Bridging the gaps between e-government practice and research: A meta-study for policy development

Dr Endrit Kromidha

School of Management - Royal Holloway University of London

Dr José-Rodrigo Córdoba-Pachón

School of Management - Royal Holloway University of London

Abstract

Purpose: This study maps the dynamics of e-government rhetoric through a discourse analysis. Our discussion and understanding is based on an identification and interpretation of emerging concepts in e-government reports and research journals. The goal is to unveil established concepts that influence e-government policy development in the public administration context.

Approach: Institutional discourse and a policy cycle model are initially selected to guide an inter-textual meta-analysis and meta-synthesis of relevant e-government and public administration outlets. Key concepts are analysed based on their frequency in order of appearance and proximity to each-other. Themes emerging from concept-ideas feed-back to the theory by helping us to suggest a new e-government policy development framework informed by practice and research domains.

Findings and practical implications: Our findings suggest that although a number of concept-ideas are being institutionalized in the field of e-government, there are persisting differences and discourses between public administration and e-government reports and journals. Most of the conceptual gaps identified by this study are related to emerging issues like e-government evaluation, engagement with end-users and connection gaps between policy, practice and research.

Original value: This study advances the use of discursive institutionalism in e-government research by suggesting that concepts and ideas are institutionalized not only through discourse assimilation, but also by attracting and being able to keep other concept-ideas closely related into themes. Different policy development paths identified in e-government practice and research domains should be jointly considered by policy makers, managers and researchers to improve their implementation.

Bridging the gaps between e-government practice and research: A meta-study for policy development

1. Introduction

After some decades of e-government research and practice worldwide, an important body of knowledge is now distinguishable in the literature which suggests that e-government is becoming an established field (Kræmmergaard, Schlichter 2011, Yildiz 2007). However, in this body of knowledge many issues have been left unexplained to account for gaps between e-government policy formulation and its implementation via e-government projects (Heeks 2006). Two reasons can be given for this. One of them is the lack of theoretically sound research on e-government with explicit formulation and justification of methods used to collect and analyse data (Heeks, Bailur 2007). This reason is supported by reviews of the e-government literature which identify a concentration of research around technology diffusion and acceptance models (Kræmmergaard, Schlichter 2011, Dwivedi 2009). Little attention is paid for instance to factors leading different users to become interested in information technologies before they are accepted or adopted (Benbasat, Barki 2007), and to policies that can assist in this direction.

The other reason is more practical. Often in e-government or public administration conferences or publication outlets there is a clear division of audiences between e-government researchers and information systems' practitioners. Often, the first group focuses on studying the complexities of policy formulation, evaluation and organizational transformation by abstracting lessons that could impact future policies. The latter focuses on dealing with the challenges of adequately implementing e-government systems to respond to users' concerns. In the dynamics of these and other groups however, we believe that a number of common concepts have been established.

The purpose of this study is to identify and analyse how e-government perspectives are unfolding in research and practice outlets of public administration with a view to suggest harmonized interactions between them. The research problem we are trying to address here is summarized in the following two questions:

1. What e-government concepts have been established or marginalized in e-government reports and journals?
2. What emerging practice and research issues need attention in e-government policy?

To answer these questions we undertake an analysis of e-government discourses as reported in a set of selected mainstream outlets such as reports and journals. Our aim is to identify a series of patterns that have evolved through time and which contribute to frame e-government policies.

We interpret these patterns in relation to their implications for the future design and implementation of e-government initiatives by policy makers, e-government managers and e-government users.

This paper is organized as follows. We first revisit current practice on e-government research and argue that it is concentrated on the use of certain models and frameworks. Then we expand the existing boundary of analysis on e-government by proposing a framework for e-government policy formulation/implementation that we use to interpret relationships between established concepts. To identify relevant e-government concepts we propose a meta-analysis and meta-synthesis methodology. Our interpretation of the dynamics of concepts leads us to suggest issues about co-operation, joint project formulation and evaluation between e-government stakeholders in order to fill existing and future gaps between e-government practice, research and policy.

2. Analysis of the field: Frameworks of e-government institutionalization and policy

Our point of departure is that e-government practice and research is mostly dependant on the acceptance and diffusion of technologies. This in turn is expected to establish linear policy paths for organizations to follow. The result is a number of technological and non-technological conceptual configurations (Kræmmergaard, Schlichter 2011, Heeks, Bailur 2007, Siau, Long 2005) which often remain evolutionary in nature. For example, drawing on the popularity of the e-government implementation model developed by Layne and Lee (2001) and subsequent updates (Siau, Long 2005, Andersen, Henriksen 2006), Heeks and Bailur (2007) identify the 'web stage model' of information, interaction, transaction and transformation for e-government implementation. This has been a cornerstone for e-government research but also for policy formulation when it comes to propose initiatives to bring e-government into place worldwide.

In parallel to the above model of e-government stages, the Technology Acceptance Model of TAM (Davis 1986, Davis, Bagozzi & Warshaw 1989) and its newer versions (Venkatesh, Davis 2000, Venkatesh 2000, Venkatesh et al. 2003) fuel efforts to successfully have e-government systems being adopted by users. TAM and updated versions of it focus on the human-technology interaction by proposing key cognitive and behavioural factors such as the Perceived Usefulness and Perceived Ease of Use. These are expected to influence e-government users to adopt e-government systems. The models imply, at least in principle, that technology is separated from the context of implementation and that successful adaptation depends on the integration of e-government systems with human and organizational aspects.

