More than Digitisation - The Transformative Potential of E-Governance: An Exploratory Case Study

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Abstract

The purpose of this paper is to present our conceptualization of e-governance. With e-governance, we mean the current shifts in the state's governance mechanisms that are induced by information and communication technology (ICT) along the three major functions of state, namely policy making (political process), regulation and service delivery. In the paper, we describe the current state of our work on the Lausanne Framework, which serves as an evaluation method for e-governance projects. By applying it to an exploratory case study, we first want to demonstrate its usefulness for the understanding of state transformation. And second, we want to outline the transformative potential of e-governance on the state's systems of rules and regulation.

1. Introduction and definitions

E-government initiatives are being promoted intensively by public sector institutions as well as by industry [1]. Conferences on the e-government phenomenon aim at fostering the discussion and know-how transfer [2]. However, most of these initiatives mainly consider e-government as the digitization of some of the government's functions, especially the function of service delivery.[3] However, so far, little research has been done on the transformative power of the information and communication technologies (ICTs) beyond such service delivery [4]. This paper aims to deepen our understanding of how ICTs substantially changes how we think and do government and governance.

E-governance is becoming one of the most important issue areas (and markets) for policy makers, administrators, consultants, and civil society organizations. As such, the concept of e-governance is both descriptive and prescriptive. It consists of two elements, the coefficient e- (electronic), standing for the digitization of any function and the variable governance, the generic term used to describe new forms of regulation of social situations in which government is no longer the exclusive actor. E-governance therefore includes (a) a focus on the digitization of government functions and (b) a sensibility for the transformation of governance mechanisms from governmental to other forms of managing social interactions.

Government and governance have a slightly different focus that impacts the types of questions that can be asked when utilizing the respective concepts. Government is the system according to which a state or other community is governed, while governance is the manner in which something is governed or regulated, the method of management, or system of regulations. This means government is one (of many) instantiations of governance. We use the term e-governance and not the term e-government because we are interested in the transformative potential of ICTs and not the simple digitization of governmental functions.

There are three intertwined historical forces that are confronting us with the need to re-conceptualize governance in terms of its digitization: The emergence of new technologies, the contestation of the legitimacy of political entities, and changes in how we think about doing things in the world.

ICTs are impacting the world by offering new ways of acting in the world [5], by doing things more efficiently, i.e. with less friction (digitization) or offering new ways of doing things, spaces of interaction (transformation).

The second historical force is the crisis of modernity that comes to bear on our understanding of the nation-state both internally, blurring of the boundary between market, state, and society and externally, blurring of the boundary between the domestic, the international, and the global.

And the third is a shift in our understanding of instrumental rationality, i.e. how we get things done in the world, from institutional to functional approaches to problems. By shift of our understanding of instrumental rationality, we mean that a shift can be observed from the idea of dealing with problems through ex ante legitimated institutions, where legitimization of any problem solution is achieved by referring to mechanisms of procedural justice to an understanding where problems legitimize the institutions that are built around them [6]. This means for the public sector that instead of allocating organizational functions to solve problems, policy entrepreneurs proactively address problems by building multi-agency coalitions [7]. This is exemplified in the well-known concept of working in multi-sector project teams that come together to deal with an issue and disband when the issue is dealt with [8].

These historical forces together are presenting us with the problem of governance [4]. However, in the empirical practice we are confronted with this dynamic in bits and pieces. The state is challenged with cost-cutting initiatives, is target of performance improvement and operations management measures, the tax base decreases, new threats emerge; information processing technologies developed originally for the private sector such as enterprise planning architectures are offering powerful tools to drive process optimization in public organizations. [9]
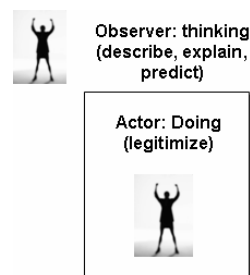
Slowly, governments and public administrations are discovering information technology as means to manage change in these issue areas that have traditionally been conceptualized as public issues [4]. And governments and administration are confronted with the question of what new platforms of political participation to offer [10]. And because the tools of e-governance (such as enterprise reference architectures) require transformation, public sector steadily discovers the information technology's potential to reshape traditional patterns of policy-making. [10]

