The revolt

dealt with the idea that schools were not able to fill in these hours, due to a shortage of teachers while the Ministry of Education and its Inspection wanted to hold on to a strict enforcement of the norm. Pupils complained that they had to stay in school, even while no lessons were given.

Visualization played an important role in the mobilization of these youngsters. With their mobile phones, they made pictures and stream videos of local protest actions which were put on You Tube and on Hyves (a Dutch version of MySpace) or were being exchanged by MMS or MSN. For instance, between 29-11-2007 and 06-12-2007, 1720 films were placed on YouTube (Bekkers et al, 2008).

The instrumental meaning of the visualization process was twofold. First, it facilitated the pupil's communication in terms of the (re-)production of the content and course of the protest, in terms of participating in broader movement that generated a collective experience. Second, visualization was also used to record the events that were taking place, almost real time. Through this recording, it was possible to share similar experiences, which gave rise discussion. However, this recording also facilitated these youngsters to freeze the police actions against them. In some cities, small riots occurred and the police reacted very violently. Due to filming, police behavior was made visible and transparent: 'real time' evidence was generated, distributed and made available through all kinds of network sites, which ultimately led to the dismissal of two police officers in Middelburg.

This brings us to the political meaning of visualization. First, youngsters (but also the media) used these films and pictures to frame their claims. They were able to depict themselves as David versus Goliath. This helped them to draw more attention but also to generate the sympathy of the public, several politicians, and the media. Visualization helped them to put forward a specific frame about the goal, the course and the effects of their actions. However, this frame and the presented transparency of the actions were questioned by some politicians and police offers, because the reporting in the pupils was perceived as one-sided: focusing on the 'trill seeking' and picturing the police as 'bad cops'. Secondly, the exchange of pictures in social networks and by instant messaging programs, thereby focusing on the exchange of experiences, facilitated self-organization and co-ordination by these loosely coupled pupils, e.g. leading to a general strike and a large demonstration in Amsterdam. YouTube, Hyves and MSN enabled pupils to mobilize themselves very swiftly and on large scale (it is a generation 'always on'), in which the sharing of visualized experiences played an important role. This created a 'strategic surprise', because the responsible ministry of Education was confused how to react.

The institutional meaning refers to the youngster's combined role of protester and reporter. By acting as reporter they were able to generate an additional view on the content and course of the protest actions, thereby challenging the monopoly of the coverage by the traditional media, which also used the films and pictures that were freely available. Hence, they created their own communication. Furthermore, they showed that is was quite easy for a loosely coupled group to organize themselves as issue group, thereby surpassing established intermediaries like the LAKS (a platform organization of pupils with the ministry which was established in the late 1980's) and political parties.

How did it end? The protest of the pupils was quite successful. The responsible deputy-minister of Education said that she would re-examine the 1040-norm in relation to a broader debate on how to enhance the quality of secondary education.

Policy Development: the Reconstruction of a Public Square in Tilburg. Another case study refers to the development and decision-making regarding the reconstruction of a square in the centre of Tilburg in 2006 [22] According to the municipality, it was, due to discussions on the square's functions as well as the need to increase citizen participation, important to give citizens a vote in the planning of the square. They were asked to voice their preferences (like more terraces, more green, more water). Then the municipality asked city developers to develop plans of which three were chosen. These plans were visualized through the use of geographical information systems and 3-D visualization: named Virtuocity which was made accessible through the internet. By choosing an avatar citizens could walk through the visualizations of the square and to vote for one of the designs. They could discuss the plans in a forum. However, they could not make suggestions to change or combine elements of the plans. The design which gathered most votes was adopted by the municipality. In Tilburg 115.00 visits were registered and 4000 votes were counted.

From a functional perspective, visualization was perceived as an instrument to generate transparency in two ways. One the one hand, Virtuocity made it possible to combine different data, regarding all the different aspects of a square, in an integrated picture. On the other hand, the consequences of complex redesign decisions were made visible in a set of simulations. Not only citizens were able to grasp the redesign of the square at first glance, they were also the experience the square through the eyes of an avatar.

From a political perspective, the way these visualizations were shaped as well as the functions they had to fulfill, were subject to a debate between policymakers, citizens, politicians, architects and the system designers in terms of the (perceived) risks. In Tilburg, we notice that, although the architects were first pleased with the idea of a virtual space for their design, in the end they were rather skeptic. They claim that Virtuocity makes the idea of a design more clear but the way their design was projected was not appreciated, the underlying vision of the design was lacking. Furthermore, the aldermen were afraid of possible one-sidedness in the voter's representation as well as the possibility of fraud. Furthermore, the company that produced Virtuocity (CEBRA) played a powerful role. It had a lot of influence in the way their program was used and how to use it, which also limited the discretion of policy makers. For example, CEBRA preferred a high resolution on screen, but the municipality worried about older computers not being able to handle this high resolution, even though sort of a balance was found, the resolution would still be high.