The above models suggest how e-government can be implemented but provide little guidance as to how countries can make use of it to fulfil (wider) societal needs. As Heeks (2006), we argue that policy research on e-government could benefit from not only promoting best practice adoption and bench-marking (Bannister 2007), but also learn from the involvement of different stakeholders. Sensitivity to the realities of countries and public administration contexts needs to be considered and informed carefully. In particular, it is important to understand how plans are

formulated and shaped, and how those responsible for e-government implementation have to continuously deal with the unintended, the old and the new phenomena that emerges (Córdoba-Pachón, Orr 2009).

Taking a theoretical stance becomes important in order to adequately articulate relationships between policy formulation, implementation and research, and this could help provide a more comprehensive picture of e-government emerges. In our search for conceptual tools to inform e-government policy we propose institutionalism as an appropriate theoretical framework. The theory in general drives attention to contextual rules and legitimacy of certain patterns that influence the way organizations and actors are transformed and interact with each-other (Meyer, Rowan 1977, March, Olsen 1989, DiMaggio, Powell 1983, North 1990, Zucker 1977, Scott 1995, Royston Greenwood, Hidings 1996). This idea can illuminate the adoption of e-government systems by governments as a process of mimicking their external environment (Åkesson, Skålén & Edvardsson 2008). More specifically, our focus on e-government concepts and our research methodology are influenced by a number of studies on institutional discourses (Hasselbladh, Kallinikos 2000, Hay 2006a, Schmidt 2008). In other words, we believe that the institutionalized concept ideas that we are going to discover are created by e-government actors, but at the same time such elements influence the future arrangements of such actors.

There are a number of studies that consider e-government institutions (Yang 2003, Avgerou 2010, Fountain 2001), their patterns of development (Córdoba-Pachón, Orr 2009) or their maturity (Dwivedi, Weerakkody & Janssen 2012). However, it is important to account not only for what is adopted and delivered (e-government systems), but also to identify if and how it is framed at different policy stages. This could be done with a view of understanding in more depth the different configurations between technological systems, organizational practices and norms (Fountain, 2001), as well as how the involved actors could work together to improve the existing situation in a given context (Córdoba-Pachón, Orr 2009). In our study and to answer the above research questions we need to focus not only on institutional discourses, but also on e-government policy-making. The Policy Cycle model proposed by Stone, Maxwell and Keating (2001) appears satisfactory in this context:
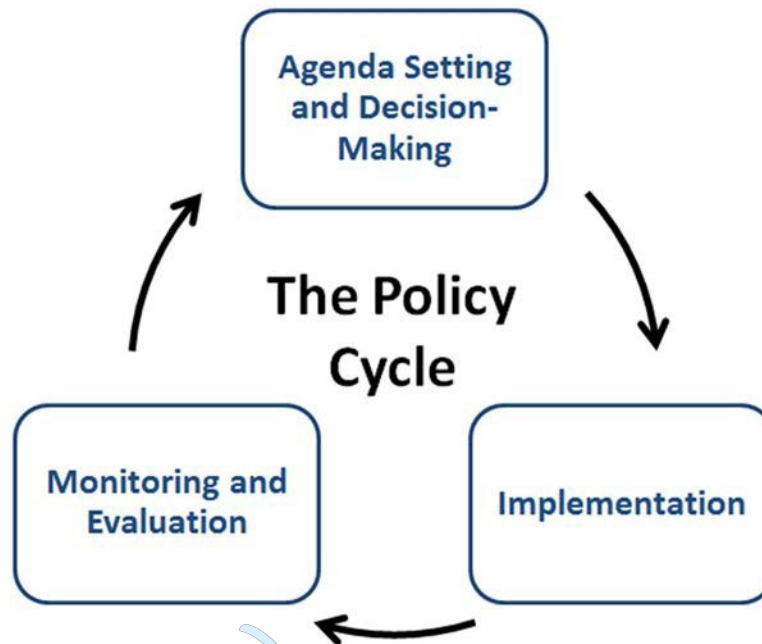
Figure 1: The Policy Cycle (Stone, Maxwell & Keating 2001)

The Policy Cycle explains how reforms are carried forward in the public sector. The three stages of iterations are broad in this model, representing groups of related activities with a common objective. Furthermore, the stages of agenda setting, implementation and evaluation are not only interlinked, but in practice can overlap with each-other. In the context of this research, the Policy Cycle (Stone, Maxwell & Keating 2001) should guide us in the interpretation of the conceptual maps that we are going to analyse.

This model is iterative rather than linear. In this study it provides the conceptual bridge between institutional theory and how e-government practice and research can be translated into policies. However, even its authors account for some of its limitations such as the inability to explain irregularities, irrationalities, and developing context. These remarks are valid, therefore we plan to use the Policy Cycle (Stone, Maxwell & Keating 2001) as a starting point for our deductive interpretation and analysis, rather than as an end in itself. The analysis of discourses as they appear in e-government reports and journals is expected to give us a better understanding of e-government policy-making in relation to and possibly beyond this theoretical model. Based on our findings, in the final sections of the paper we draw implications for the future use of this model in relation to e-government institutional discourses.