2. E-governance not e-government

E-governance is a vocabulary that offers a strategic response (and an analytical vocabulary) to the transformative changes that government and the public sector are undergoing in the contemporary world. The term "system of thinking and doing" is a shortcut for the idea that we use a certain vocabulary to describe/explain/predict a world and at the same time to use this vocabulary to prescribe actions inside the world.[1] To describe/explain/predict is to take the role of

an outside observer, to legitimize actions inside the world is to make arguments by referring to an inter-subjectively accepted body of truths (communicative rationality) or by referring to transcendental or procedural modes of authority.

The term allows us to reflect on worlds in which we need to deal with the recursive relationship between thinking and doing and outlines the grammar of enquiring into these types of worlds:[2] it reminds us that our methods of validation that we use when a distinction between observer and the observed exists are not applicable.

2.1. Theoretical background

In this paper, we specifically explore the impact of information and communication technology on the interaction of state and non-state actors from a transactional perspective. This perspective is inspired by institutional theory developed, among others by Williamson [19].

The argument, we make in this paper is grounded in the distinction between *actors* (individuals and organizations) and *institutions* (formal and informal rules). Actors strive for maximum discretionary power, while the institutions regulate the behavior of these actors. By non-state actors, we mean individuals and organizations, which do not belong to governmental bodies or the public sector entities. We look at non-state actors as individuals and organizations from the private sector and state actors as individuals and organizations from government and the public sector.

The state is obliged to fulfill a well defined portfolio of tasks to satisfy the needs of its stakeholders, be they state or non-state actors. Each task can be split up into numerous transactions. According to OED, a transaction is "*the completion of an action or a course of action*".

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[1] The word world is understood here as that part of the universe that is interesting for an observer or actor. "The sphere within which one's interests are bound up or one's activities find scope; (one's) sphere of action or thought; the 'realm' within which one moves or lives." OED 10.

[2] Grammar, understood here in the late Wittgensteinian sense, is constituted by all the linguistic rules that determine the sense of an expression. P. M. S. Hacker, Insight and Illusion: Themes in the Philosophy of Wittgenstein, rev. edn. (Oxford, 1986), 179–92.
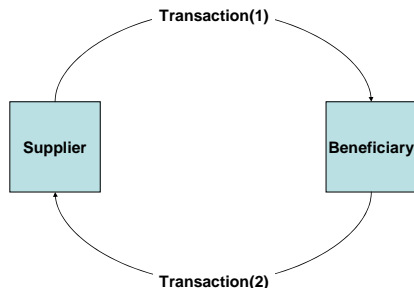
Let us take a look at a simple administration process. In order to register a new citizen, administration hands out a form to the prospective citizen. The citizen in turn fills out the form and gives it back to administration. Thus, the task of registering prospective citizens consists of two main transactions. Between two different *actors*, a "product" is *trans*ferred.

With the rapid rise of information and communication technology, various tools and techniques emerged to digitally map government and public sector related transactions. Due to their superior capabilities to adapt to and to make use of technological innovation, non-state actors are increasingly infiltrating government functions, namely *service provision*, *regulation* and *policy making* (*political process*). The state is increasingly shifting towards new government functions, such as management and monitoring functions. [4] It sets up distinctive structures of rules and regulations, to consistently settle its duties throughout all organizational levels (e.g., local, regional, national). According to institutional theory, these structures are called *institutions of governance*. In our paper, we explore the correlation between information and communication technology and specific occurrences of governance institutions along the mentioned functions of state.