From an institutional perspective, some interesting changes in practices could be observed. Citizens were primarily seen as voters, who have been given an additional opportunity to participate in a democratic decision-making process. Ultimately, the municipality has accepted the design that gathered most votes. Virtuocity was seen as instrument that could help to introduce elements of direct, participatory democracy and add to the legitimacy of the existing municipal representative democracy. At the same time, the voter turnout was quite low in Tilburg (normally 200.000 inhabitants). One reason was that citizens did not believe the municipality would take their vote

seriously. Another reason were some technical problems as well as the fact that only citizen owning a computer and computer skills were able to visit the site and to cast their vote. Citizens complained also about the fact that they have not been addressed as possible co-producers, because they did not have the opportunity to make suggestions within a particular design or to combine elements of the three designs.

Policy Implementation: The Riskmap. After the explosion of a fireworks factory and the knowledge that governments, citizens and first aid agencies were unaware of the locations of risks, a so-called Riskmap was designed [13]. The Riskmap – operational since March 2008 an accessible through the internet- gives an overview of all geographical locations posing a risk to public safety. It will show instances like potentially dangerous, inflammable, explosive and toxic substances as well as core points in transportation which would potentially cause disruption. After selecting a risk the program shows what the risk entails, who is responsible for the risk, the exact location, and the permits. In this way professionals and citizens can get a clear view of the risks in their surroundings. Additionally the Riskmap should be used so that governments can communicate risks to citizens in a clear matter and to help crisis managers and first aid professionals in case of a crisis.

Looking at the functional meaning of visualization, respondents primarily refer to transparency and integration. The risk map not only integrates data stored in different databases into coherent risk and risk management information, it does also make these (often hidden) risks visible in a specific environment. This increased transparency enormously, not only for citizens but also for policy makers and emergency agencies. In case of a fire it becomes transparent for emergency agencies to see whether explosives are located near the fire. Another point is that spatial planners can now very carefully look at where they want to locate buildings, for them it becomes easier to see what a safe place is to build a school. This increased transparency however, also caused a problem. This brings us to the political meaning which stakeholders attach to the increased visibility of risky objects.

There was a large debate on whether the Riskmap itself would not pose a risk, with all the risks accessible for everybody over the world would we not invite terrorist to attack? In the end it was agreed upon that whether or not a Riskmap would exist, terrorists would always be able to get this kind of information. Furthermore, municipalities feared citizens pressuring them in taking all dangerous substances out of their municipalities and that they would feel unsafe. Ultimately, only few complaints by citizens have been made. A reason is that citizens do not make a lot of use of the Riskmap, they claim it makes them nervous or they are not very able to work with the application. The increased transparency also made sure that municipalities became aware of instances in which rules where not applied properly. They feared that when this would be visible, they would be held accountable, so alterations where made. Here we see that because of the existence of the Riskmap rules are executed more accurately.

The institutional meaning of visualization comes forward in the changed government-citizen relationships. Firstly, because now the information on potential risks is easily obtainable for citizens, their information position improved. Secondly, even though citizens do not often complain, since now all the information is transparent, local governments are so afraid that they will that they will make sure that all the rules are

applied correctly and that potential risks are taken into account in spatial planning. However, here citizens are not seen as co-producers and the information is only one way, there are no possibilities for interactivity regarding the risks on the website.

Policy Enforcement: Criminals Wanted. During 2008 several police forces have used the internet to publish photos and CCTV-video material, in their prosecution of criminals. An example is www.overvallersgerzocht.nl ('wanted robbers'), on which pictures and videos are published of robberies, sometimes combined with the criminal's voices. The website has led, between the end of 2007 and during 2008, to the arrest of four criminals. Another example is www.politieonderzoeken.nl (police investigations) which is a website of all the police forces together, on which visual and other material are put of cold cases. By making this material accessible for a broader public, the police hope to get new information on cold cases. Since, its start in 2008, two cases have been solved through new information that was given as a reaction to this specific website.

