Persuasive Pressures in the Adoption of E-Government

Vincent Homburg[1], Andres Dijkshoorn[2]

[1] Erasmus University Rotterdam, Faculty of Social Sciences, Rotterdam, The Netherlands
homburg@fsw.eur.nl
[2] Novay, Enschede, The Netherlands
andres.dijkshoorn@novay.nl

Abstract. In this paper, we describe the diffusion of personalized services among municipalities in the Netherlands over the period 2006-2010 and investigate how and why various municipalities adopted personalized electronic services. Using qualitative data gathered in fifty interviews in ten selected Dutch municipalities, we synthesize the findings in an explanatory model of personalized electronic service delivery diffusion. The model shows how persuasive pressure (as perceived by adopters) is followed-up by organizational search activities, and how, in various circumstances, the idea of personalized services is 'framed' by innovation champions, knowledge brokers and new members of staff as to appeal to specific organizational priorities and ambitions. In doing so, this article contributes to an institutional view on adoption and diffusion of innovations, in which (1) horizontal and vertical channels of persuasion and (2) human agency, rather than technological opportunity and rational cost-benefit considerations, account for actual diffusion of innovations.

Key words: e-government, adoption, diffusion, public sector, public management, institutions, channels of persuasion

1   Introduction

In many western countries, it is especially local governments that are developing one-stop shops that serve as a point-of-entry to the whole range of government (Ling, 2002; Ho, 2002). Some contributions in the literature present high hopes of 'transformation' of the public sector (Weerakkoddy & Reddick, 2013). The actual implementation and take-up of the e-government phenomenon by public sector organizations, however, has lagged behind policy ambitions and rhetoric of transformation, reform and re-engineering (Moon, 2002; Homburg & Dijkshoorn, 2011). In trying to explain the actual diffusion of e-government, various empirical studies have identified city size, citizen demand, organizational structure, geographic location and capacity (see Table 1 for details of the literature reviewed) as the most important determinants of e-government adoption by public sector organizations. Implicit in the explanations that are featured by these authors seems to be the idea that public sector organizations – as organizations in general – are rational, utility-maximizing entities. In order for these organizations to survive, they may adopt innovative ideas and technologies, but the

empirical evidence suggests they are sometimes hampered by the identified determinants. Such a rational explanation suffers from two weaknesses.

First, researchers working in the burgeoning institutional perspective have asserted that organizations in general are not entities that necessarily maximize efficiency and effectiveness, but rather accept and follow social norms, and seek long-term survival through legitimacy rather than efficiency and effectiveness (Orlikowksi & Barley, 2001; Mignerat & Rivard, 2009). Zorn et al. (2011) have argued that, especially for non- and not-for-profit organizations, technological innovations are a means for establishing legitimacy in the eyes of key stakeholders as much as they are means for enhancing operational efficiency. Frumkin and Galaskiewicz (2004) indicate that institutional pressures to adopt specific innovations are very relevant for public sector organizations.

Table 1: literature review of explanatory e-government studies

Determinants of e-government adoption	Author(s)
City size	Moon (2002); Reddick (2004); Moon and Norris (2005); Norris and Moon (2005); Homburg and Dijkshoorn (2011)
Citizen demand (perceived usefulness)	Holden et al. (2003); Reddick (2004); Gilbert et al. (2004); Horst et al. (2007)
Organizational structure	Moon (2002); Reddick (2004); Holden et al. (2003);
Geographic location	Holden et al. (2003); Reddick (2004); Norris and Moon (2005)
Managerial, financial and technological capacity	Reddick (2004, 2009); Moon and Norris (2005)

Second, there seems to be an underemphasis in the literature on how the process of innovation looks like. In rational models of adoption and diffusion (e.g. Rogers, 1995), potential adopters figure as rather passive entities, adapting to prevailing norms of efficiency, without paying attention to ways in which human actors reflect on external pressure to behave in a particular way, nor to the types of responses human actors display in decision-making processes regarding the decision to adopt or not adopt a specific technology. In short, with the exception of studies by theorists like Orlikowksi (2000), Cziarniawska and Sevon (2005), Bekkers and Homburg (2005) and Homburg and Georgiadou (2009), 'agency' seems to be lacking in existing explanations (see also Orlikowksi & Barley, 2001). Therefore, questions like *why* public sector organizations actually adopt (or fail to adopt) e-government innovations, and *how* organizations actually learn to innovate, are scarcely given attention.