2.2. The two meanings of e-governance

When we talk about *e-governance*, we have two different interpretations in our mind. First, we see e-governance as the action of governing by means of "e" or more clearer by means of information and communication technology. Second, we interpret e-governance as the governance of "e", while "e" is the occurrence of information and communication technologies and industry in the sphere of the transformation of state functions.

To make this point a little more clearly, we come back to the trivial example of the transformation of the registration process for citizens. The actors involved are on the one an administrative body and on the other hand the citizen as the individual.

The starting point in our observation is that the registration process is settled with paper-based forms and that there are two transactions necessary to complete the registration. The underlying rules and regulations, how the process is accomplished, are given by a government owned legal system. Thus, the institution of governance is *hierarchy*.
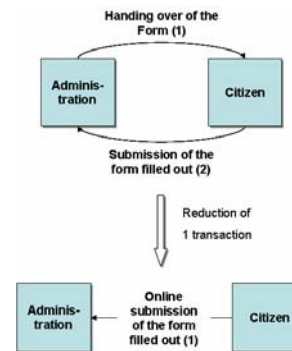

The implementation of an online portal or website now has a significant impact on the registration process. The amount of transactions is reduced from two to one. On the first view, the underlying rules and regulations, *the institution of governance*, have not changed. But let us now take a closer second look on the mechanisms of governance in the paper-based and the online registration process. In the initial state, the rules and regulations of (1) which form(s) to use, (2) how to fill out the form(s), (3) who to send the filled form(s) to and (4) how to approve the enquiry were all stored somewhere in guidelines, papers, or regulatory documents. With the implementation of information technology, these rules and regulations can instantly be implemented into the online registration system. The transformative potential of information technology may evoke a change or adaptation of the regimes for the registration of prospective citizens or not. However, the manner of governing changes from a paper-based hierarchy to a digital hierarchy of rules and regulations. This is the first transformative aspect of *e-governance*, when we talk about governance by means of "e".

The second interpretation of e-governance that we use in our research is governance of the "e", where "e" is the totality of actors (*individuals* and *organizations*) within the sphere of information and communication technology. What do we mean by *governance of the "e"*? Coming back to the basic level of transactions, we now consider the exchange of control over information technology and over government functions. The actors we look at are on the one hand government and public sector organizations and on the other hand the totality of private sector suppliers. To outline our argument, we will return to the example of the *online registration process*. The only difference is that we are now taking a more macro perspective.

The state, represented by a governmental organization (e.g., administration) decides to source out registration handling in order to take a more management and controlling oriented role. In detail, this means that there are taking place two different transactions. While government transfers the control over a state function to a private sector supplier, the latter supplies the government with the control over the online registration system.

More interesting is the reflection on the impact of this *sourcing out* of government functions on the underlying system of rules and regulations. In the initial state, the controlling and regulation of registration handling was done internally by government.
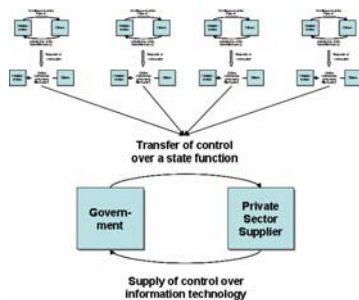
The manner of governing registration handling was hierarchically structured through a specified legal system. Due to the emergence of information and communication technology, government may decide that sourcing out of registration handling is opportune and thus transfers the control to a non-state actor (e.g., private sector supplier). In turn, the non-state actor supplies government with the regulatory control over the online registration handling system. Compared to the initial state, there is a shift from a *hierarchical* manner of governing registration handling to a mixed character of governing. Moreover, this new form of governance is mostly concentrated on regulating and controlling the results of the new online registration system, while in the initial state the focus was clearly on the registration process itself.

2.3. Summary

In summary, our argument is that information and communication technology can act as a *creative destroyer* [5] of traditional institutions of governance and therefore is one of the drivers of the transformation of state functions. We think, that e-governance with its twofold perspective has a significant transformative potential. To make our argument more explicit, we are developing a conceptualization of e-governance. In this paper, we will briefly outline this concept and apply it to a recent case study.