Another channel that has been used is YouTube. For instance, from 16 July until 5 August 2008, the police in Hollands Midden, which started its own You Tube channel placed a video on YouTube, containing 6 minutes of video pictures of an assault on a gas station in Leiden, which have been watched for more than 40.000 times. More then 100 reactions were given, and the case was solved in August. In the slipstream of this success, other videos have been placed on You Tube by the police force. The idea behind this channel is not only to involve citizens in fight against crime, but also to show that the police are able to produce results which may contribute to the safety feelings of citizens.

When looking at the instrumental meaning, the emphasis lies on transparency, by making visual information accessible for the public. This has become easier, due to the increased digital recording of movement in public spaces, in shops, gas stations etc. As a result, citizens may recognize something or may remember something, which is the result of an individual learning process.

Respondents describe the political meaning primarily in terms of the framing power of visualization, thereby showing that the police have been successful in the fight against crime while making use of new instruments. The solved cases are prominent on the website. A banner with 'solved' as well with an explanation how the case is solved (in al the described examples), attracts a lot of visitors. The idea is that positive news will not only seduce people to report more crimes, but that it also contributes to a better image of the police, thereby helping to reduce possible feelings of anxiety. Policymakers but also the public are convinced of the added value of presenting these pictures. Furthermore, also the privacy protection agency does not substantially raise its voice.

The institutional meaning of presenting pictures is that it appeals to citizens as possible co-producers of public safety. The idea is that the fight against crime could be more effective, if the police forces are able to mobilize the knowledge of the public. Furthermore, in doing so, the police want to convince citizens of the idea that the fight against crime is not only the responsibility of the police, but that citizens have their own responsibilities. Moreover, by showing which crimes have been solved, the police also hope to gain public trust.

Policy Evaluation: Monitoring Neighborhood Safety. In April 2006 the police in the city of The Hague introduced the website 'how safe is my neighborhood [17] This website enables citizens to access data about eleven of the most frequent crimes in a specific neighborhood so that they can monitor the results of the actions taken by the police. The idea is that better and more detailed information about the nature of specific crime developments and the outcomes of specific actions would create a better image of the police and its policies as well as to create a larger commitment of the public which may lead to a larger willingness to report crimes. Up till now the number of visits to the site has been a quite a success, although the number of reported crimes did not rise. Citizens appreciate the way in which the information is being presented and made accessible. The police also invite citizens to comment on how to improve the website. Each month, valuable suggestions can win a price. However, a forum for discussion is not provided.

In the creation of this website, visualization was essential. If we look at the functional meaning of visualization we see that visualization is used to increase the transparency of different kinds of crime and their rates. Rather complex and dispersed criminal statistical and geographical data is being represented, integrated and made accessible in one glace, which also helps to reduce complexity. Visualization supports learning, because the website gives additional information on the development of a specific kind of crime during a number of years, also in relation to the measures that have been taken.

Looking at the political meaning, respondents refer to discussion about the 'facts' that are visualized and presented, and thus how 'crime reality' is being shaped by the police. First, the facts that are presented are only based on the reports of citizens on the crimes they have encountered. The 'facts' only represents the registered crime, while the actual state of affairs could be different. Hence, the visual effects that are created are not based on full and reliable information. Secondly, it has been put forward that the visualized information does not take into account the specific context of a neighborhood. For instance, in a neighborhood with a little number of cars parked less cars will be stolen than in an area with a lot of parked cars. Although it is possible to visualize the data per crime type, the combination of all eleven crime types per neighborhood is not possible, which could facilitate a more comprehensive picture. Respondents suggest that the transparency that is being created can be defined as quasi-transparency (decontextualized crime information) as well as fragmentized transparency (only related to specific crime types), which may suit the police's framing of the problem and the policy outcomes. In the fight against crime, also the perception of crime by citizens should be taken into account. How do citizens experience the safety in their neighborhood? The website does not provide a forum in which these experiences can be exchanged or made transparent. Hence, the interactivity of the site is limited.

What is the institutional meaning of the use of visualization in this case? On the one hand, citizens acknowledge that they have the possibility to be better informed, which is demonstrated by the number of website visits. Their information position has been improved. One the other hand respondents perceive that, due to the emphasis on the reported crime rates and the lack of interactivity through which citizens cannot express feelings of unsafety, the policy still dominates the information supply. Citizens are not defined as co-producers in creating a shared picture about the state of affairs in their neighborhood. They are only seen as a possible source of knowledge in relation to the improvement of the website (accessibility, friendliness, representation of information).

