

# Unraveling and understanding the e-government hype

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## 1. Belief in new technologies

This book has reviewed the e-government hype: the enormous expectations that were held regarding the potential contributions to governments by new, web-based technologies. In the last decade of the twentieth century these new technologies, particularly the Internet, were hyped in many ways and advocated as new forms of organizing government. Around the globe, advocates of the hype were convinced that this new technology would bring tremendous opportunities and fundamental changes to the way people organize and interact. The Internet was seen as a revolutionary tool, an opportunity to reshape the material basis for organizations, communities and governance; indeed for society as a whole.

The technology that triggered the hype is the Internet and, more specifically, the World Wide Web. This *network of computers* enables world-wide real-time communication. The Web was supposed to offer new modes of production, new modes of development and – in the end – a new social structure: the network society [1]. In other words, the Internet was *the* promising technology [2] and was advocated so strongly that it became a hype in the late 1990s. The hype started in the private sector but spread into the domain of public administration.

The Internet hype was perhaps most visible in the rise of Dotcom businesses [3]. Companies started to experiment with the Internet not only to improve their customer services by building websites for on-line purchasing, but also by using the Internet to transform the very fundamentals of their companies. The Dotcoms' organizational structures, and in many cases also their products, were based on network technologies [4]. The promise of the Dotcom organizations collapsed when the Internet bubble burst. The problem with the new concept had been that the Dotcom organizations were not built on proper financial ground. Although they were based on the principles of the stock market, for a long time their stocks (e.g. in on-line services) were only promises [5].

But it was not just the weak economic basis that made the operation of the new web-based organizations problematic. The Dotcom organizations became a metaphor for the Internet as the promising technology that would fundamentally change our society yet a tool that in itself is empty. They were the hype and the bubble at the same time. The fall of the Dotcom industry at the beginning of the twenty-first century challenged the high expectations that had arisen. After so much hype, the unmasking of the Dotcoms as simply a new mode of organizing came as a shock. And it soon became clear that only those organizations that had invested in building structures based on the principles of the 'old' economy would survive.

It was not only the private sector that had made huge investments in the web-based technologies. Governments all over the world had invested in these new technologies, since these were supposed to make government more efficient, effective, democratic and legitimate. As this book has shown, the new technology was often placed high on the agenda of policy makers as the promising instrument to support and even broaden the tasks of government. Governments all over the world expected much – as we now know, *too* much – from the Internet. ‘E-government’ followed a pattern similar to that of the Dotcom organizations: it was hyped but could not meet the huge expectations.

One could conclude that we have all been lured into thinking that technology makes everything different. We can see that we should now be more ‘realistic’ and careful not to get carried away by technological utopias. This may be true, but this new understanding does not tell us much about the character and the function of the hype, nor how to recognize and deal with hypes in the future. Throughout this book the various authors have analyzed the hype at different levels. The chapters provide us with insights into the ideologies underlying the hype, the reasons why the high expectations could not be realized and the slow changes that did eventually take place. We aim to go beyond a dichotomous approach – carried away by dreams versus being realistic – to understand how these dreams influence the actions of actors in the public sectors and the resulting changes. What happened in the public sector during the hype, and what is happening now that the hype has ended?

## 2. Ideology behind the hype: ‘Resistance is futile’

Hypes are not value-free but are based on ideologies [6]. The kind of future we desire plays a role in how we see and treat current trends. Throughout this book we have seen many examples of web-based technologies, such as the Internet and web services, being introduced to governmental organizations among high expectations. Most of the chapters about the relation between ICTs and citizens highlighted how the gap between citizens and governments (including local governments) became a sensitive issue in political terms. The new technology was seen as a helpful means in bridging it. If governmental security organizations started to dysfunction because of insufficient coordination, new technological systems were introduced to overcome these problems. When the public infrastructure proved inadequate, again it was electronic means that were introduced as the final answer: e-health, e-learning and e-governance. What is the ideological basis of these ‘solutions’? We will examine this in the paragraphs below. Three aspects of this ideology are important to consider.

