Redefining Digital Government

Reaching beyond Myths, Unsustainability and the Digital Divide

Alois Paulin*

** Vienna University of Technology, Faculty of Informatics, Favoritenstr. 9-11 / E183-2, Vienna, Austria, alois@apaulin.com*

Abstract: *In this article we aim to define a subject-centered perspective on digital government utility and propose research considerations how to address such perspective. Base on a case study of Slovenia we summarize arguments why in our view digital government research and development endeavors so far missed to utilize the potential of ICTs for generating sustainable change to the government of juropolitical societies and argue for a system that would utilize ICTs for building towards a governance system that was never ever possible in human history so far.*

Keywords: digital government, sustainable non-bureaucratic government, liquid democracy, unsustainability of digital government, myths of digital government

What do we want digital government[1] to achieve at all?

Is it about institutional change – with the goal to reduce the amount of bureaus and institutions? Is it about providing cheaper government – by for example reducing the tax burden? Or, is it about providing a better government, which would result in less disputes, speedier court proceedings, happier people?

The community of researchers focusing on digital government (dGov) is indeed a colorful potpourri of minds from heterogeneous backgrounds addressing the many functions of government of juropolitical societies, aiming at their improvement by means of ICTs: some aim at improving government by developing new models for increased participation and transparency, some develop technical artefacts to support latter, others engineer front- and back-end systems for remote self-service access to the functions and information of government bureaus, while again others observe the effects and implications of ICTs in the government domains, or develop models and metrics to assess these.

The lowest common denominator of all these efforts is the belief that ICTs can change government for the better. In search for a common goal of these shared efforts however, the seeker might easily find itself facing a jungle of heterogeneous artefacts rather than a *system* that would follow a clear, articulated vision.

---

[1] We shall follow the example of Veit & Huntgeburth (2014) and use the term digital government (dGov) throughout this text, referring to the shared research and development (R&D) sphere containing e-government, e-democracy, e-participation, open government, open government data, etc., etc.

With this article we aim towards searching for foundations for such systematic approach to dGov. We shall articulate the need for a technically concise framework as the basis for a coherent future research agenda for dGov, and outline the implications that endanger the sustainability of modern digital government R&D.

In section 1 we shall develop three different perspectives on how to categorize dGov based on its utility of different stakeholder groups and seek possibilities for its modularization and structure. In section 2 we shall explore the founding myths and the future potential of modern dGov artefacts from their sustainability perspective. In section 3 we shall discuss the implications of the digital divide on the attempts for modularization and structure in future dGov.

1. A search for the "Governing-Machine"

Digital government can be evaluated from three viewpoints – from its utility for surveillance, from its utility to support existing bureaus, and from the perspective of citizens uninvolved in active government affairs. We shall use the term *subjects* to refer to such uninvolved citizens, such as it is used in the context of the social contract theory, and in the jural context, respectively.

1.1. The three perspectives on dGov

The first perspective looks at dGov from its utility for *secret services and purposes of surveillance*. Waiting in the airport security queue in a British airport, gazing bored around the venue, one will notice security cameras mounted on the ceiling that have rotating LED-lights around the lens. Starring at these lights for a couple of seconds, wondering why they are rotating, Her Majesty's immigration control might have filed a perfectly aligned picture of one's face for further tracking of one's movement through her territory. When checking-in into a hotel in Slovenia, one's lodging is immediately reported to the local police station; every crossing of the border, every card payment, every interaction of one's mobile phone with the base station can be legally accessed by surveillance agencies. Access to computer-readable and inter-link-able data about one's habits, interests, behavior, social links, etc. through social-network web sites, ISPs, web browsers, operating systems, etc., is then all part of a category of dGov systems which provide utility to surveillance agencies.

Characteristic for this category of systems is that their aim is to reduce the amount of loopholes for subjects to evade their duties, or to escape prosecution respectively. In this category then belong dGov systems that keep track of tax duties, enable self-service tax returns, oblige businesses to use cash-desks that send all transactions immediately to the finance authorities[2], systems that keep track of one's movements in the country, track financial transactions, etc.