3. The Lausanne Framework

In our conceptualization of e-governance we distinguish between a macro and a micro perspective. In the macro perspective we focus the aspects of *governance of "e"* while in the micro perspective our objective is to explore the impact of "*e*" on (new) forms of governance.

3.1. The macro perspective

Inspired by institutional theory [19], we are taking into account the three institutions of governance *hierarchy*, *hybrid* and *market* to explore the impact of

information and communication technology (ICT) on the transformation of state functions. Thus, we have three different variables, namely (1) institutions of governance, (2) functions of state, and (3) level of impact of ICT. For each variable, there are three different attributes, which are listed in the following table.

Variable	Attribute	Meaning
Institution of Governance	Hierarchy	A governance structure, with a ruling body of clergy organized into orders or ranks each subordinate to the one above it.
	Hybrid	The hybrid is a mixed governance structure composed of hierarchical and market elements
	Market	A governance structure of economic activity in which buyers and sellers come together and the forces of supply and demand affect prices
Functions of State	Policy Making	The political process of shaping public policy.
	Regulation	A rule or order issued by an executive authority or regulatory agency of a government and having the force of law.
	Service Delivery	The process of delivery public services to the stakeholders of state.
Impact of ICT	Incremental	The impact of ICT is small and the level of change is increasing slowly.
	Transformative	ICT causes a change in form, shape, or appearance of something.
	Disruptive	The impact of ICT interrupts the normal course of action or unity of an observed object.

We use these three variables as a toolset to map and describe the shift of regulatory regimes and governance mechanisms in real life cases. In the case study, we will outline, how we make use of these three variables.

3.2. The micro perspective

The three functions of state: To recall, the three traditional functions of state: the shaping of the political process (leading to the definition of more or less widely accepted policies), the regulation of the behavior of the various actors (along the so established policies), and the provision of specific public services. All three

functions, traditionally controlled and even managed by the state in hierarchical manner, increasingly have to be shared with non-state actors (e.g., NGOs, professional associations) from local to global levels. The mechanisms for this sharing and governing of power are our primer interest when we talk about *governance*.

The dimensions of e-governance: We evaluate the impact of e-governance along two dimensions: the *modes of transaction* and the *transformative dimension* [3, 9]. Modes of transaction can be distinguished between one- and two-way transactions.

We talk about a *one-way transaction* between two actors, if the transaction is processed only from actor one to actor two and actor two does not react on the action undertaken by actor one.

We talk about a *two-way transaction* between two actors, if the transaction is processed between actor one an actor two. Actor two starts transaction (1b) as a response to transaction (1a) of actor one.

The second dimension is the assessment of the transformative potential of e-governance. We distinguish a range between *reproductive* and *transformative* changes. For example, if we consider an e-governance initiative that simply digitizes a governmental function (e.g. the implementation of an *online* registration process), the impact is 'only' reproductive. If an initiative leads to new forms of interaction between stakeholders and government, the impact on the transaction and the underlying mechanisms of governance is transformative.
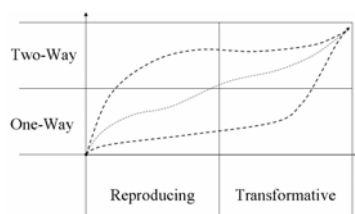

Figure 1. The dimensions of e-governance

Figure 1 describes potential development paths for the evolution of governance mechanisms under the influence of ICT. E-governance initiatives stress governance mechanisms, which thus are adapted incrementally. [11, 12] The path of this adaptation process is leading towards two-way transformative changes in those governance mechanisms. However, this is only a qualitative observation we made during our exploratory research.