First, the rhetoric of the 1990s and the implementation of so many new technologies in government were based on a strong and *deterministic belief* in technology that embraced the positive effect of new technologies [7]. ‘Determinism’ in this sense refers to the idea that new technologies develop autonomously, come to us like ‘manna from heaven’ and determine organizations, people’s behavior and, in the end, society at large. This book provides various examples. Ter Hedde and Svensson indicate in Chapter 3 that the Internet in general, and discussion forums in particular, were expected to lead to new, more participatory and more deliberative forms of democracy. Moody’s analysis in Chapter 7 shows that Geographical Information Systems would, according to ‘believers’, increase the transparency and rationality of decision-making processes. These systems would also lead to nation-wide information sharing. Another example is provided by Pieterse, who stresses in Chapter 5 that it

was widely believed that web channels would make the telephone and front desks obsolete.

This deterministic belief underlying these expectations of the impact of new technologies has been criticized heavily on the basis of empirical research. The day-to-day practices of the new technologies in-use, as Orlikowski [8] would call it, make clear that ICTs are demanding rather than promising technologies [9]. Technology is, moreover, an outcome of social interactions between a variety of actors and does not determine these interactions through its characteristics. The ideology underlying the hype fails to take this social complexity into account.

Second, as this book has shown in many cases, the strongest advocates of Internet as a tool for bridging the gap between citizens and government treated the new technology as a *neutral phenomenon* [10]. In Chapter 11, Poole *et al.* show how the idea behind Decision Support Systems is that these systems will enable American planners and decision makers to act more rationally and responsively to the needs of citizens. In Chapter 8, Gil-Garcia and Luna-Reyes indicate that the introduction of Digital Community Centers is supposed to help creating a national information society in Mexico. Meijer explains in Chapter 4 that the publishing of school performance indicators on Dutch government websites is supposed to lead to better school choice and eventually better education for everyone. Lips, Taylor and Organ (Chapter 6) describe how smart card applications are presented as means to make government more citizen-centric rather than organization-centric. Similarly, Rothier and De Rynck (Chapter 12) discuss how e-government is supposed to lead to integrated service delivery to citizens. The use of all these systems is supposed to be in everybody's best interest. After all, who could oppose more rational decision-making, the spread of knowledge in society, better education, citizen-centric government and integrated service delivery?

That means that in these narratives the technology itself is never questioned – it is considered to be unproblematic. Kling [11], however, shows that technology cannot be treated as a neutral phenomenon. Values are a key attribute of technologies, which the technologies attain from their contexts of design and development. Technologies trigger controversies and cannot be regarded as being neutral. Technology can become an instrument for setting the development for organizations and society as a whole and has built-in political dimensions [12] that can have both intended and unintended consequences for the social system in which it is introduced.

In the third place, a recurring element in this book concerning the hype is that the new technology was introduced not only with high expectations and in a rather deterministic way, but also as the final answer to any problem. The new technology, the Internet, was regarded to be a *technological fix* [13, 14]. This means that technology was regarded to be the problem solver for any dysfunction in social systems. Huge benefits were expected to be reaped from the introduction and implementation of the new technologies in public services. It came to be viewed as a panacea. Networks of computers, web-based technology, the Internet, and e-services were introduced to literally fix the problems of citizens and government. Many authors in this book provide examples of a technological fix. Gil-Garcia and Luna-Reyes describe how the deployment of Digital Community Centers is seen as a means to create economic growth and social development in Mexico (Chapter 8). Bannister and Connolly show how the new technologies are seen as a fix for the desire to organize Irish government in a more decentralized manner (Chapter 14). The new technologies are presumed to bring about the 'death of distance': employees of government agencies

could work anywhere, since web-based technologies enable interactions over large distances. Wagenaar *et al.* make a similar argument in Chapter 9 concerning coordination between different government organizations. They indicate that the use of integrated emergency center systems in the Netherlands was supposed to fix all coordination problems between the police, fire brigade and ambulance service.

