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Visualizations, technology and the power to influence policy

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ABSTRACT

In this paper we explore the influence of visualizations and the technologies used to create and distribute them on the process and outcome of public policymaking. We will analyze nine qualitative case studies, three on agenda setting, three on policy design and decision making and three on policy evaluation. We find that the choice of the technologies used to create a visual event increases transparency and impacts policy greatly. Also we find that the type of story which is told affects the way policy is created or changed.

1. Introduction

On September 3rd, 2015 a photographer took the compelling picture of little dead boy that he found on the beaches of Bodrum, a town in Turkey. This Syrian boy did not succeed to reach the safe shore of Europe, he drowned. The photo went viral, because it visualized and symbolized the atrocities of the refugee crisis and the failing policies of especially the European Union of effectively dealing with this issue. It showed to be an important trigger in the public and political agenda-setting process which ultimately contributed to achieve an agreement between the Turkish and EU government in how to deal with the influx of especially Syrian migrants. This example shows us how important visuality and visual technologies are in public policy processes. Within public policy making visual technologies are increasingly used to create, distribute and share visual occurrences in order to give meaning to specific viewpoints regarding what the nature of policy problem is, what possible approaches would look like as well as frame specific interests and values which play a role in the articulation of these viewpoints. More and more topics are being dealt with in a visual manner. A manner which had not been possible before because of the lack of the technology to create and distribute these images. The question is not only how these images influence the content of public policy making but also the process of public policy making as well as the outcome of this process.

We would like to ask ourselves the question on how and why these visual events influence the course, content and outcome of public policy making, and explain what the role of new technologies in this process entails. Within the study of public policy making hardly any attention has been paid to the role of visuality, only to the role of the media and media logic (Bekkers & Moody, 2015; Hajer & Lawes, 2006). This leads

us to our two goals, firstly to conceptualize the role of visual occurrences and visual technologies in public policy making and secondly, to systematically investigate its influence by enhancing our empirical understanding. These goals will help us to fulfil our aim of developing theory on the influence of visual culture in the process of public policy making and the role of technology within this process.

In order to find an answer to this question we have looked at nine case studies in which a visual element was prevalent. Three of these cases deal with the agenda setting phase of public policy making, three deal with policy design and decision making, and three deal with policy evaluation. The cases can be found within different international contexts (Netherlands, United States, Germany, Switzerland) and deal with different policy topics (minority integration, freedom of speech, public health, water management, livestock diseases, risk management, evaluation of disasters).

In the paper below we will shortly reflect on the preliminary findings of our study. Firstly, we will look at the notion of a visual culture and we will explore technologies for the visual, while these technologies influence how the visual event is created, distributed but also viewed content wise. Furthermore, we will look at concepts of framing and storytelling in the policy making process, since these concepts will help us conceptualize the way visual events are created and distributed. We will proceed by creating a conceptual framework on the basis of which we will analyze the cases. Finally we will end with a set of hypothesis for further research based on our findings on the role of technology in the influence visual culture holds on public policy making.

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2. Visual culture and visual technologies

Nowadays, human experiences have become more visual and visualized than ever before. Images play an important role in politics, due to the fact that politics have become mediated politics: citizens experience politics through the way it is visualized by the traditional media (e.g. newspapers, television news shows) and the new media (e.g. blogs) (Bennett & Entmann, 2001). The media have become increasingly the platform for politics in order to gain political and public support or to discuss political issues. That is why the penetration of visual technologies in our society should not be studied as a separate phenomenon: it is an integral part of, and embedded in broader societal, economic, social and cultural developments and practices (Castells, 1998; Mitchell, 1994). We consider visual technologies those technologies which are used to create and to distribute visualizations. In order to classify visual technologies, we make use of two dimensions. The first deals with whether the images are moving or non-moving (for example photographs versus film) and the second deals with whether images are an exact replica of reality versus a non-exact replica of reality (for example a photograph versus a drawing or a film versus an animation) (Bekkers & Moody, 2015).

When looking at the functions of visualization we find that they serve three functions. First, the classical function of visualization is registration. Through pictures people can register or record people, movements or developments in terms of freezing them in time and place (Mirzoeff, 1999). It generates ‘forensic evidence’ (Hartley, 1992:35). Due to the fact that these occurrences are digitally recorded, they can be duplicated, can be made accessible and can be distributed and exchanged more easily.