5 Conclusions

In this section we first compare the findings of our comparative case studies in order to draw some conclusions. In table 1 these findings are presented. The categories are based on the three types of meanings which stakeholders may attach to the visual events that are used in the described e-government practices. Also attention is paid to the results that these visualized e-government practices have produced.

Firstly, we see that two patterns of functional meanings can be discerned, which depend on the technology used in the visualization process. First, we see pattern in which registration/recording is dominant. The visual events that are presented here,

Table 1. Meanings of visualization in e-government practices

	Pupil's protest 1040 norm	Virtuocity Tilburg	Risk map	Criminals Wanted	Neighbor-hood safety
Policy phase	Agenda-setting	Development	Implemen-tation	Enforcement	Evaluation
Function al Meaning	Recording and communica-tion	Transparency and integration	Transparency, integration and communi-cation	Recording, transparency, communi-cation and learning	Transparency, Integration and learning
Political meaning	Framing of claims and attention; one-sided transparency; common 'story' to facilitate self-organization	Discussion representation of the design and of trust-fulness of voting. Central role program designers	Dominant risk framing by government, no room for citizen input, no debate on useful-ness map	Pictures as a powerful communica-tion instrument and way of framing the police success.	Dominant safety framing by police on registered facts; no room for subjective dimension of safety
Institutio -nal meaning	Support political self-organization and mobili-zation process; counter-balancing framing	Supports political participation as voter, not as co-producer	Improved accountability for safety in spatial planning and correct rule appliance.	Citizens as co-producer of public safety, appealing to public responsibili-ties of citizens. Adding to police legitimacy	Reinforce-ment of the information position of the police; no room for substantial discussion Improved citizen information position
Result	Reconsider-ation of the norm in relation to the quality of education	Acceptance of the design with most votes; low voter turn out, distrust remains	Improved citizen information position, more emphasis on government accountabiliy.	Crime solution by appealing to the citizen's knowledge, decreased feeling of unsafety and better image of police.	Improved citizen information position, no changes in crime reporting

refer to the possibility to show (real-time) experiences, by showing what has happened (protests, police violence, hold ups). The second pattern is primarily focused on the creation of transparency – reducing the complexity of events and developments by making it comprehensible, and the integration of data and databases. In this second pattern geographical information systems (GIS) play an important role. At the same time we notice, due to the dependency on GIS, which are completely controlled by the involved government agencies, the incentive to facilitate communication is rather limited. In all the cases communication seems to appear but the nature of communication differs. Two way communication as a desired effect of visualization seems to appear in those e-government practices in which the internet, especially web 2.0 applications, play an important role (protests against the 1040 norm and internet use in crime fighting), while in the other cases it is one-way communication: from government to citizens.

When we look at the political meaning of visualization in these e-government practices, we may conclude that pictures are used as a powerful resource which governments – but also citizens – use to help to frame specific events or actions in a rather convincing way. However, the transparency that is being created looks, at first glance, overwhelming. Very often the pictures presented, try to enhance, in a compelling way, the legitimacy of specific organizations or their actions. A closer look reveals discussion on the quality of transparency that is being presented. Although a picture may say more than thousand words, the story this picture is telling, is just one story. Therefore, the increased importance, which governments as well as citizens attach to pictures, generates new means of manipulation. At least it is important to take the context into consideration as well as the assumptions that lay behind the making or distribution of these pictures.

When we look at the institutional meaning of visualization, we see a mixed pattern. On the one hand we see that existing and grown practices have been challenged, leading to a changing positions of citizens. Not only are they better informed, they are also asked to take up new and other positions, for instance as co-producer of co-creator, voter or public controller. At the same time, these new positions are taken within a framework in which the initiating governments still impose this framework, with an exception of the pupils protest against the 1040 norm. In all the other cases we may conclude that the creation of the visual events has not led to a weakening of their positions, one could even talk about a strengthening of their position, in the cases in which the police have been involved (criminals wanted and crime monitoring). The latter has also something to do with the strategic use of visualization to improve the legitimacy of those organizations and the trust of the public in them. There seems to be support for the idea that also the visualization adds to the reinforcement of the information and communication positions of those organizations that already have a powerful position. Visualization opens the possibility to create and shape visual events that can be used to present an even more convincing story (in terms of framing) by those stakeholders, which are able to control the use and distribution of pictures but not necessarily the supply of pictures. At the same time, the 1040 norm case shows very convincingly that citizens themselves have also easy access to the creation of these pictures in order to mobilize political and public support as well as to counterbalance the framing of for instance governments, which hardly generates any costs. Hence, we may expect that in the near future, the production and distribution of pictures in the public domain will

become an interesting battlefield. This battlefield becomes more interesting, if it citizens are really capable to act as a co-producer or co-creator in e-government process, in which the creation of 'visual facts' may help them to counterbalance the official 'frame' that is put forward by government. Furthermore this the democratizing effect, may be strengthened by the fact that the production and distribution of visual events like photos and videos is rather easy and cheap. For these reasons, it is interesting to investigate how the emergence of a visualized public space, through omnipresent penetration of (mobile) multimedia technologies in our daily life, will influence the nature and course of the interactions between government and citizens in the provision of public services.