In summary, the first dimension of evaluation tells us about how e-governance impacts the digitization of governance mechanisms in terms of stakeholder (= actor) transaction. The second dimension tells us in how far e-governance initiatives influence governance

mechanisms incrementally or disruptively. Across all development paths, the most successful e-governance projects will move from a one-way, reproductive beginning over time to the two-way, transformative stage. We have chosen an exemplary case, to make this relation more clear.

4. The application of the Lausanne Framework

The Lausanne Framework is a means to support the evaluation of e-governance projects (in the following chapter we will call it "e"-initiative). Subject to evaluation is the description of the impact, which ICTs have on the state's mechanisms to steer and control the transformation of its traditional functions: (1) regulation, (2) service-delivery and (3) policy making (political process). The criteria of evaluation are the modes of transaction and the transformative potential of ICT in the specific project.

We are developing a methodology, which is twofold. We distinguish a macro and micro level of analysis. On the macro level, we position the impact of an e-governance project along the three variables of analysis: *institutions of governance*, *functions of state* and *impact of ICT*. In doing so, we want to evaluate, if a potential shift towards a new form of governance for state functions has taken place. With the Lausanne Framework we are working on the micro level of analysis. We are able to describe the changes which have taken place on the level of transaction between state and non-state actors and we are able to give advice how current mechanisms of governance can be improved by means of ICT.

4.1. Positioning on the macro level

The first step of evaluation is the positioning of the case. To do this, the following questions have to be answered:

- What are the functions of state, which are impacted by the "e"-initiative in the specific case?
- What are the actors in the case and what are the institutions of governance (regimes of rules and regulation) that have been applied to steer, control and manage the respective function(s) before the "e"-initiative took place?
- If you think in terms of *hierarchy*, *hybrid* and *market* as governance mechanisms, what has been the impact of ICT on those governance mechanisms? How can the impact be described: *incremental*, *transformative*, or *disruptive*?

By answering the three questions, we are able to draw a map for each function of state, where we outline, how the examined "e"-initiative has changed the existing or has led to new forms of governance. To get a little more into detail, the Lausanne Framework

provides a strong taxonomy to examine the level of transformation for each state function.

4.2. Analysis on the micro level

Coming from the macro level, we are examining the governance mechanism for each function of state individually. The following questions have to be answered dually, once for the state before the "e"-initiative took place and once for the state after the "e"-initiative has been completed:

- What are the relevant actors involved in the process of governing the state function?
- What is the relevant institution of governance applied to steer and control the processing of the state function?
- What are the mechanisms of governance and the underlying transactions, which were implemented before the "e"-initiative took place and who do they look like after completing the "e"-initiative?
- How can the impact of the "e"-initiative on these mechanisms/transactions be described in the range between *reproductive* and *transformative*?
- What are the modes of transaction affected by the "e"-initiative?

After answering these questions, the following matrix can be filled for each institution of governance.

	One Way Reproductive	Two Way Reproductive	One Way Transformative	Two Way Transformative
Policy Making	PM1	PM2	PM3	PM4
Regulation	R1	R2	R3	R4
Service Delivery	SD1	SD2	SD3	SD4

Figure 2. micro level analysis within the Lausanne Framework

As a result of analysis, the observer has a detailed mapping of the current mechanisms of governance applied in the respective case. In addition, he has a detailed mapping of the character of changes, which took place in the governance mechanisms to steer and control each state function due to the implementation of ICT. Thus, we offer a framework that serves both as a self-evaluation method and as a guide for the strategic management of future "e" related initiatives.

In the following chapter, we will examine a case study in order to provide a hands-on example of the application of our Lausanne Framework.

5. The Flemish Community: a case study on the attempt of electronic deregulation

The case we want to describe is about an "e"-initiative at the Ministry of Flemish Community (the regional government administration for Flanders) in Belgium. The project aimed at deregulating license management procedures for investors wishing to make investments in the Flemish Community. The project information resides from personal communication and interviews with managers in charge for the project.