In this paper, the research question is how the actual adoption of e-government can be explained. Our intention is that, by focusing on 'agency' alongside 'structure' (Orlikowksi and Barley, 2001), and by emphasizing norms, values and taken for granted assumptions other than efficiency and utility-maximization alone, more light will be shed on the *process* of technological and organizational change. The analysis reported

in this paper extends the existing literature on e-government to include institutional, 'agency' and 'process' aspects of e-government innovation.

2   Personalization and Personal Public Service Delivery

In this paper, focus on a specific empirical phenomenon: the delivery of personalized public services (OECD, 2009; Peterson et al., 2007; Homburg and Dijkshoorn, 2011) as a 'case' of the diffusion of a specific innovation. A characteristic of personalized services is that they generally make use of authorization, profiling and customization in such a way that, eventually, one-to-one relationships between public service providers and citizens are established. One-to-one relationships may provide citizens with, for example, pre-filled forms, suggestions for permits or benefits that maybe relevant given past requests, automatically generated reminders, and news updates based on customer preferences. The eventual aim is to provide services that are geared towards the needs of citizens, and less towards the existing supply-oriented organizational routines of service providers. Personalized services are presented as fairly 'mature' e-government levels (Andersen & Henriksen, 2006).

Examples of personalized services at national or federal levels are the Belgian MyMinFin e-tax initiative, the Danish borger.dk portal, the Estonian eesti.ee initiative, the French mon.service-public.fr website, the Norwegian Norway.no portal, the British direct.gov.uk site and the Dutch mijnoverheid.nl site. In the Netherlands, various municipalities offer personalized sections on their websites including http://www.eindhoven.nl/mijn-eindhoven.htm for the city of Eindhoven, and http://www.rotterdam.nl/mijn_loket _digid for Rotterdam.

3   Related Research: The Theoretical Antecedents of Diffusion

Diffusion of a new idea, product or service is defined as the spread of its use in a population of potential adopters (Rogers, 1995; King et al., 1994). The process of diffusion has been linked to characteristics of the innovation itself, the social system (community of potential adopters), channels of communication, and time (Rogers, 1995). Given the lack of a rigorous theory that acknowledges the embeddedness of e-government diffusion processes by municipalities in the larger context of governance (including central-local relationships and the activities of outreach programs), we scanned and searched related concepts in the organizational sociology and institutional theory disciplines - two related literature streams that explicitly address how organizations absorb prevailing ideas from their environments into their operations and structures. However, this literature tends to be relatively abstract, and does not address the diffusion of personalized e-government in the specific context of municipalities.

Advancements in the discipline of organizational sociology in recent decades (DiMaggio and Powell, 1983; Tolbert and Zucker, 1996) have highlighted the significance of the professional and/or legal rules, cognitive structures, norms and the prevailing values in which innovation takes place. Institutionalism emphasizes the per-

suasive control over the practices, beliefs and belief systems of individuals or organizations through an institution's sway (Kimberley, 1979, in King et al., 1994). Persuasion can be achieved not only through directives, but also through more gentle but nevertheless potentially convincing means such as deploying specific knowledge, subsidizing activities deemed 'appropriate' by national government, standard-setting, raising awareness and generally promoting specific technologies (King et al., 1994). Moreover, Venkatraman et al. (1994) have stated that persuasion can occur both through vertical channels of communication (initiated by actors outside the set of potential adopters, such as central government; see also Moon and Bretschneider, 1997; Bobrowski and Bretschneider, 1994) as well as through processes of mimicking and 'word-of-mouth' diffusion (Wang and Doong, 2010) involving communication, interaction and persuasion among potential adopters (DiMaggio and Powell, 1983).