The second perspective is dGov's utility to the bureaus of *existing branches of the state* – the legislative branch, the judicative branch, and the executive branch. From this perspective, dGov provides on one hand systems for internal needs, and on the other systems for interaction with state subjects. While the internal systems provide utility on the inter- and intra-departmental level, out-bound systems *"aim to improve the relationship between government and society in such a way that government is perceived as more responsive, accessible, transparent, responsible, participatory, efficient, and effective than before"* (Veit and Huntgeburth 2014, 1).

[2] Such is for example mandatory in Croatia.

While surveillance and revenue-gathering systems from the first category are required to work efficiently in order to optimize cash-flow towards the state, and curb troublemakers, respectively, dGov systems on the relation between government and (civil) society do not necessarily subject to the same scrutiny. The rationale for their existence and maintenance can often be found in the principles of Parkinson's law (1955), or public-choice theory (cf. Downs 1967) respectively – i.e., they are often really only an end in itself. (Not same is true though for such internal dGov systems, which serve internal data needs for data storage and communication, such as various registries and secure delivery infrastructures.)

Digital government systems belonging to this second category would be for example e-participation portals and online-voting systems, which aim to increase the legitimacy of the political system, state-provided open data catalogues aimed at increasing trust, electronic delivery services for the exchange of information between government agencies and / or professional stakeholders (such as lawyers or notaries), electronic land registries, business- and population-registries, etc. All these systems thus are associated with supporting the social functions of public-sector bureaus, maintaining their legitimacy, or supporting their expansion into new bureaucratic territories (to use Downs' (1967) terminology).

The third perspective on dGov is focused on its utility to subjects of the juropolitical society. We define these *subjects* as those individuals who are subjected to government, the supposed beneficiaries of the social functions of the state's bureaus, the taxpayers, the small and medium enterprises, the civilians, the immigrants. This category contains individuals who are, as Downs (ibid., p.244) describes, "rationally ignorant of most political and economic matters". These subjects interact with state bureaus only when needed or forced to. They are grateful if the interaction with the state is intuitive and logical, if taxes are moderate, if law enforcement agents are efficient and understanding, if their requests are heard and their disputes resolved fast and fair.

1.2. The third perspective: in search of a *governing machine*

Automation has coined the modern Western civilization and enabled its superior role in world economics for centuries. The industrial society based on structured methods of production and organization, as well as a structured management of the workforce where such was still required.

The transformative effects of rationally structured processing can be easily seen in the societal transformation during the industrial revolution: The pre-industrial British workforce, Zuboff (1988, 31ff.) argues, was largely unreliable, untimely, and inclined to escape to the grog shop or alehouse during work time. Mondays were traditionally off for the British working class to celebrate the *holy Monday* as a de-facto day of leisure. The dependence of capital owners on the skills and know-how of the workers was the working class' ace in the hole. Mechanization and automation was thus born from the class struggle between capital owners and the working class for the control over production. Modern computer-aided design and manufacturing, and the fully-automated manufacturing respectively, are then nothing but the continuation of the capital owner's struggle for independence from the fallibilities of the imperfect and costly human body and mind.

The increasing growth of public-sector bureaus and the resulting rising dependency of subjects on the power and privileges of a growing class of public-sector agents (civil servants, politicians, judicators, public services (health, education, etc.) providers) in modern states does present a similar conflicting situation between bureaus on the one side and their financers, the uninvolved state subjects on the other. Latter's struggle for reducing this dependency forms thus a legitimate ground

for seeking alternatives to automatize and replace social functions addressed by these bureaus. As in the case of the pre-industrial manufacturing processes, a lacking definition of abstract-able structure in the inherent principles of bureau's social functions is hindering an optimization and potential mechanization of their utility. Thus, because we don't know how to structure the alleged utility of the individual bureau's social function(s), we cannot efficiently disintegrate the bureau and optimize its social-function-providing functionality by technical means.

As an attempt to introduce computable structure to support the optimization of delivering social functions we studied the computability of jural relations (Paulin 2013), where we abstracted jural relations on the relation between the sovereign (i.e. the state) and its subjects to a complex network of *eligibilities*, which enable individuals in a juropolitical context to call upon jural rights with regard to the specific context of the situation. It goes without saying that all these eligibilities base on some kind of information / data, which was produced by other subjects with appropriate eligibilities to do so. Thus, a complex network of eligibilities is what shapes the core of any government fiat system.