Secondly, visualization can make complicated things rather transparent in terms of comprehension: one picture says more than thousands of words. For instance, by showing what the effects of air pollution are (Hartley, 1992; Moody, 2010). Three types of transparency can be distinguished (Snellen, 2000). First, there is informational transparency, which refers to the fact that digitized activities generate information about the way and the conditions under which they are deployed, for instance by making use of user graphics. Secondly, there is analytical transparency, which refers to the possibility to better understand the nature of specific issues or the effects of specific measures, through the use of different perspectives on a subject that are based on the combination of different but relevant data. Thirdly, and consequently visualization can also increase transparency because it can integrate different data but also different perspectives in one ‘whole’ or sequence of images. For instance, in the development of visualized scenarios, relevant data, stemming from different data bases, can be presented and visualized in an integrated way, which can make things (again) easier to understand. This is called integrative transparency.

Thirdly, visualization facilitates communication and learning beyond creating transparency. It also creates connections and shared understanding between different people on a more emotional level. The development of such shared understanding is often seen a necessary condition for learning (Weick, 1969) Moreover, images very often stimulate our emotions, because they are often used to convince and persuade people, which may also trigger communication and other forms of interaction, which helps to facilitate individual and collective learning process about what has happened, or what should happen. This does not just occur at individual level, but also impacts society as a whole and thus also the policy process.

3. Visuality, framing and the policy process

However, these features are not given, strictly instrumental or neutral. It is important to address the political meaning of visualization and the kind of transparency, communication and forensic evidence that is being produced. This political meaning plays an important role in policy processes because actors can use visualization to push forward

their values and interests and compete with other values, interests and proposals. (Bekkers & Homburg, 2007) We consider the policy process as an ongoing process of interactions – in terms of communication, persuasion, negotiation, exchange, compromise and imposing – between relevant actors or advocacy coalitions that try to protect their own interests as well as to push forward their claims and views within a policy arena (Sabatier and Jenkins-Smith, 1993). These actors stem from different organizations, stemming from different societal domains and act at different layers of government. The interactions between them are focused on the shaping of different policy processes – that sometimes can be seen as separate processes but also can be viewed as overlapping processes – which take place in different, but linked arenas (Allison, 1971; Crozier & Friedberg, 1980; Lasswell, 1936; Lowi, 1972). In order to push forward their specific interests, claims and views, actors develop different frames in which their vision of ‘reality’ is being expressed. However, actors try to convince other actors of the appropriateness of their frames or they impose these frames so that other actors have to comply (Hajer & Lawes, 2006; Stone, 1997). In the end, through the adoption of one dominant frame or the alignment of different frames in one emerging frame ‘reality’ is created.

Visualization supports a process of framing in which social reality is (re-) constructed in a way that it politically makes sense, thereby including or excluding elements into the constructed image as well using specific features of the technologies to be used (Stone, 1989; Hajer & Lawes, 2006). In essence this is a political process, in which specific stakeholders try to structure reality in such a way that it may serve their purposes, which also influences the way in which they use visual technologies (Bijker, 1995; Orlikowski, 2000). This framing process can be looked at as telling a story, in which a specific version of reality is being constructed. In this storytelling process visuality can account for three types of different stories (see Bekkers & Moody, 2015). A visualization can tell more than one type of story so they are not mutually exclusive, however, in general they can be considered exhaustive.

The first type of story consists of the visual presentation of registered events that have been taken place. The story that is told is that showing ‘forensic evidence’ (Hartley, 1992). Therefore we call this story the ‘forensic visual story’. The emphasis it lies on making a hidden or unknown reality accessible through the creation of a visualization. For instance, the video film in a CCTV camera may show us how and how many crimes in a specific street are taken place. Not only this complex world is made accessible, visualization may help policy makers to get a better understanding of the complexity of this real world by making it more transparent in an integrated way.

The second type of visual story that is that the ‘persuasive visual story’ (Hartley, 1992) Visualizations are created because they appeal to our emotions. Visuality are used to dramatize, thereby articulating some elements more than other elements, however without telling lies. This is important, while in politics and policymaking dramatizing is needed to persuade people so that they become convinced of the story that is being told. Through the creation of visualizations policy makers try to exercise control about how people think or act as they become inspired by the images that are presented.

The third type of visual story is that of the imagined visual story (Hartley, 1992). In this story an imaginary view of reality is presented through the creation of a visualization, often by cartoons or animation. Most powerful is the use of virtual reality and other forms of simulation technologies in which scenarios of possible futures can be visualized, that are based on the manipulation of specific parameters which refer to a ‘what if’ reasoning. For instance, what happens to a country when the level of the sea is rising with 10, 20, 30 or 40 in.?

4. Conceptual framework

When we link the visual technologies with their functions together with the types of stories we find a way to describe, analyze, and explain how visual technologies shape the policy process and we can formulate

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