The idea of a technological fix fails to take social and institutional contexts into account. The context in which the new technologies were implemented and used turned out to be far more problematic than was envisioned. The contexts of economic and social development in Mexico, of decentralization of Irish government and of cooperation in emergency centers in the Netherlands proved to impose important limitations on the potential for technology to truly fix problems. Fixing problems requires creating complicated collaborations between various societal actors. Technology can be an aid in fixing them, but it can never fix the problems by itself.

Determinism, neutrality and technological fix present the future as an unavoidable and better place for everyone. The past, differences in power, administrative traditions and political culture do not matter. New technologies solve major problems in the public sector, and those opposing the new technologies are seen as luddites who should be convinced of all the benefits that the new technologies offer. The promises of the new technologies, proponents argue, are only properly understood by technologists who know about the new technologies, and laymen should follow them in their judgments. We qualify this ideology behind the hype as a non-democratic ideology. The future is not considered to be something which is created in democratic interactions between a variety of actors but rather as a technological given. In Star Trek terms: 'Resistance is futile'.

### 3. Unraveling the backlash: The hype as a new utopia

In practice the new technologies never succeed in realizing their promises. The 'backlash' was highlighted in all chapters in this book. Rein de Wilde, in his book *De Voorspellers* (The Predictors) [15] gives an analysis of why such images are doomed to be proven false. De Wilde discusses the phenomenon of futurology, utopias and hypes about technology and mentions four fundamental reasons for failure, all based on a naïve belief in technology.

First of all, new technologies will be *used in different ways than could be foreseen*. This is because a technology always becomes part of social practice, which has its own dynamics, and no social practice is the same. The introduction of ICTs can even lead to a reinforcement of existing practices instead of opening up new directions. Unforeseen uses of new technology emerge from various chapters. Wagenaar *et al.* show in Chapter 9 that different operators use codes in integrated emergency center systems in different ways. The disciplinary backgrounds – police, fire brigade, ambulance service – condition patterns of use. Meijer's findings in Chapter 4 show that even though public school performance indicators were meant to be used by parents, their use by school administrators accounts for some of the more important impacts. In Chapter 13 Pardo, Gil-Garcia and Burke highlight that record-keeping in the system for maintaining information about the West Nile Virus did not take place as intended because reporting certain findings was too tedious and was therefore avoided by local authorities.

In addition, the success and failure of any new technology is highly dependent upon *complementary innovations*. A new technological device is never a stand-alone technology; it always becomes interconnected with other technologies. This means that the introduction of a new technology asks for a re-design of the system in which it is implemented, and that is a difficult job in itself. In Chapter 11, Poole *et al.* highlight how a comprehensive Decision Support System can only function when there is an adequate underlying IT infrastructure. The absence of such an infrastructure makes it impossible to realize the potential offered by the Decision Support System. Moody's research (Chapter 7) shows that public participation was hampered by the fact that not everybody owns a personal computer or has access to the Internet. In their analysis of e-government in Flanders, Rotthier and De Rynck (Chapter 12) show that incompatibility of technological packages forms an important obstacle to technological innovation.

Further, the success of a new technology not only depends on the superiority of the new technology, but also, and perhaps even more so, on *social factors*. Opposing the deterministic idea of technological development, technology should be seen as the product of social interactions. Social factors appear in most chapters in this volume. Poole *et al.* describe several political and legal constraints for the use of Decision Support Systems in urban planning (Chapter 11). They argue that term limits for elected officials has a direct influence on the use of these systems since these officials may divert from the logic of these systems in view of their own political goals of being reelected. Ter Hedde and Svensson also highlight how political logic limits the impacts of new technologies (Chapter 3). They indicate that politicians are hardly interested in digital debates and that therefore this mode of communication plays a minimal role in debates between elected representatives. Moody emphasizes that organizational politics are important: Geographical Information Systems facilitate information sharing, but many organizations wish to retain their autonomy and are therefore reluctant to share information with others (Chapter 7). Rotthier and De Rynck (Chapter 12) emphasize that leadership is a crucial factor that needs to be studied in order to understand the impacts of e-government technologies on Flemish local governments.