3. Methodology

3.1. Meta-analysis and meta-synthesis

We use the above model of policy formulation and implementation to situate the different concepts and ideas that have been established in reports and journals to guide e-government

policy development. In order to provide a comprehensive review of published literature we use the notion of a meta-study (Paterson, Canam 2001). This means focusing on selecting and reviewing relevant literature guided by the researcher questions that can inform the field as a whole (Siau, Long 2005). To do this we adopt the idea of a rigorous and systemically performed literature review originating from the Cochrane Collaboration Back Review Group in medical research (Van Tulder et al. 2003), using computer aids for text analysis.

In conjunction with a meta-study, a meta-synthesis (Cooper, Hedges & Valentine 2009) produces interpretive narratives by integrating and comparing the findings of different qualitative studies (Siau, Long 2005, Jensen, Allen 1996, Beck 2002, Sandelowski, Docherty & Emden 1997). Unlike the systematic review or meta-analysis that reduces studies into quantitative accounts, a meta-synthesis (Siau, Long 2005, Clemmens 2003) aims to include the uniqueness of individual cases or studies into a comprehensive interpretive whole.

We decided to build on the intertextual meta-analysis of Siau's and Long's (2005) mentioned earlier, which in turn was guided and inspired by Noblit's and Hare's (1988) work and has been applied to synthesise evolutionary models of e-government research. Previous reviews of the e-government literature (Heeks, Bailur 2007; Kræmmergaard, Schlichter 2011; ; Bélanger, Carter, 2012) identify areas where research has focused but do not provide much guidance in the way of relating concepts within and in between these areas. To advance these type of studies, we apply an innovative methodology that consists of the following stages:

- Reviewing the selected literature. Public administration and e-government publications are selected and prepared for analysis.

- Analysing established concepts. The most frequently used concepts in the selected publications are identified and discussed.

- Translating the studies into one-another. The relationships between the institutionalized key-words and their position in different publications are analysed.

- Synthesizing translations. The generated conceptual maps are interpreted to constructively synthesize meanings.

- Presenting findings. A number of tables and diagrams are used to illustrate and support the arguments, allowing a critical evaluation of the findings.

To apply these principles in our study, we look at the relationships between top keywords, so that not only topics are picked in isolation, but also connections between them.

3.2. Data management

This study relies first of all on the frequency count of concepts across the reviewed publications. Most qualitative software packages such as Atlas.ti, Nvivo or MaxQDA are able to count the frequency of concepts used in a number of documents to review. However, we wanted a tool that could capture and visualize the proximity of concepts to each other in the text. We found two software packages that could be used for this: WordStat and Leximancer®. Unlike Dwivedi (2008) does in analysis of information systems publications, our idea was to be able to identify clusters of terms, mapping their relationships based on their proximity in the text as well as their frequency of appearance. Leximancer® handles this process automatically, including the generation of suggested themes while WordStat requires more intervention from the researcher which we thought could bias the outcome. Therefore, we decided to use Leximancer® 4.0 (trial online account) for this study. This software and its algorithm for generating the results have been discussed as a research tool (Smith, Humphreys 2006, Smith 2003).

The main principle on which Leximancer® works is that concepts are listed based on their frequency of appearance in the text and proximity to each-other. This research tool has been used in a number of other studies on organizations (Sullivan Mort, Weerawardena & Liesch 2010, Rooney et al. 2010) literature review (Cretchley, Rooney & Gallois 2010) or e-government problems (Sweeney 2008) like the government-citizen relationship. Following this idea, the following part continues by looking at the evidence and its analysis.

3.3. Units of analysis

For this study we have chosen two periodic international reports and two academic journals as the main units of analysis. We consider this choice of outlets as representative for the purpose of this research, but we acknowledge that there could be others as well. The research methodology that we propose on the other hand is easily replicable for similar studies even in different research domains.

The two international reports and units of analysis represent e-government practice within the broader domain or public administration. The first one is the general World Public Sector Report (WPSR) published by the United Nations Department of Economic and Social Affairs. There are five volumes of this report since 2001, but for this study we have analysed only the last four, to be consistent with the timing of our other resources. Each of them has a common theme which represents current public administration issues such as E-Government at the Crossroads (UNDESA 2003), Unlocking the Human Potential for Public Sector Performance (UNDESA 2005b), People Matter: Civic Engagement in Public Governance (UNDESA 2008) and People Matter: Civic Engagement in Public Governance (UNDESA 2010). This report is expected to provide the public administration background and link to our focus on e-government here.

The second unit chosen is the more specialized Compendium of Innovative E-Government Practices (CIEGP) which comes in three volumes (UNDESA 2005a, 2006, 2009). As stated in each of them, the goal is to offer countries a shared global knowledge pool so that they can reduce the costs involved in completely new systems. It can be deducted from this statement that its

purpose it to assist countries' agenda setting ideals, implementation and evaluation of e-government from a practical perspective.

Regarding e-government research, the two other units of analysis are two leading academic journals in this domain.. Government Information Quarterly (GIQ) is considered a cross-disciplinary refereed journal focused on information management, policy and e-government practices in all levels with articles that provide theoretical and philosophical discussions for managing government information (GIQ 2012). This journal has become one of the main academic research domains on public administration and information systems with a distinguished interest in this field (Kræmmergaard, Schlichter 2011). In this study GIQ was assumed to provide a good link between public administration and e-government debates in the agenda setting, implementation and evaluation contexts.