Building upon the hypothesis that any eligibility bases on information, which in turn can be structured and informated within the digital realm, we (ibid.) described a model for computing eligibilities – there called *Self-Service Government* (ss-Gov), based on relational algebra and moderated access to structured *jural facts* – i.e. molecular data from which eligibilities can be derived by means of computation. As a method to govern self-service access to data, we introduced the concept of *Constellation-Based-Reasoning* (CBR) as a scaffolding for creating, storing, retrieving, and changing jural facts based on which eligibilities of jural subjects can be determined. This methodology can be compared to a key opening a pin-tumbler lock, where the key due to its specific shape moves the pins into the right constellation, which allows the lock to be opened. The lock in this metaphor defines the constellation and definition of the required data (defined as a relational set), which must be satisfied by the *key*, i.e. the data describing a stakeholder and/or context in a situation, to *unlock* a particular eligibility in a given context.

Thus, ss-Gov enables a model of government in which eligibilities (e.g. rights) are not *obtained* in form of credentials from state authorities through administrative proceedings, but are rather *determined* by means of CBR. The mathematical basis for the determination of eligibilities thus enables homogeneous, standardizable technical storage, rule-based control to generation of- and access to the raw jural data, and hence its storage as structured data in digital systems.

This approach might serve as a core foundation for further research towards reorganizing the delivery of social functions that are currently covered by public-sector bureaus.

2. Digital Government Review: From Myths to Unsustainability

Nothing less than a revolution of epic scale was the promise conveyed by politics and public administration alike in the course of national digital government reforms. The so-reformed governments were to be faster, more intuitive and more effective, more inclusive and more participative - a hype emerged that drove governments throughout the world to develop and implement digital government policies and artefacts.

2.1. The myths of digital government

As relevant for constructing the hype for reaching a new and better government, Bekkers & Homburg (2007) identify four myths – four *hymns to progress, utopian visions, unfulfilled or unfulfillable promises*, as they define them. Myths, they argue, "*mean more than falsehoods; rather, myths are […] (1)*

powerful stories that inspire people to strive for realization of issues that matter, whatever the cost, and (2) discourses in which specific aspects are highlighted and revealed at the expense of other aspects that are (deliberately or unintentionally) concealed." No government, they argue, "*can resist the impact of modern ICTs*", which brings policymakers, politicians, bureaucrats and consultants to "*tell stories about the nature of policy problems and how these problems should be tackled*". Such *bricoleurs* (Levi-Strauss in: ibid.), as they term these storytellers, "*compose heroic narratives to inflict changes in ways of thinking and doing*". The promised innovations however "*are not necessary implemented immediately (if at all); nor does the implementation necessarily follow the story lines exemplified in policy documents.*" The "*hopes for immediate implementation and fear of lagging behind*", they argue, "*make for powerful technomania*".

The *purified image of a new and better government* is the first such myth, which promises a computerized administrative machine "*that is responsive, client oriented, and cohesive*". This myth announces a new form of technology empowered government which "*makes life better for citizens and businesses*", which will provide electronic services to deliver what people really want. As Bekkers & Homburg (ibid.) note, this myth was a core driver behind the governmental *one-stop-shop* approach, where a single point of access is available to electronic services and information offered by different public authorities (Wimmer 2002).

Alas, as Bekkers & Homburg (2007) emphasize, one-stop-shops require coordination of a multitude of heterogeneous back-offices within the public administration and "*the integration of several information domains, each with its own legal framework, its own information systems, its own data definitions, its own routines and procedures, its expertise and experience, and its own frames of reference*". The result of the attempt for progress is a "*battle of back-offices*" which prevent the development of a sustainable and goal-oriented dGov system-of-systems.

The unconditional belief and trust in the use of ICT by the public administration as a driver and core enabler for *technological progress and instrumentality* is a second myth Bekkers & Homburg (ibid.) describe. The information society "*is seen as developing into an open and decentralized society*" as part of a "*revolution in progress that cannot be missed. The only question is how to respond to it.*" According to this myth, the public administration "*has a moral duty to use the most advanced 'tools' to reinvent government*", due to which institutional change takes place. This myth however, Bekkers & Homburg (ibid.) note, contradicts findings that the introduction of new technologies in the public sector "*very often strengthens the existing frames of reference, power relations, and positions within a policy sector*".