Finally, De Wilde argues that history can triumph over the future. That means that in some social settings, *people choose to continue the use of old technologies* instead of embracing the implementation of new technologies. Wagenaar *et al.* indicate that in spite of the availability of integrated emergency center systems, police officers still heavily rely on their mobile phones (Chapter 9). Meijer's research shows that parents continue to rely on traditional information about school performance, such as stories from other parents, and make little use of government websites with school performance indicators (Chapter 4). Pieterse describes that in the presence of web portals Dutch citizens still widely prefer contact with government officials over the telephone (Chapter 5). Similarly, Schellong highlights in Chapter 2 that American citizens also prefer to contact governments over the telephone.

The analysis of the 'backlash' shows us that hypes fail to heed the complexity of the social, political and administrative settings in which these technologies are used. Unforeseen uses, complementary innovations, social factors and old routines condition the development and use of new technologies. Social actors do actually influence technological trajectories, and they make relevant choices. A failure to take this complex social and institutional setting into account leads to deception. An understanding of the interactions between social and technological characteristics is needed to understand resulting technological practices. A focus on these resulting

practices also leads to new insights: the chapters in this book highlight how, in the end, the introduction of new technologies leads to significant transformations in the public sector.

#### 4. Transformations in ICT and governance

Talking about the Internet and government as a hype does not mean that nothing has changed. The opposite is true. New technologies have been introduced in governmental organizations and practices and these organizations have indeed changed. The technologies in-use have also contributed to some transformations government went through. Some of the transformations were planned transformations; others were just emerging from discursive and recurrent practices in the organizations in which the new technologies were introduced (see, for example, Wagenaar *et al.* in Chapter 9). Often the use of the new technologies such as the Internet and other web-based ICTs led to unintended consequences. In the introductory chapter we already indicated that routines shift at a deeper level.

The institutional transformation taking place can first be analyzed at the domain of citizen-government interactions. These changes take place at the level of steering: new technologies seem to lead to transformations in the way governments try to steer citizen behavior.

- *Informational steering.* Traditionally, governments steer citizens' behavior through punishments and rewards. Access to information seems to have developed into a new form of steering. Gil-Garcia and Luna-Reyes show that even though the introduction of Digital Community Centers is a slow process, over time these centers have enhanced Mexican citizens' access to information resources (see Chapter 8). Moody shows in Chapter 7 how geographical websites have enabled citizens to understand the plans for their city. In Chapter 4, Meijer highlights a similar development in the Netherlands: citizens have much greater access to information about the performance of schools than they had before. Governments increasingly release specific information to citizens to steer their behavior in a certain direction. Mexican citizens are supposed to use the information for economic growth; Dutch citizens will create a stimulus for schools to improve education. Access to information has certain effects on citizen behavior and can be labeled as a new form of steering.
- *Specific and continuous steering.* Traditional incentives imposed on citizens by governments focus on fines and financial rewards. These punishments and rewards are imposed in a limited and general manner. Lips, Taylor and Organ show how smart cards can be used to impose new rewards (see Chapter 6). They indicate that governments are trying to stimulate the 'good behavior' of citizens through the attribution of smart cards and loyalty points. These cards enable governments to impose incentives in a much more specific and continuous manner than through traditional means.