The second research unit of analysis in the e-government research domain is the Electronic Journal of E-Government (EJEG). Unlike the previous documents, EJEG is more focused on e-government specifically and on issues emerging from its implementation. The journal has already an established reputation in this domain since its first issue in March 2003. As said in its editorial scope, the focus of EJEG is on the study, implementation and management of e-Government (EJEG 2011). We decided to include this journal in our analysis to represent online publications in this domain, but also account for more specialized debates in all three levels that we focus on here: strategy, implementation and evaluation.

There is no clear cut between the audiences of WPSR, CIEGP, GIQ and EJEG to disseminate e-government ideas and their focus is slightly different. However, all four documents are expected to give a reliable comparative account of e-government concepts and ideas emerging in the public administration context of practice and research. The amount of text reviewed is also important in our analysis and impact they might have, so a summary is given in the following table.

Table 1: Summary of literature sources for analysis			
	Period	Number of issues	Number of pages
WPSR	2003, 2005, 2008, 2010	4	619
CIEGP	2005, 2006, 2009	3	788
GIQ	2003-2012 2nd quarter	38	5893
EJEG	2003-2011	21	1792

Because the documents vary in size, this has a direct impact on the absolute count and frequency of terms. Therefore, to avoid any misinterpretation bias on their weight and importance, only relative counts in percentage were taken into account. However, the size of the documents should

not have any direct impact on the relative proximity of the concepts to each-other within the same material.

A possible limitation of this study is that a lot of e-government discourse could be emerging on the margins (i.e. outside the chosen units of analysis), but on the other hand, none has attempted to provide a rigorous summary of what has been already established. This study and our research question attempts to fill this gap, identifying common concepts and similarities first. Therefore, only the concepts with the highest frequency of appearance have been included in this analysis.

4. Meta-analysis of institutionalized concepts

First of all we started to analyse the most frequent concepts appearing in the two reports: the World Public Sector Report and the Compendium of Innovative E-Government Practices. The following table shows clearly that a number of concepts like public, information, government, project or service dominate the conceptual spectrum of public administration and e-government reports from 2003.

Table 2: Most frequently used concepts in reports						
		1st	2nd	3rd	4th	5th	6th
WPSR	2003	pubic	e-government	information	government	countries	services
	2005	public	sector	service	countries	management	civil
	2008	public	participation	society	organizations	civil	governance
	2010	public	administration	conflict	post-conflict	service	institutions
CIEGP	2005	information	project	product	services	access	service
	2006	information	project	system	services	service	access
	2009	information	project	product	public	services	citizens

The intertextual meta-analysis of the terms by juxtaposing them to each-other shows that the two publications have a number of institutionalized concepts in common such as information, public and service, regardless of their differences in scope. As expected, the most frequently used concepts throughout the years appear to have become more institutionalized than the less frequently used ones along the margins in each respective document. What is also interesting to note is that initially, the notion of the citizen is not as common or established as one would think.

For GIQ and EJEG we had to divide the different volumes and their issues in three periods, because unlike the reports, they have continuous publications. Our initial findings on the most frequently used concepts are summarized in the following table:

Table 3: Most frequently used concepts in journals						
		1st	2nd	3rd	4th	5th	6th
	2003-05	information	government	public	access	use	data

GIQ	2006-08	information	government	public	services	sites	use
	2009-12	information	government	public	use	services	research
EJEG	2003-05	public	government	information	services	use	local
	2006-08	information	government	public	services	service	use
	2009-12	information	government	services	use	public	citizens

All the published material was reviewed and not only the titles, abstracts and keywords. Concepts like information, government and the public persist even more here compared to the reports. This shows that journals have remained more focused on their initial scope while (policy-based) reports seem to have followed specific trends of the moment for each year of publication. Perspectives on how this happened will the analysed in the following part.

5. Meta-synthesis of e-government development

In order to validate the above results we resorted to explore how inter-connected certain concepts are. The relationships between the concepts are drawn automatically by Leximancer® in the form of interlinking lines which connect concepts (nodes). The software by default is set to consider two sentences as a context block to draw the relationship lines between the nodes. As mentioned earlier in the approach section of this paper, we left the default settings unchanged during the running of analysis because we considered them as optimal for our purpose, but also to facilitate the future replication of this study. According to these settings however, frequently used words in the headings such as 'Summary' or captions such as 'Table' were also captured. We left them there because we thought they bear important meanings. Furthermore and because such words start with a capital letter, these words can be clearly identified and do not significantly influence the results. The size of the nodes shows the frequency of use while the distance between the interlinked nodes shows the proximity between concepts in the context.

In presenting the results, we left the number of appearing concepts in the maps at 50% as set by default, but limited the number of automatically suggested themes to only 3. The reason for this was first of all to give more space to our interpretation of the results using the Policy Cycle we introduced earlier (Figure 1). The second reason is that the themes suggested automatically by the software are often weak representations of the contextual concepts as we will see later.