5.1. Starting Point: administration deregulation for investors

In 1998, the Ministry of the Flemish Community launched a change management initiative in order to simplify administrative procedures for investors seeking to obtain licenses or applying for regional investments. A survey had outlined that potential investors were discouraged by the actual State of administration procedures.

- Sufficient information on requisites and procedures for licensing were not available.
- Regulations and service levels of the licensing process were inconsistent and differed between the various levels of authorities.
- There has been no transparency on the licensing process, which made the legislation and administration uncertain.
- The processing of information and licensing was slow and cost intensive.

The increasing dissatisfaction of investors made the ministry setting up an action plan, which was composed of 20 projects divided in two categories: (1) long-term targets and (2) short term targets.

- The long-term actions focused on reengineering license management procedures. They aimed at *integrating* and *harmonizing* license regulations and legislation.
- As short term target, a Government-to-Business portal was initiated. The one-stop portal targeted the virtual integration and deregulation of license management

5.2. Transition phase and further evolution

In 1999, a change of government took place. Among the 20 projects of the former action plan just a few 'survived'. Although the new government considered the Know-How and insights revealed during the 1998 study as feasible, they did not follow-up with the change project.

During the following three years, the Government-to-Business portal was put online and served as an information and interaction-based platform. The Ministry of the Flemish Community was able to improve the relation between investors and government.

However, the change project as a whole was indirectly stopped.

In 2002, the e-Government initiative was re-launched by a different department. The 1998 study results were lost and new efforts were made in order to set up a completely new action plan. Additionally, another e-Government initiative was launched in 2002 on a regional level, aiming at integrating every local movement. This initiative only focused the information technology component, led to a slowing down of development of existing portals and finally failed.

Now, in 2004 the Ministry of Flemish community perceived the first measurable optimizations. The licensing process is more deregulated and simplified than in 1999.

5.3. The Lausanne Framework: a macro level analysis of the case

The first step of evaluation is the positioning of the case. To do this, the following questions have to be answered:
What are the functions of state, which are impacted by the "e"-initiative in the specific case?

The project at the Ministry of the Flemish Community affected two functions of the state: service delivery and regulation. The reengineering of the licence management process can be categorized into regulation, while the implementation of the one-stop licence handling for investors through a web-portal can be categorized as a service delivery to investors.

What are the actors in the case and what are the institutions of governance (regimes of rules and regulation) that have been applied to steer, control and manage the respective function(s) before the "e"-initiative took place?
From a macro perspective, there have been involved basically the two actors: The state, represented by the Ministry of the Flemish Community and a private sector supplier represented by an international IT consultancy supplying IT services to the state.
The institution of governance affected in this "e"-initiative was mainly hierarchy. The state body bought the services of the IT consultancy in order to build and implement the licence management portal. The employees of the private sector supplier were integrated into the state body until the portal was built. There was not attempt of the private sector service supplier to take over any of the government function.

If you think in terms of *hierarchy*, *hybrid* and *market* as governance mechanisms, what has been the impact of ICT on those governance mechanisms? How can the impact be described: *incremental*, *transformative*, or *disruptive*?
In the regulatory functions, the impact on the governance mechanism 'hierarchy' was incremental, because the licence management portal did not impact or change the underlying system of hierarchic rules and

regulations in a sustainable manner. The real impact will be observable on the micro level of analysis. On the macro level, the impact of ICT only led to a rethinking of the rules and regulations, but not to a fundamental rethinking of the implementation mechanisms.
The analysis is different on the level of the service delivery function. Before the "e"-initiative was launched private investors were forced to follow ambiguous and sometimes irritating paths throughout the licensing process. This hierarchically structured process often led to dissatisfaction and disappointment among the investors. After accomplishing the "e"-initiative, there was a clear structure for investors. A one-stop shop process provided the investors with the opportunity to identify the relevant licences quickly and to go through the procedure smoothly and consistently. On the level of service delivery, the impact of ICT on the governance mechanism hierarchy was transformative, because the mechanism has changed from purely hierarchic to hybrid. The new mechanisms are generally hierarchic with market similar components, where investors are free to choose which licence they would like to go for.