This book also provides information about the institutional transformation taking place at the domain of interactions within governments:

- *Fading boundaries between organizations.* Government has been designed into separate unions with distinct responsibilities. These distinctions seem to be fading under the influence of the use of information and communication technologies. Wagenaar *et al.* indicate that even though systems for cooperation between police, fire brigades and ambulance services have been implemented slowly, these systems result in stronger cooperation and fading boundaries between these three organizations (Chapter 9). Pardo, Gil-Garcia and Burke show how American governments find it difficult to share information concerning the West Nile Virus but, eventually, sharing results in increasing reliance on a common data pool (Chapter 13).
- *Increased external focus.* Government organizations traditionally have had a strong internal focus. The analysis by Meijer of the effects of publishing school performance indicators shows that the net effect is that schools shift their focus more to their environment (Chapter 4). Pardo, Gil-Garcia and Burke show how governments increasingly use external information for their response to the West Nile Virus (Chapter 13). The environment can acquire more information about public organizations, and these organizations can acquire more information about their environments. The network character of government (see Van Dijk and Winters-Van Beek, Chapter 16) forces government organizations to pay more attention to their stakeholders.

This overview of institutional changes is far from complete and does not mirror the impressive description of resulting long term changes – ‘after the hype’ – presented in the various chapters. The goal of this overview was to emphasize that, in the end, institutional transformation in government *is* taking place. Citizen-government interactions are transforming, and these transformations result in new, specific forms of steering and new, networked forms of government organizations. The hype has played a role in these transformations because it has been a trigger for change. How can the relation between the hype – as a narrative – and institutional transformations be understood?

## 5. The functions and dysfunctions of hypes

In doing justice to hypes, it is not enough to analyze their reasons for failure. We also need to look into their functions and dysfunctions. An interesting framework for analyzing the function of hypes was presented by Bekkers and Homburg in Chapter 15. They conceptualize hypes as myths and argue that these can be seen as beacons which show us the way to a desirable future or, in this case, to a new and better public administration. They argue that hypes can be important since they play a role in defining the construction of policy problems and solutions, create a ‘common grammar’ among different actors and legitimize organizational transformations and policy changes. These functions are clearly present in the analyses presented in this book. Myths about citizen-centered government, for example, define the solution as new ways of organizing service delivery, create a grammar that focuses on citizen interactions and legitimizes transformations in service delivery organizations. The changes are much slower than foreseen and the impact may be quite different from the intended outcome, but the hype has nonetheless created a trigger for change, whereas without it the status quo would have continued.

Additional functions can be identified on the basis of the material presented in this volume. First of all, the hype of the web-based technology has a role in *agenda setting* [16]. That means that if a new technology is hyped the choices of the broader audience are influenced. The hype shows that technological developments have been made a priority. Information sharing has become a priority in thinking about cooperation between government organizations, and a citizen focus dominates thinking about service delivery. Technological hypes have played a supportive role in moving these issues onto the public, political and administrative agenda.

Second, hypes can challenge individuals and organizations to think about cooperation. Cooperation is always a difficult issue because it may seem to offer all kinds of advantages but will in the end lead to a reduction of organizational autonomy. The chapters clearly show that the hypes provide *a new incentive to create organizational collaborations*. Hypes form a shared story about renewal and can therefore help different organizations to overcome differences and start changes. The ‘common grammar’ mentioned by Bekkers and Homburg (Chapter 15) plays an important role here.

Finally, hypes can be a rhetorical means to overcome deadlocks. Hypes about new technologies can be used as a *narrative of change* [17]. Institutional and cultural barriers may form important inhibitors to change. Many of the chapters show how government organizations are slow to change their orientation towards service delivery, openness to citizen signals, cooperation with other governments, etc. A story about change which is both unavoidable and desirable may form a means to break through deadlocks and force actors to rethink current arrangements.

Does this mean that hypes always have a beneficial impact on government? The answer is plain and simple: certainly not! We have highlighted the non-democratic ideology underlying these hypes. Laymen are not supposed to be involved in discussions about hypes since they lack a thorough understanding of these new technologies. This means that technological hypes may take us into directions which are not called for. Meijer & Zouridis [18] emphasize that e-government should be understood as an institutional transformation and that a public debate about the nature of this transformation is needed to prevent the creation of a type of government that we do not want. Government could take the form of a calculator without attention for values, morals and perspectives. If hypes are to be functional, they need to be opened up to public debate.