5.1. Relations and meanings in e-government development from reports

To start our analysis we tried to position three automatically generated themes in the following diagrams according to the three elements of the Policy Cycle (Figure 1): Agenda setting ideals (upper circle), Implementation discourses (lower-right) and Evaluation techniques (lower-left). We start our meta-synthesis and discussion with the WPSR. The conceptual map for the entire material in the four volumes from 2003 to 2010 is presented in the following diagram:
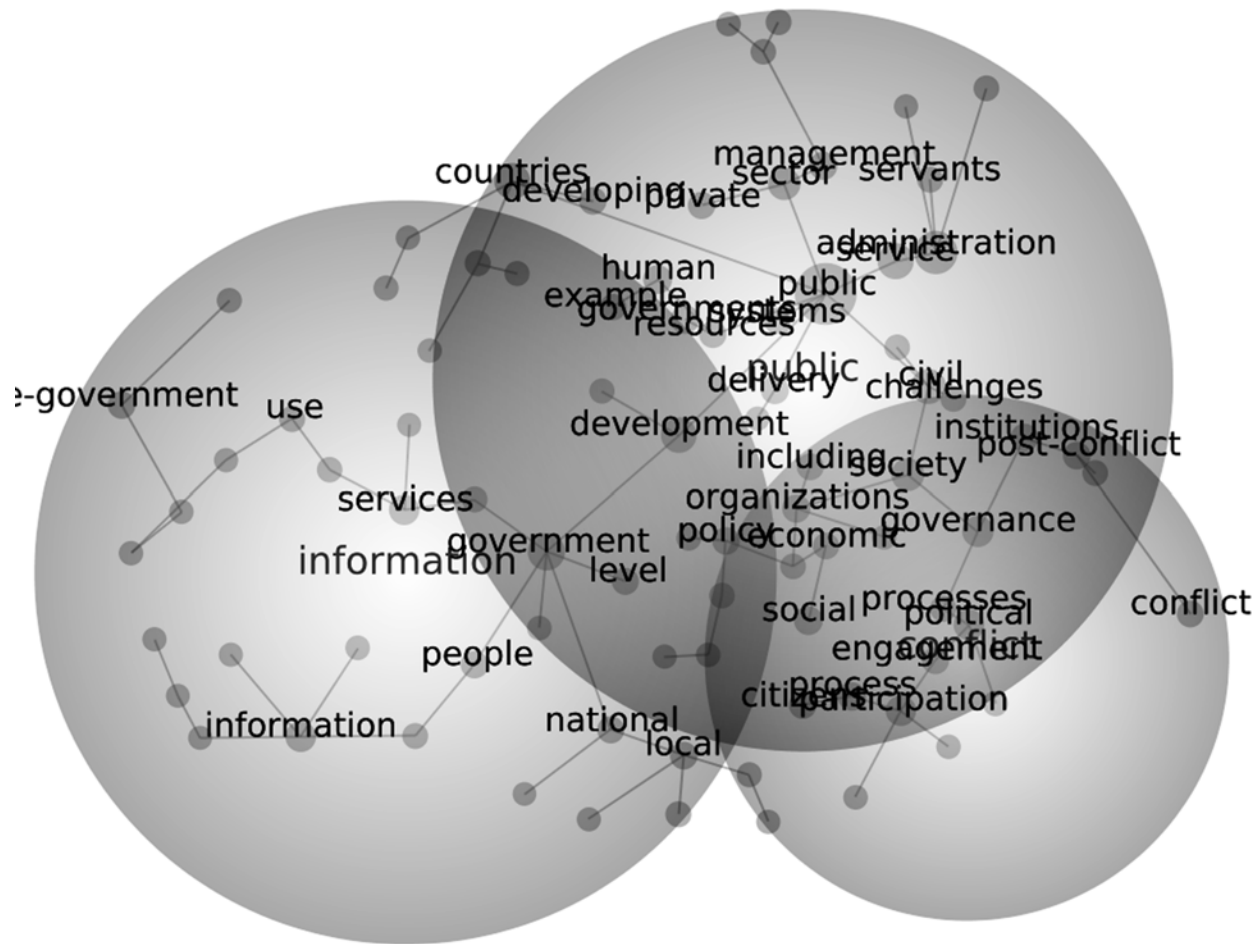
Figure 2: Conceptual map of World Public Sector Report 2003, 2005, 2008, 2010