The third myth is the presumption that dGov realization bases on *rational information planning*. Thus, most of the policy documents which Bekkers & Homburg (ibid.) studied, focused on high-level goals rather than on defining clear implementation strategies and realizable technical artefacts. When it comes to implementing these visions, however, challenges in the integration of heterogeneous back offices must be approached, such as standardization and consolidation, which fuel inter-organizational tensions and conflicts. Heralding strategic planning while ignoring the implications of inter-organizational interoperability, Bekkers & Homburg (ibid.) argue, has given rise to the myth of rational information planning.

Digital government policies and strategies aim to deliver to an ideal, empowered, *omnirational* citizen, who "*knows his or her preferences, is able to master both bureaucratic and ICT skills, and actively engages in conversation with government agencies*" (ibid.). This myth of the *citizen as empowered consumer* of government services is crucial for the legitimacy of dGov reform strategies, as without such imagined citizen, who allegedly demands reforms, dGov might perhaps not be required at all. With the aim to please this *optima-forma* citizen, a number of digital government artefacts have been

developed to support the activities of public-sector bureaus. Alas, a widely-adopted understanding is that neither citizen nor state accepted these artefacts as planned: thus, Cordella (2007; Cordella and Iannacci 2010), partly referring to Todd Ramsey, IBM's head of government services (*The Economist* 2000), claim that 70-87% of all dGov projects were failures; studies on open government data reveal a careless bureaucracy (Adair et al. 2007; Paulin 2010), and studies on the acceptance of state-driven electronic identity systems show as low as 0.1% user-update (Kubicek 2011; Rissanen 2010).

2.2. Unsustainability of modern digital government

Digital government reforms aimed at tackling the issues of growing needs for interaction by the state. Through the introduction of dGov technologies the state should have become – aside from the ambiguous "better", more responsive, more inclusive and more efficient in terms of handling citizen interactions. How then, can we measure the outcome of dGov?

To analyze whether or not dGov reforms brought the promised significant benefits to citizens, we explored (Paulin (forthcoming (a))) the financial and operational statistics of the Slovenian government, its courts, and the national social insurance agency. Slovenia is a central European country with a *very high human development index* equal to Finland (and higher than the UK) as of 2013 (UNDP 2013), a member of the European Union, NATO, and OECD. According to dGov surveys, when it comes to e-readiness rankings, Slovenia is found constantly amongst the top in its class; thus, in 2009, it was amongst the top-five in Europe (Capgemini et al. 2009; The Economist 2009), while until 2012 it lost its top rank on the European level, but remained second on the level of Southern Europe (UN 2012). After its succession from Yugoslavia in 1991, Slovenian public administration underwent a transitional period until 1999 to catch-up with Western European standards. Between 2000 and 2003, further reforms took place to adjust the Slovenian administration, judicial and legal system to reach the requirements for joining the EU, including a civil servants reform. (Pinterič 2010a). Until 2006, Slovenian digital government matured (Pinterič 2010b) and finally reached levels as noted before.

In the aforementioned study we compared financial and performance indicators of Slovenia between the years 2002 and 2011. This timeframe begins with a period in which Slovenia had already left behind its transitional period with major political and administrative reforms, but still deployed considerable extracurricular effort to adjust its system for the accession to the EU, as well as to analyze the requirements, plan, and develop its major dGov systems. The ongoing global crisis of the economic system that introduced harsh austerity measures hit Slovenia only in 2008 (Pinterič 2013) – until then the major dGov projects were already well positioned and functioning. Our study showed that the introduction of dGov in Slovenia had no decreasing effects on the expenses of the state, nor was there evidence of an increase in efficiency of its judiciary system. On the contrary – the study found on all observed levels increases in the expenditures for human resources, even in years after the recession hit Slovenia. Until the year of the recession (2008) state expenditures increased significantly on all observed levels, with particularly strong increases between the years 2005-2008.