In summary, the macro level analysis can be concluded with the following map.

While in the functions of regulation, the "e"-initiative of the Flemish Community did not have an effect on governance mechanism (neither positive nor negative), the "e"-initiative positively impacted the action of governing the provision of services to the stakeholders of the state. A new 'hybrid' form of governance has emerged.

5.4. The Lausanne Framework: a micro level analysis of the case

Having analyzed the Flemish "e"-initiative from a macro level, we can now go a little deeper into analysis. To fill the micro level matrix, we will examine the following questions.

What are the relevant actors involved in the process of governing the state function?
Within the function of service delivery, the actors involved are (1) a government body, which is responsible for accepting the licence enquiries and (2) second the private investors seeking for licences to invest in the Flemish Community.

Within the function of regulation, the actors involved are (1) a government body providing the regulatory systems and (2) the private sector supplier who is responsible for implementing the regulatory system through an IT system (online licence management).

What is the relevant institution of governance applied to steer and control the processing of the state function?
In the regulatory function, the institution of governance applied is hierarchy. The government body provides the private supplier with the regulatory system, which should be implemented. The ICT system has to be adapted to the regulatory system but the regulatory system is not adapted to the potential of ICT.
The function of service delivery is governed by mechanisms of hierarchy. The government body imposes it procedures upon the private actors (investors).

What are the mechanisms of governance and the underlying transactions, which were implemented before the "e"-initiative took place and who do they look like after completing the "e"-initiative?
Before the "e"-initiative was started the regulatory systems was mainly controlled and steered by formal administrative and paper-based procedures. After completing the "e"-initiative, the regulatory system was implemented within the one-stop shop application. The mechanisms of governance changed from paper-based to digital.
On the level of service delivery, the transactions taking place before the "e"-initiative was started were mainly processed by administrative body employees and the private investors. The action of governing was done in the representation of the government body employees. After implementing the online licence management system, the governance mechanism shifted towards a well defined digital agent.

How can the impact of the "e"-initiative on these mechanisms/transactions be described in the range between *reproductive* and *transformative*?
In each case (service delivery and regulation), the impact of the "e"-initiative was reproductive. Although the performance of licence management could be increased through the IT system, the governance mechanism (hierarchy) simply changed from paper-based to digital, which in turn is reproductive.

What are the modes of transaction affected by the "e"-initiative?
The modes of transaction are affected differently between the two functional areas. While in the regulatory function the impact of ICT on governance mechanisms was only one-way, in the service delivery component of the "e"-initiative, the impact of ICT was two-way. ICT changed on the one hand the way the government body appeared vis-à-vis the private investors and on the hand ICT has changed the way the

private investors can organize the licences the need to pursue their investment activities.

In summary, the micro-level impact of the "e"-initiative in the Flemish Community on the mechanisms of governance can be captured in the following matrix.

	One Way Reproductive	Two Way Reproductive	One Way Transformative	Two Way Transformative
Policy Making	no impact of ICT			
Regulation	digitization of the regulatory system	no further impact of ICT		
Service Delivery	digitization of the online licence management	one-stop online licence management	no further impact of ICT	

6. Conclusion and final remarks

This paper was aimed at providing insight to the latest state of our research on e-governance. We wanted to outline the differentiation between e-governance as the governance of the "e", where "e" is the representation of the totality of information and communication technologies, and e-governance as governance by means of "e". From our point of view, this consideration is crucial for further research in the e-e-governance domain.

Second, we wanted to outline our conceptualization of describing the transformative potential of e-governance. Thus, we consider the Lausanne Framework as a powerful methodology to evaluate the outcome of e-governance initiatives. Although we have gone through several iterations, the model and the underlying method is not complete yet. One of our primer focus is in the future development of the Lausanne Framework is a concept, that allows to draw quantifiable conclusions from the analysis.

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