There is a large number of concepts grouped around the automatically generated theme public (upper circle). As expected from the nature of the WPSR, the most frequently used concepts and established concepts like public, administration or government appear not only in larger dots, but also as connecting nodes for other concepts. However, key concepts for our research like information and e-government appear only on the margins of the evaluation lower-left theme. This shows that the field of e-government has not yet been established very strongly in the public administration discourses of such general reports (to be discussed later). The CIEGP on the other hand shows a different picture as presented in the following diagram:
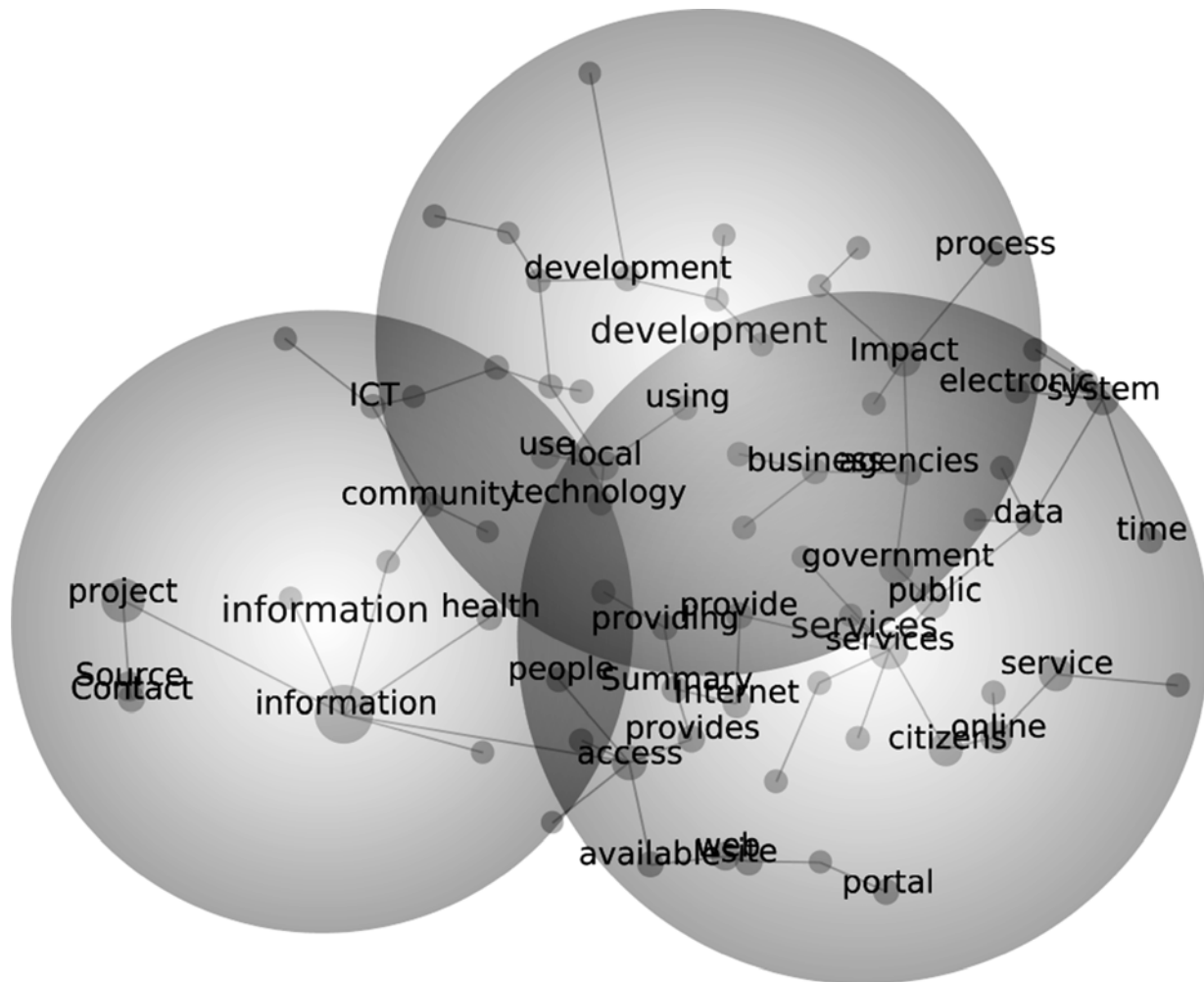
Figure 3: Conceptual map of Compendium of Innovative E-Government Practices 2005, 2006, 2009

This diagram interestingly shows that the degree of established terms like information and project is not as uniformly and centrally interconnected as we could expect from Table 2. Indeed, information and projects appear only on the margins of what we consider the evaluation theme (lower-left). Other concepts such as services related to the implementation of e-government projects in the lower-right theme appear more central and interconnected. The idea we take from this diagram is that although e-government is about information projects, they remain secondary to the services and benefits expected by the citizens or the development agenda.

The overlapping between the three themes in the CIEGP indicate that there is a stronger relationship between development goals (upper circle) and implementation of services (lower-right), than with the project and information evaluation techniques (lower-left). The above also indicates that e-government has become institutionalized in the context of information-based projects, expected to generate benefits for the public in general. Nevertheless, a more dynamic

discourse appears here in the right side of the diagram, where we think that e-government institutionalization is still 'struggling' to achieve equilibrium and thus its ideas are more volatile.

This could signal that e-government agenda-setting ideals on information and communication technologies are successfully introduced through public administration projects. Policy in these reports is framed and implemented within what appears to be recognized as valuable for the citizen and also relevant for public sector organizations (services) at a particular moment in time. The latter language of service used lends itself open to be adopted by government and non-government organizations alike. However the definition of what it means to provide a service requires considerations about access to it, and its evaluation not being left on the margins.

5.2. Relations and meanings in e-government development from journals

A more homogeneous e-government discourse is evident in the case of GIQ. Established concepts like information, government and public are close not only to each other, but also serve as key nodes for other ones like access and services. The following diagram introduces the conceptual map of all the materials published in this journal from 2003 until the 2nd quarter of 2012:

Figure 4: Conceptual map of Government Information Quarterly 2005 – 2nd issue of 2012

GIQ is a journal focused on information policy, therefore it is expected that most of the concepts are grouped in that specific theme (upper circle). There are a lot of concepts related to implementation within this larger theme, but we would like to posit that laws and regulations (lower-right) are more specific in this area of e-government development. Finally, we think that the automatic theme 'Table' (lower-left) is named after caption notes of such objects. According to our understanding, evaluation techniques in GIQ discourses in this case consist of structured presentation of findings and information, possibly of quantitative nature.