At the end of the day, the introduction of automation to the domain of the *res publica* failed to yield effects that would be comparable to the ones automation had on manufacturing, transportation, communication, finance, or trade. There seems neither to be hope for the future, as the research on unsustainability of dGov (Paulin 2014a; Paulin (forthcoming (a)); Paulin 2013)

suggests. In our past research (ibid.) we identified three hazards of technical dGov artefacts, which imply the unsustainability of latter:

The first hazard is the implied *expiration date* of the introduced systems, which base on the requirements of the particular context. At the design-time of a dGov system the only then-valid jural and organizational context can be taken into consideration and hence, changes in law or organizational structure of the stakeholders will unavoidably render such system obsolete. The life-span of such systems can be as low as only a couple of years (ibid.).

Monopolization and exclusion is the second sword of Damocles endangering peace in the dGov world as a whole. When politicians and civil servants think up dGov artefacts, they dream-up their functionality without defining technically directly implementable specifications. It is thus up to system developers to craft instantiations based on these functional requirements, which then impose architectural constraints how these systems can be used ("code is law" (Lessig 2006)).

Tensions and conflicts emerge under circumstances where legislators enable the coexistence of many providers of the same type of dGov-system. Such situation fosters the emergence of *clans* (Kubicek and Noack 2010) which control national monopolistic solutions (cf. Paulin 2012) based on the principles of *useful illegality* ("brauchbare Illegalität" - Luhman in: Walter 2011, 44). The existence of non-conformant outsiders to such "purveyors to the court" is then simply ignored and excluded from deals with the government.

The architectural implications of so-created dGov systems further imply the hazard of *legal certainty*, which emerges from the notion that *code is law*. In societies that adhere to the rule of law, the civil service is obliged to operate in accordance to the principle of legality, which means that every action and every decision made by the state must be explicitly defined by law – this applies both to stated decisions, as well as the procedures that lead to them.

Digital government however challenges the principle of legality, as it delegates *government behavior* to machines. Bovens & Zouridis (2002) argued that from the perspective of equality before law, dGov (there: system-level-bureaucracy) *"may be regarded as the zenith of legal rational authority [as] thanks to ICT, implementation of the law has been almost wholly disciplined"* (ibid., p.181), if it was not for the issue regarding the delegation of discretionary power to a new class of *politically unauthorized* people, such as system designers, legal policy staff, and IT experts (ibid.).

However, it is nearly impossible for modern dGov systems to fully comply with the principle of legal certainty due to an implied complexity, which requires a deep professional understanding from both jurisprudence and IT. Already seemingly minor changes in the outbound interfaces of dGov systems do breach the principle of legality if not conducted with proper legitimation (which usually won't be given). Thus for example, an advanced citizen who would craft a system for automated interaction with a web-based dGov-system, relying on latter's digital interfaces (already a simple dynamic web page *is* a digital interface!), would be forced to reengineer his system with every seemingly trivial re-design of the graphical user interface or update of the dGov system's front-end. The legal certainty that the provided digital interface would change only after a legitimate legislative process is thus not given.

At the end of the day, in the best case time renders dGov artefacts into costly ruins in the *dGov-jungle*, while in the worst case, they evolve into intransparent *to-big-to-be-changed* sinecures over which future politicians and lawmakers will have had lost any control. Thus, dGov R&D is at risk to end up in a cul-de-sac, being neither able to deliver tangible improvements of government to human society, nor advance its scientific progress due to a lack of clear structure of its research goals

(continuing to contribute to a jungle of unsustainable and fundamentally *heterogeneous* technical and conceptual artefacts can hardly be deemed structured (Veit and Huntgeburth 2014, chap. 4.1.2)).

3. Sustainable non-bureaucratic government vs. the digital divide

In a later publication (Paulin 2014b) we elaborated the concept of *Sustainable Non-Bureaucratic Government* (SNBG) as a confluence of CBR and *Liquid Democracy* (LD) – latter being a self-organized way of collaborative decision-making in which decisions are made by means of a mechanism of revocable transient delegation of power (ibid.).