The organizational sociology and institutional theory literatures are helpful in identifying an organization's environment as a source of 'pressure' for organizations to behave in a particular way (Suchman, 1995). Nevertheless, these literature streams do not explicitly address how, through 'pressure', innovations are diffused among organizations. Additional theoretical guidance related to this issue is provided by the so-called Scandinavian Institutionalism (Czarniawska and Sevon, 2005). This school of thought sees innovations as 'ideas' insofar as they can be viewed as artifacts. In order for ideas (such as 'personalization') to spread (using either horizontal or vertical channels of communication) they must be translated into, or associated with, a success story, image or even a myth. During its travel, the idea itself is likely to change (Czarniawska and Sevon, 2005). As such, the idea of translation is a much more complex concept than the notions of 'diffusion, 'adoption, 'mimicry' and 'direction' suggest, and involves various phases in which so-called change agents (Caldwell, 1996) are actively engaged in the process of adoption. Agency in the process of translation takes place in horizontal as well as vertical modes of persuasion, and change agents (experts, boundary-spanning agents, consultants, knowledge brokers etc.) may operate on both the supply and the demand sides of the translation (King et al., 1994).

To sum up, we draw on concepts selected from organizational sociology and institutional theories, such as horizontal and vertical 'persuasive' pressures in the form of beliefs, cognitive structures, norms and values. Scandinavian Institutionalism adds the aspect of 'agency' to this: diffusion is not a deterministic process but an intricate social process that involves translation activities by experts, boundary-spanning agents and knowledge brokers. At this moment, however, there is no complete theory available that fully explains the diffusion process.

4   Methods and Data

In order to explain the diffusion of personalized e-government services, we first define our population of interest, that is, the set of potential adopters of the innovation being scrutinized: personalized e-government. We chose to analyze diffusion within one national jurisdiction (in our case, the Netherlands), and our first step was to describe the diffusion pattern of personalized e-government services over a four-year

period (2006-2010) delineated by two consecutive municipal elections. For this purpose, we used an existing dataset that is assembled annually by the Dutch 'Government has an answer' project. This project monitors directly observable characteristics of e-government initiatives by Dutch ministries, provinces, municipalities and water regulatory authorities, and annually reports its findings.

In line with our objective to further extend the e-government body of knowledge (that is, to actually build theory), we first described general trends in a population of 441 municipalities[1] and then, as a second step, we selected ten municipalities for an in-depth analysis of adoption processes. As the e-government literature consistently reports city size as being a major determinant of e-government adoption (see Table 1; see also Reddick, 2004), from the 2008 data we selected both adopters ('early adopters') as well as non-adopters ('laggards') from substrata, based on city size, of the population (see table 2 for a list of the selected municipalities). In each of the selected municipalities, qualitative interviews were held with key stakeholders such as council members, city managers, senior ICT managers and managers of public service provision. The starting point for the interviews was a topic list through which it was attempted to identify the antecedents, critical events, ongoing activities and interactions with internal and external stakeholders in relation to e-government and public service delivery.

Table 2: selected municipalities

Number of inhabitants	Personalisation adopted	Personalisation not adopted
200,000+	Eindhoven	Tilburg
150,000-200,000	Enschede	Nijmegen
100,000-150,000	Haarlem	Amersfoort
50,000-100,000	Capelle aan den IJssel	Lelystad
0-50,000	Moerdijk	Lemsterland

All the interviews were recorded, transcribed and analyzed[2] using back-and-forth coding techniques[3]. Following recommended practices for qualitative research (Miles and Huberman, 1994; Patton, 2002), data analysis was conducted in parallel with data gathering, starting with the constructs that emerged from the theoretical antecedents of diffusion. In an iterative process, construct categories were refined, added or combined, and new categories sometimes led to new constructs being identified in the empirical data. In the analysis, both the prevalence of categories of empirical constructs are presented (which are identified as being values of categorical variables), as well as illustrative quotes that serve to furthermore illustrate processes of adoption and diffusion. Furthermore, the five 'non-adopter' cases were compared to the

---

[1] In the interval 2006-2010, the population of municipalities shrunk from 458 to 418 due to planned mergers

[2] Note that the interviews were held in Dutch; the authors have translated the quotations given in the analysis section into English.