GIQ is an academic research journal and its focus is clearly somehow different compared to the reports mentioned earlier. The centrality of concepts on the other hand could be due to a more

stable editorial focus along the years. This means that these terms seem again to gather different audiences and could represent previously institutionalized discourses including those about the design and implementation of information systems. To give a better informed opinion on the maturity of the e-government domain let us have a look also at the EJEG conceptual map in the following diagram:

Figure 5: Conceptual map of Electronic Journal of E-Government 2003 – 2011

The top concepts of information, government, public, sector and services again appear frequently and close to each other; however, they are neither isolated as in the case of CIEGP or at the center as in the case of GIQ. Instead, these key terms in EJEG appear to provide the link between the other generally disperse concepts, yet allowing for their individual institutional development or adoption.

The situation of homogenization with GIQ is somehow different in the case of EJEG. First of all, because as we noticed earlier in Table 3, the most frequently used concepts are not consistent over the years. However, there are a number of similarities with WPSR, CIEGP on the central focus of public sector and services. This seems to indicate a focus on client audiences of e-government in EJEG, rather than on more specific user groups.

What is interesting in the case of EJEG is that the established concepts appear more disperse and similarly related to each other, rather than around a center or just a few ones. Comparing EJEG to GIQ, it is possible to conclude from our findings that what they promote and institutionalize is to a certain extent different. For example, we consider the implementation theme to be around online services in the case of EJEG (lower-right theme named automatically 'www'). On the other hand, users and citizens are perceived as the evaluators in the lower-left theme named 'vote' here rather than top-down performance reports. In this context, a more detailed analysis of the e-government policy development follows in the next part.

5.3. Synthesizing e-government development: a proposal

From the above, it might be possible to posit a possible institutionalization of concepts on e-government. At the policy level, the notions of public and service (for the citizen) are pervading policy discourses and plans. These notions are supported by others like information, access and projects. How these notions become 'translated' (in other words how policy is implemented) follows a techno-organizational path (as mixture of concepts related to technology and organizations) in which issues of implementation become prominent. How the cycle is closed (how policy is informed by learning about implementation of e-government) becomes less clear, in particular because the issue of e-government evaluation is still narrowly framed.

Whilst the institutionalization of e-government as a public service for the citizen becomes an obligatory topic in the policy formulation stages, its implementation is not a homogeneous discourse but a variety of discourses. Some of them have become central, but others like for instance a discourse involving local access remains at the margins of most diagrams. Discourses about web systems appear marginalized too in the diagrams, and thus developing an e-government portal from a one-way communication site to a fully functional platform for online transactions requires a paradigm shift from on-site (centralized) portal that offers online public services. Clearly, neither the theoretical approaches on institutional discourse (Hasselbladh, Kallinikos 2000, Hay 2006a, Schmidt 2008, Hay 2006b), nor the Policy Cycle model (Stone, Maxwell & Keating 2001) that we described earlier can explain such gaps. Therefore, in order to advance these approaches, we propose that a more dynamic E-Government Policy Development Framework should be considered as represented in the following figure:

Figure 6: An E-Government Policy Framework informed by practice and research

Our first observation reflected in our model is that e-government policy development does not happen in a cycle, but is much more irregular, consisting of many parallel activities. The double arrows pointing on both sides try to demonstrate this. The elements on the arrows emerge as enacting players between strategic goals, implementation discourses and evaluation. Projects, processes and organizations here are related to each-other as well in this policy-development system.

After such a general introduction, we would like to expand on how this framework emerged from the data and discussion, following our constructivist interpretation of the findings. Starting with 'Strategic goals', Table 4 gives a summary of automatic themes and our own understanding from the conceptual maps we discussed and showed earlier:

	Table 4: Strategic goals	
	Automatically suggested theme	Our institutional discourse conceptualization
WPSR	public	public administration development
CIEGP	development	impact of ICTs on development
GIQ	information	development of information systems
EJEG	public	public sector development

Strategic goals appear to be institutionally related to the development of public sector services. Information technology appears more as a tool to higher public administration objectives, political goals and governance. This instrumental view of e-government is indicated by the case study approach reports such as the CIEGP or many journal articles.

Implementation discourses on the other hand appear differently on each of the documents that we reviewed. Their individual agendas become important at this stage. Depending on their impact, audience and volume, reports and journals could influence e-government policy in different directions as the themes and our understanding of such discourses show in Table 5 below:

Table 5: Implementation discourses		
	Automatically suggested theme	Our institutional discourse conceptualization
WPSR	conflict	conflicts of interests and engagement
CIEGP	services	development of e-government services
GIQ	law	regulatory frameworks and agencies
EJEG	www	online services

Implementation discourses move around online services, regulations and conflicting interest. Because of the changing nature of e-government projects, strategic objectives and implementation on the other hand have not been followed by the same degree of communication and reporting. The reports and journals that we reviewed here fill some of this gap; however, as the conceptual maps show, they report on e-government by not addressing reporting and communication as such sufficiently. Table 6 on evaluation and control of e-government policies that follows is also related to this issue:

Table 6: Evaluation and control		
	Automatically suggested theme	Our institutional discourse conceptualization
WPSR	information	governance transparency
CIEGP	information	information sharing projects
GIQ	Table (used in captions)	presenting and using information
EJEG	vote	right of expression

Evaluation and control is institutionally related to information exchanges. Only one outlet (EJEG) connected evaluation and controlling to acceptance by the citizens and society through voting. The United Nations Department of Economic and Social Affairs that publishes our two reports and the United Nations Public Administration Network that conducts the global E-Government Survey are among the most important players in this context, although their names do not appear among the top concepts. Presumably there are complex and difficult to uncover political agendas associated with the evaluation of e-government policies and initiatives. The scares information and limited focus in the outlets that we reviewed here reinforce the idea that the policy evaluation of e-government remains one of the 'black boxes' in this field.