In the SNBG vision, LD is deployed for collaborative assignment of eligibilities, while at the same time the LD mechanism is governed by means of CBR. Thus, a closed-circuit system is created in which the rules of the system (i.e. the CBR *locks*) can be defined and managed collaboratively by means of LD, whereby characteristics of the collaborative decision-making through LD (*locks* regulating the transitivity, *locks* regulating the threshold for a communal decision to be accepted, etc.) are regulated by the very same system of CBR *locks*. SNBG thus presents a model infrastructure for a structured approach of technically sustainable dGov artefacts. It has been designed to enable concise planning and enables a multi-layered approach to designing and developing dGov artefacts that would disable unsustainability hazards as outlined above.

The multi-layered access is described as a five-layer technology stack (ibid.). The first layer is the basic communicational infrastructure, such as e.g. the modern Internet. The second layer stores content-agnostic jural facts, based from which eligibilities are calculated. The third layer describes the context and contains rules of access to layer#2 data. The fourth layer would provide technology to plan and describe procedures and processes by means of modeling tools. The fifth layer, finally would provide artefacts for user-friendly access to layer#2 data. Access to layer#2 is then possible either directly on a data-level (Paulin 2013, 1776) – thus, on layer#2, or through layer#5 artefacts. Latter should then cater to various needs – they can be made available in form of programming libraries or web services to be used by software developers to build complex applications, or stand-alone applications for end-user access to the data. These artefacts could then be provided by commercial enterprises, or they could be community-subsidized / sponsored projects. One way or another, the crucial access to the data itself would remain unaffected.

This paradigm follows the established principles of Web technologies. As in the case of the Web, which is an open and clear protocol (HTTP) providing access to a network of Web servers over the Internet, SNBG would provide a clear protocol for accessing a network of ss-Gov data registries, which would then host the layer#2 core data, access to which would be governed by layer#3 rules. Like in the case of the Web, where commercial, as well as community-sponsored (sponsorship through financial donations and/or voluntary labor) actors provide the tools, technologies and labor (servers, browsers, standards and technologies for the description of content, developer IDEs, etc.) to create and access Web contents, same could apply to SNBG, which could rely on a global community of providers to build the platform for governing the future of human civilization.

But what about the digital divide – would such tech-heavy system not exclude significant shares of population from accessing government services?

The implications of the digital divide are generally seen as *"one of the main barriers to migrating administrative and political processes to the internet"* (Veit and Huntgeburth 2014, 33). However, while we do not dispute that the digital divide hinders certain individuals to use ICTs to their advantage, this does not necessarily present a reason to restrain progress. In the context of government, the

digital divide is merely one of many obstacles that hinder individuals to interact with government to their full advantage. In our opinion a much more significant hindrance is the *jural divide* – i.e. the divide between those who are knowledgeable in law, and the vast majority of the population who is not. This *jural divide* exists ever since law exists and with an increased complexity of the jural framework (a continuous stream of ever-changing laws and regulations), the dependency of lay people on jural experts becomes more and more strong.

The socially accepted way to bridge the jural divide is the provision of means for legal counselling and –representation. As legal acts and court rulings are in general public, everybody is supposedly able to get access to knowledge about the law. Naturally, most people won't be able to utilize this opportunity to the same extent as a lawyer or legal scholar can. A similar bridge can be provided for interaction with a SNBG technical system, where the majority of people would approach studied professionals to interact with the layer#2 data on their behalf in order to adjust their jural status. Professional consultants would draft layer#3 semantics and regulations based on the visions of politicians, and agencies would provide their services – either commercially, or community-subsidized, to aid individuals in their interaction with the state. And like in the case of law, also here access to the knowledge and information would be available to non-professionals without restrictions.

What then about LD? Does liquid democracy not discriminate against those, who have no active access to technology?

The principle of liquid democratic decision making lies in the ability of each individual to delegate its voting power to some other individual of trust. The given delegation has no time-span – thus, it is given for eternity, it is however revocable at any time. Through the feature of transitive delegation, a network is created with few very strong nodes whose decision then has significant impact in the communal decision-making process.

The delegation in liquid democracy is thus a matter of personal trust rather than political preferences. As such, it abstracts into digital structure age-old empowerment principles, as they naturally exist in families, tribes and clans. Individuals on the other side of the digital divide – like old people, or people from socially underprivileged circumstances, are thus not deprived of their political participation in a broader community, but rather *empowered*, as they can delegate their power to those people, whom they truly trust, rather than abstaining from political participation entirely.

