



Selected Papers of #AoIR2017:
The 18th Annual Conference of the
Association of Internet Researchers
Tartu, Estonia / 18-21 October 2017

The interplay of different publics in Big Crisis Data

Karolin Eva Kappler
Institute of Sociology, University of Hagen

Big Crisis Data: an emerging field of valuation

We presently witness a huge surge of digital data, measurements and new forms of (algorithmic) valuation. This includes the extension of calculative practices to emergency situations (both natural and human-made crisis) and emergency management systems. By introducing Big Crisis Data (Castillo 2016) and its consolidating calculative practices of event detection, text classification, analysis of images or sentiment analysis, the very concepts of emergency and crisis rely heavily on the calculation of crisis events and crowd behavior. This data based crisis management takes place constituting, controlling and shifting the interplay between different publics, such as the population directly affected by the emergency, volunteers, networked publics (mainly through Social Media platforms), civil protection agencies, but also developers of algorithms, researchers, Big Data experts and 'the crowd'.

These practices can be interpreted as a new manifestation of "calculating the social" (Vormbusch 2012) and "controlling the future" (Vormbusch 2009). Relevant aspects of the social are being redefined based on calculative practices (Hopwood/Miller 1994). Whereas critical accounting studies and parts of economic sociology are influenced by the notion that numbers should be studied as a dominant form of cognitive knowledge, this paper will study quantitative approaches to emergency management as an emerging practice in the frame of the transdisciplinary 'valuation studies' (Lamont 2012). In this perspective, data driven emergency management systems presuppose the ongoing calculation and valuation of (transient) events.

Therefore, the paper asks (1) how these calculative practices look like and how they come into practice and (2) how they mediate between and affect different roles of involved publics. The aim is not only to shed light on the interplay between different publics, but also to understand how measurements and visualizations – based on Big Data

Suggested Citation (APA): Kappler, Karolin Eva. (2017, October 18-21). *The interplay of different publics in Big Crisis Data*. Paper presented at AoIR 2017: The 18th Annual Conference of the Association of Internet Researchers. Tartu, Estonia: AoIR. Retrieved from <http://spir.aoir.org>.

analysis and algorithms – affect these publics following the perspective of a platform society.

Methodology

To answer the above stated questions, the paper analyses a 3-years funded EU-project (SUPER - Social sensors for secUrity Assessments and Proactive EmeRgencies Management <http://super-fp7.eu/>) which has just ended. The EU project is composed of a mixed consortium of Big Data experts (such as academic researchers, commercial Big Data analysts, but also social network providers) and security experts (such as security and civil protection agencies). The consortium was composed as to introduce a holistic, integrated and privacy-friendly approach to the use of social media in emergencies and security incidents. The SUPER approach exploits social media information in order to assess citizens' behaviors and attitude before, during and after the occurrence of security or emergency incidents. This information is integrated into tools serving both the strategic and the tactical level of security/emergencies management.

The paper is based on an accompanying research of this project, including participatory observations of several technical meetings, review sessions and weekly telephone conferences, qualitative interviews with involved partners and associated end-users, questionnaires with affected and involved publics (e.g. participating volunteers in validation pilots) and the corresponding reports and publications. The paper describes how the developed algorithms measure and visualize events, rumours, and sentiments before, during and after emergencies by use of metadata. It also describes how measurements and visualizations affect involved publics. The results refer to questions about rumours and fake news and how they alter the perception and behaviour of different publics involved. They describe specific types of interaction between different publics to provide "good and valuable" (mega-)data. Finally, the results apply to the problems associated with incomplete algorithmic measurements due to fragmented visions of the corresponding public and to the lacking of context.

The emergence of a megadata society?

The paper explains some of the unfolding practices of emergency-tracking and how – based on individual and social metrics, practices and discourses – metadata gains in importance through supervised and non-supervised algorithms which detect patterns and anomalies. Metadata also transforms human beings (at least partially) into simple individuals, sliced into pieces of data and data assemblages (Deleuze 1992). Following Pasquinelli (2017), this could lead to a shift from network society towards a metadata society, which draws its information, but also its power from Big Metadata and the corresponding platforms. Hence, metadata might not only serve as a benchmark for the value of social relationships and the implementation of machine intelligence, but also as a new form of biopolitical control or "dataveillance" (Pasquinelli 2014: 328). New forms of control can be used to manage and predict people's behavior. However metadata society seems to some extent limited, as metadata still offers a partial view of life patterns, partly hindering "dataveillance", hampering Big Crisis Data and its uses in emergencies.

References

Castillo, Carlos (2016): Big Crisis Data. Social Media in Disasters and Time-Critical Situations, Cambridge: Cambridge University Press

Deleuze, Gilles (1992): Postscript on the Societies of Control, in: October 5 (Winter): 3-7

Hopwood, Anthony G.; Miller, Peter (1994): Accounting as social and institutional practice, Cambridge: Cambridge University Press

Lamont, Michèle (2012): Toward a comparative Sociology of Valuation and Evaluation, in: Annual Review of Sociology 38: 201-221

Pasquinelli, Matteo (2014): Der italienische Operaismo und die Informationsmaschine, in: Reichertz, Ramón (ed). Big Data, Bielefeld: transcript: 313-332

Pasquinelli, Matteo (2017): Arcana Mathematica Imperii: The Evolution of Western Computational Norms, in: Hlavajova, Maria (ed.). Former West: Art and the Contemporary after 1989, Cambridge: MIT Press (forthcoming publication)

Vormbusch, Uwe (2009): Controlling the Future – Investing in People. Paper presented at the London School of Economics and Political Science, Department of Accounting, February 4th, 2009; [https://www.academia.edu/9774942/Controlling_the_Future - Investing in People](https://www.academia.edu/9774942/Controlling_the_Future_-_Investing_in_People)

Vormbusch, Uwe (2012): Die Herrschaft der Zahlen. Zur Kalkulation des Sozialen in der kapitalistischen Moderne, Frankfurt/New York: Campus Verlag