The research evidence we reviewed here focuses extensively on e-government strategic goal and implementation discourse, but less on evaluation and control, with a balancing tendency during

the last years. However, we think that once started and proving to be beneficial, the institutionalization of more citizen-centric practices in e-government can gain momentum. This is an important implication for public administration policy makers and e-government project managers. Bridging the gap between practice and research to inform policy, it is necessary to show a higher awareness on the roles that different e-government actors play. Conceptual discourses and institutionalization is important for policy-makers as it is for e-government researchers beyond policy development frameworks. By saying this, we also recognize one of the limitations in the model of E-Government Policy Development we proposed earlier, leaving improvements to future research.

6. Conclusions

This paper contributes to develop an alternative perspective on e-government policy development from practice and research domains. Our approach is based on institutionalism as a theory, but it develops following a critical analysis on contextual elements of e-government and public administration literature. Our findings suggest that e-government policy ideas in reports and journals are institutionalized not only through discourse, but also by attracting and being able to keep other concept-ideas closely related to them in thematic groups. Rather than considering a single path of e-government development (policy and its implementation), our findings suggest that there are multiple paths for development. A number of different strategic goals, implementation discourses, and evaluation and control elements were identified in this study. The review of practice reports and research journals identified a number of different perspectives and policy development paths, some starting to become institutionalized, and some others developing on the margins. This leads us to recommend that e-government should be better associated with a dynamic set of policies in continuous interplay with each-other.

A more suitable method to account for a degree of non-linearity, emergence of patterns, or rejection on e-government can be initially undertaken via meta-studies. Theoretical lenses like the institutionalist approach in this study can be used to guide the research, but they should also account for diversity. In this paper a proposal to conduct one of these studies was undertaken. We hope to have contributed to a deeper degree of reflection on what e-government concepts have been institutionalized in some practice and research domains, and how e-government policy development can be informed by them.

For public sector managers and researchers, the findings suggest that the field of e-government is diverse and that the links between practice and research domains need to be further studied. This conclusion is relevant in relation to specific contexts despite the popularity of e-government as a general term worldwide. With time, some of these links might be strengthened via particular journals or reports.

Researchers should also consider the possibilities given by both stability and fluidity of the discourses in e-government and public administration outlets if they want to disseminate their

knowledge. However, in doing so it is important to consider how relevant their knowledge is going to be for both policy makers, managers and users of e-government, rather than simply thinking of how 'safe' it is to take established paths of publication.

Finally, the institutionalized themes uncovered by this study are not static, nor are the actors and outlets that generate them. Policy-makers, e-government project managers and researchers should try to avoid the risk of self-perpetuating institutionalized concepts that can hinder e-government development. Instead, the past experiences and publications that we filtered in this research can inform better e-government policies and practice. At this point we suggest that researchers could work more closely with managers and policy makers to integrate strategy, implementation and reporting of e-government. The door is open to continue exploring the links between these activities and helping e-government fulfil its purposes of improving service delivery and quality of life in societies.

7. Limitations and suggestions for future research

We believe that this intertextual analysis based on policy-making and academic research literature can help bring the two areas close to each other and to the general e-government public. However, we are aware that a richer analysis and discussion of concepts and relationships beyond simple terms is based on our constructivist interpretation (Berger, Luckmann 1966), and we have left it to the readers to judge on the degree of replicability between our multiple realities and theirs in perception.

Moreover, e-government conceptualization could be enriched by going beyond publications and including what happens in the field. We consider our two reports and two journals as representative outlets of e-government practice and research that can inform policy development, but there could be also other sources. For example, understanding the reasons for the differences in the tables and diagrams might require a more detailed analysis of each project case, research paper and author. This, however, is beyond the scope of this study, but can be an interesting avenue for future research.

Finally, we wanted to clarify again that the use of Leximancer® 4.0 is purely instrumental in this research. The themes and conceptual maps are generated automatically based on the default settings, but a pre-embedded logic cannot replace our understanding and constructivist interpretation. On the other hand, we encourage the use of other tools, methods and frameworks as well that would broaden our limited understanding of e-government in future research.

Biographical Details:

Dr Endrit Kromidha (MSc, PMP, PhD) is a Teaching Fellow in Technology Information Management and Strategy / International Business at the School of Management, Royal Holloway University of London. He has a general background in international economics, with various work experiences in banking, online business, public sector and academia. Endrit's

current interest is on the institutionalization of information and communication technologies for development through projects. He is a PMP certified member of the Project Management Institute (USA), an Associate Fellow of the British Higher Education Academy (UK) and active collaborator of the TGN Group and ICT4D Centre at Royal Holloway University of London.

Dr José-Rodrigo Córdoba-Pachón (MA, PhD) is a Senior Lecturer in Technology and Information Management at the school of Management, Royal Holloway, University of London. His research interests are on the use of systems thinking to study information technology and sustainability. He is currently researching on evaluation of e-government and the development of methodological tools for governance. Hi is co-editor of the book "Systems Thinking and E-Participation: E-Governance in the Governance of Society" which comprises a collection of case studies and methodological approaches to e-government from around the world.

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