4. Conclusion

What then, *do* we want digital government to be?

In this article we summarized the myths of digital government (dGov) as explored by Bekkers & Homburg (2007), and the reasons for its unsustainability (Paulin 2014a). We argued that dGov utility needs to be evaluated from three heterogeneous viewpoints: its utility for surveillance agencies, its utility for the internal and external functionality of state bureaus, and its utility from the subjects' perspective. The latter perspective in our opinion is overall underrepresented, with the general focus of the dGov research communities seeming to be on satisfying requirements of the second category, i.e. the internal- and external relations of existing state structures, while technological progress excelling in the first.

As a basis for further technical research and development towards addressing the needs of the third category, we summarized our research towards *Sustainable Non-Bureaucratic Government* – SNBG (Paulin 2013; Paulin 2014b). We argued that this model provides a first definition of a sustainable "*third-view"-dGov* platform, on top of which a novel ecosystem of services and economic value, similar to the value implied in the services of the jural domain, can be build. To further fortify its feasibility, we argued how SNBG would contribute to neutralize the implications of the digital divide in a similar fashion as e.g. the jural system is able to surpass obstacles for its non-professional stakeholders.

Finally, we invite the dGov research communities to vest into further studies towards SNBG and the "third perspective" on dGov in general respectively.

References

Adair, Kristin, Catherine Nielsen, Meredith Fuchs, Malcolm Byrne, and Thomas Blanton. 2007. *File Not Found: 10 Years after E-FOIA, Most Federal Agencies Are Delinquent*. The National Security Archive, George Washington University. http://www2.gwu.edu/~nsarchiv/NSAEBB/NSAEBB216/e-foia_audit_report.pdf.

Bekkers, Victor, and Vincent Homburg. 2007. "The Myths of E-Government: Looking Beyond the Assumptions of a New and Better Government." *The Information Society* 23 (5): 373–82. doi:10.1080/01972240701572913.

Bovens, Mark, and Stavros Zouridis. 2002. "From Street-Level to System-Level Bureaucracies: How Information and Communication Technology Is Transforming Administrative Discretion and Constitutional Control." *Public Administration Review* 62 (2): 174–84. doi:10.1111/0033-3352.00168.

Capgemini, Rand Europe, IDC, Sogeti, and DTi. 2009. *Smarter, Faster, Better eGovernment - 8th eGovernment Benchmark Measurement*. http://www.capgemini.com/insights-and-resources/by-publication/2009-egovernment-benchmark/.

Cordella, Antonio. 2007. "E-Government: Towards the E-Bureaucratic Form?" *Journal of Information Technology* 22 (3): 265–74. doi:10.1057/palgrave.jit.2000105.

Cordella, Antonio, and Federico Iannacci. 2010. "Information Systems in the Public Sector: The E-Government Enactment Framework." *The Journal of Strategic Information Systems* 19 (1): 52–66. doi:10.1016/j.jsis.2010.01.001.

Downs, Anthony. 1967. *Inside Bureaucracy*. A Rand Corporation Research Study. Boston, Mass.: Little, Brown.

Kubicek, Herbert. 2011. "Akzeptanzprobleme Sicherer Elektronischer Identitäten [Challenges with the Acceptance of Secure Electronic Identities]." *Datenschutz Und Datensicherheit - DuD* 35 (1): 43–47. doi:10.1007/s11623-011-0012-3.

Kubicek, Herbert, and Torsten Noack. 2010. "The Path Dependency of National Electronic Identities." *Identity in the Information Society* 3 (1): 111–53. doi:10.1007/s12394-010-0050-2.

Lessig, Lawrence. 2006. *Code 2.0*. New York: Basic Books.

Parkinson, Cyril Northcote. 1955. "From the Archive: Parkinson's Law." *The Economist*, November 19. http://www.economist.com/node/14116121?story_id=14116121.

Paulin, Alois. (forthcoming (a)). "Twenty Years after the Hype: Is E-Government Doomed? - Findings from Slovenia." *International Journal of Public Administration in the Digital Age*

———. 2010. "Slovenia 404-On the E-Readiness of Modern Public Administration." In *Proceedings of the International Conference on Information Society and Information Technologies*. Dolenjske Toplice: Faculty of Information Studies.