References

1. Andersen, K.V., Danziger, J.N.: Impacts of IT on Politics and the Public Sector. International Journal of Public Administration 25(5), 591–627 (2001)
2. Bekkers, V., Homburg, V. (eds.): The information ecology of e-government. IOS Press, Amsterdam (2005)
3. Bekkers, V., Beunders, H., Edwards, A., Moody, R.: De virtuele lont in het kruitvat, Erasmus Universiteit Rotterdam (2008)
4. Bijker, W., et al. (eds.): The social construction of technological systems. MIT Press, Cambridge (1987)
5. Boulos, K.M.N., Wheeler, S.: The emerging Web 2.0 social software: an enabling suite of sociable technologies in health and healthcare education. Health Information and Libraries Journal 24(1) (2007)
6. Castells, M.: The Rise of the Network Society. Blackwell, Cambridge (1996)
7. Davenport, T.H.: Information Ecology. Oxford University Press, New York (1997)
8. Frissen, P.H.A.: Politics, governance and technology. Elgar, Cheltenham (1999)
9. Hajer, Law: Ordering through discourse. In: Goodin, R., et al. (eds.) Handbook of Public Policy, pp. 250–268. OUP Oxford (2005)
10. Alfrink Staking, YouTube, http://www.youtube.com/watch?v=xKydYGSQCis&NR=
11. Staking Scholieren Leiden, YouTube, http://www.youtube.com/watch?v=lfkjbZ1DNfI&feature=related; Leiden Scholieren Staking 2, YouTube, http://www.youtube.com/watch?v=lAUq_ZoMClk&feature=related; Blesewic staking scholieren part 3, YouTube, http://www.youtube.com/watch?v=3SC6T0Ur_ wM&feature=related
12. Ik ben tegen de 1040 lesurennorm! Hyves, http://wegmet1040.hyves.net/
13. Risicokaart, Interprovinciaal overleg, http://www.risicokaart.nl/
14. Veroordeelden Gezocht! Politie Amsterdam-Amstelland, http://www.veroordeeldengezocht.nl/
15. Overvallers gezocht, Politie, waakzaam en dienstbaar, http://www.overvallersgerzocht.nl/
16. Politieonderzoeken.nl, Help politie bij het oplossen van ernstige misdrijven. Politie, http://www.politieonderzoeken.nl/
17. Hoe veilig is mijn wijk? Politie Haaglanden, http://www.hoeveiligismijnwijk.nl/
18. Kingdon, J.W.: Agendas, Alternatives and Public Policies. Harper, New York (1984)

19. Kling, R.: The Struggle for Democracy in an Information Society. The Information Society 4(1/2), 1–7 (1986)
20. Kraemer, K.L., King, J.L.: Computing and Public Organization. Public Administration Review 46, 488–496 (1986)
21. Mirzoeff, N.: An introduction to visual culture. Routledge, New York (1999)
22. Moody, R.: Assessing the role of GIS in E-government: A tale of E-participation in two cities. In: Wimmer, M.A., Scholl, J., Grönlund, Å., et al. (eds.) EGOV 2007. LNCS, vol. 4656, pp. 354–365. Springer, Heidelberg (2007)
23. Moon, M.J.: The Evolution of E-Government Among Municipalities: Rhetoric or Reality? Public Administration Review 62(4), 424–433 (2002)
24. Norris, P.: A virtuous circle. Cambridge University Press, Cambridge (2000)
25. OECD: The e-Government Imperative. Paris: OECD (2003)
26. Pine, J., Glimore, J.H.: The experience economy. Harvard Business Press, Boston (1999)
27. Snow, D.A., Rochford, E.B., Worden, S.K., Benford, R.D.: Frame Alignment Processes, Micromobilization, and Movement Participation. American Sociological Review 51(4), 464–481 (1986)
28. Stone, D.: Policy Paradox. Norton & Company, New York (1997)
29. Yin, R.K.: Case Study Research. Design and Methods. Sage Publications, London (1994)