## 6. How hypes should be approached in the future

This book about the hype surrounding new ICT technology and its relation to governmental change has shown that societal problems (e.g. communication between governments and citizens) cannot be solved by technology. A strong and deterministic belief in a ‘technological fix’ has been proven wrong. New technologies can help solve technical problems, and of course, technology that is currently being applied can be an enabler for the improvement of social practices. However, the idea that the Internet can solve complex social questions in the governance of the educational system, health care, infrastructures and water works, to mention but a few – along with the assumption that technologies can be used unproblematically to solve governmental problems (such as the gap between citizens and government), make government more transparent and link organizational functions – is rather naive.



What is important to consider in dealing with hypes about web-based technologies is that the technology we talk about is the outcome of social interaction, contrary to the deterministic idea of technological development. The introduction of new technologies should not be seen as unproblematic. Bringing new technologies into government means hard work and a constant rethinking of the motives and reasons behind the implementation. In the end, it means the actual reshaping of the function of government, leading to a mutual change of both the technological devices and the organizations in which they are implemented. This means that technology is the outcome of negotiations between developers and users and must always be enacted in daily practices.

Coming back to the question of how to deal with hypes, we will provide a different answer to scientists and practitioners. Let us start with the scientists and, again, De Wilde's thinking [19, p. 127-51] can inspire us. He suggests that scientists need to do the following four forms of analysis:

- *Rhetorical analysis.* Scientists need to extract the central concepts upon which the perspective of the future is built. How is government conceptualized? What kind of conception of democracy underlies the hype?
- *Normative analysis.* The norms underlying choices need to be made explicit. What is the norm for public sector performance that underlies the hype? How is organizational collaboration valued?
- *Consistency analysis.* Find inconsistencies and paradoxes in the perspective. How can legal quality and a focus on the citizen be created without creating a tension? Why would representatives value direct forms of democracy?
- *Action patterns.* Leave the level of language and analyze patterns of actions that are influenced by the perspective. The focus on action patterns has been the dominant focus in this volume. The authors have provided insights into the actual actions resulting from efforts to realize the promises offered by the hype.

Together, these four forms of analysis can help scientists to reveal what is behind the hype. This type of knowledge can provide a starting point for a public debate and form the basis for a more democratic perspective on the future. This democratic perspective could influence advice to practitioners, but more strategic advice is also possible. Politicians and administrators could use hypes to propel the changes they support. Hypes can be used to present certain changes as beneficial and needed. Efforts to strengthen collaboration can be supported by using the Internet hype as both a means to realize cooperation and a mandate for it, since the new technologies make cooperation imperative. A politician or administrator who manages to use hypes to his/her advantage can be influential.

What could these answers mean for the reactions of scientists and practitioners to the new hype *Web 2.0*? The term *Web 2.0* was coined by Internet guru Tim O'Reilly in 2004. Interactive tools – based on *Web 2.0* technologies like Wikis, YouTube and blogs – are supposed to enable the user to become a more active participant on the Internet. For example, Wallace, in her book *The Internet in the Workplace* [20] introduces *netcentric work*, an idea based on the innovation of interactive Internet tools. *Netcentric work* implies that *Web 2.0* information can also become a useful tool for governmental bodies such as safety organizations [21, 22]. The term *Web 2.0* has

become immensely popular and resulted in terms such as Democracy 2.0, Government 2.0, Enforcement 2.0, etc.

On the basis of our analysis, scientists should question the foundation of this hype by asking questions about conceptualizations, norms, inconsistencies and practices. Practitioners could use the Web 2.0 strategically to realize their goals. We as authors of this chapter and editors of this book think that it is most important to have a democratic debate about Government 2.0. The Web 2.0 hype tends to be dominated by people with technological knowledge who tend to believe that the Future 2.0 is both unavoidable and desirable. This volume has clearly shown that neither of these qualifications holds true and that therefore debates about the future of government should be opened up to all kinds of input. Government is too important to be left to technicians.

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