———. 2012. "Status and Outlook on Electronic Identity in Europe: The Case of Austria." In *Electronic Government and Electronic Participation : Joint Proceedings of Ongoing Research and*

Projects of IFIP EGOV and IFIP ePart 2012, edited by Marijn Janssen. Vol. 39. Schriftenreihe Informatik. Kristiansand: Trauner. http://research.apaulin.com/research/2012/egov2012-eid.

———. 2013. "Towards Self-Service Government - A Study on the Computability of Legal Eligibilities." *Journal of Universal Computer Science* 19 (12): 1761–91. doi:10.3217/jucs-019-12-1761.

———. 2014a. "(Un-)Sustainability of E-Government: Hazards and Questions for Future Research." In *Central and Eastern European e|Gov Days 2014 - eGovernment: Driver or Stumbling Block for European Integration?*, edited by Alexander Balthasar, Hendrik Hansen, König Balázs, Robert Müller-Török, and Johannes Pichler, 300:307–16. Books@ocg.at. Budapest: Austrian Computer Society. http://research.apaulin.com/research/2014/ceeegov14-unsustainability.

———. 2014b. "Through Liquid Democracy to Sustainable Non-Bureaucratic Government." In *Proceedings of the International Conference for E-Democracy and Open Government 2014*, edited by Peter Parycek and Noella Edelmann, 205–17. Krems: Edition Donau-Universität Krems. http://research.apaulin.com/research/2014/cedem14-ld-snbg.

Pinterič, Uroš. 2010a. "Slovenian Local Administration Reform 1993-2010." *Analytical Journal*, no. 05: 56–64.

———. 2010b. "Development of E-Government Services for Citizens in Slovenia." *Eastern European Economics* 48 (May): 88–98. doi:10.2753/EEE0012-8775480305.

———. 2013. "Value Crisis of Government Measures in Times of Instability - The Case of Slovenia." *European Journal of Science and Theology* 9 (2): 157–66.

Rissanen, Teemu. 2010. "Electronic Identity in Finland: ID Cards vs. Bank IDs." *Identity in the Information Society* 3 (1): 175–94. doi:10.1007/s12394-010-0049-8.

The Economist. 2000. "No Gain without Pain: A Survey," June 22. http://www.economist.com/node/80764.

———. 2009. *E-Readiness Rankings 2009*. http://graphics.eiu.com/pdf/E-readiness%20rankings.pdf.

UN. 2012. *United Nations E-Government Survey 2012*. ST/ESA/PAD/SER.E/150. New York: United Nations. http://unpan1.un.org/intradoc/groups/public/documents/un/unpan048065.pdf.

UNDP. 2013. *2013 Human Development Report*. http://hdr.undp.org/en/media/HDR_2013_EN_complete.pdf.

Veit, Daniel, and Jan Huntgeburth. 2014. *Foundations of Digital Government - Leading and Managing in the Digital Era*. Springer-Verlag.

Walter, Alfred. 2011. *Das Unbehagen in der Verwaltung: warum der öffentliche Dienst denkende Mitarbeiter braucht [The Apprehension of the Administration - why the Civil Service Requires Staff that Thinks]*. Berlin: Edition sigma.

Wimmer, Maria A. 2002. "A European Perspective towards Online One-Stop Government: The eGOV Project." *Electronic Commerce Research and Applications* 1 (1): 92–103. doi:10.1016/S1567-4223(02)00008-X.

Zuboff, Shoshana. 1988. *In the Age of the Smart Machine : The Future of Work and Power*. New York: Basic Books.

About the Author

Alois Paulin

The author is a researcher at the Technical University of Vienna, Faculty of Informatics and Doctor of Science candidate at the University of Maribor, Faculty of Electrical Engineering and Computer Science. His DSc

dissertation develops the model of *Sustainable Non-Bureaucratic Government* as briefly presented in the present paper, as well as describes a set of pioneering technical artefacts for its instantiation. The author's main research interest is centered on developing a coherent, technically sustainable system for self-managed government of juropolitical societies. His work demonstrating the unsustainability of e-government was awarded the best paper award by audience at the *Central and Eastern European e-Gov Days 2014*.