[3] Using the MaxQDA qualitative analysis tool.

'adopter'-cases based on the occurrence of specific, coded constructs or themes. As a final step, using both theoretical plausibility and induction, relationships between constructs were made explicit: first through 'conjectures' (statements that, through induction, follow from empirical observations, patterns and theoretical analogy), and second through including concepts and relationships in a conceptual framework for understanding the adoption of personalized e-government. In doing so, it is attempted to actually contribute to *induction* (defined as distilling variables and explanatory relations from observed empirical patterns) in a transparent way, consistent with sound principles of qualitative research methodology (Patton, 2002; Bringer, Johnston, & Brackenridge, 2006).

5 Analysis: Explaining the Diffusion of Personalized E-Government

5.1 Description of personalized e-government services in Dutch municipalities

Table 3 lists the prevalence of certain attributes of personalized electronic service delivery by Dutch municipalities in the years 2006, 2007, 2008 and 2009. Overall, in the period covered, there is an increase in the offered possibility of using DigiD[4] authentication (from 20.7% in 2006 to 88.2% in 2009) and on-line payments (from 15.9% in 2006 to 80% in 2009). The growth of possibilities for receiving personalized newsletters, using pre-completed forms, assessing personalized policy consequences and using personalized counters lagged somewhat.

Table 3: prevalence of personalization attributes in Dutch municipal e-government services

	2006 (n=458)	2007 (n=443)	2008 (n=443)	2009 (n=441)	2010 (n=418)
DigiD authentication	20.7%	56.7%	76.3%	88.2%	94.6%
Personalized newsletter	16.4%	21.2%	21.2%	N/A	27.9%
Tracking and tracing	10.0%	16.0%	28.2%	26.5%	41.3%
Payment	15.9%	42.4%	61.4%	80.0%	91.6%
Pre-completed forms	N/A	N/A	17.8%	19.1%	33.9%
Personalized counters (MyMunicipality.nl)	5.2%	14.2%	23.7%	28.8%	40.9%
Personalized policy consequences	N/A	N/A	19.4%	18.7%	22.2%

5.2 Pressure: persuasive influence on adoption decisions

We identified various categories of pressure (see Table 4) as sources of 'pressure'

---

[4] DigiD stands for Digital Identity. With a DigiD users can access a large number of online services offered by Dutch (central and municipal) government agencies.

on decisions to adopt personalized e-government services. Most prominent was the perceived expectations of citizens. As one councillor phrased it:

> *"... a clamor for service provision, less bureaucracy, transparency: that is external pressure, as I perceive it. (...) Simply because society does not tolerate other kinds of organizational behavior ..."* (Councillor)

Another form of influence that was mentioned quite frequently was the existence of benchmarks against which municipalities can be judged. The fact that municipalities keep a sharp eye on benchmarks and rankings sometimes results in somewhat perverse incentives to adopt personalized services, such as one respondent noted:

> *"Our decision to implement personalized service delivery was due to our low ranking ... Our councillor wanted to improve our ranking, and we found out that we could improve our ranking quite easily by implementing a Personalized Internet Page ... and so we did"* (Project manager).

To summarize, what can be witnessed is that, in line with institutional theory (DiMaggio and Powell, 1983; Ashworth et al., 2009; Lai et al., 2006), all the municipalities reported perceiving persuasive pressure to adopt personalization measures, both from outside the set of potential adopters (referring to norms to conform to citizens' needs, or to be receptive towards national initiatives) as well as from within the set of potential adopters (referring to the norm to excel in relation to one's peers). Adopters are associated with a higher perceived persuasive pressure than non-adopters.

Table 4: prevalence of 'pressure' on adoption decisions

Perceived pressures	Adopters	Non-adopters
Citizen expectations	56	36
Legislation	40	50
Benchmarks	57	26
National initiatives	52	24
Reputation	54	17
Other municipalities	16	7

The abovementioned observations lead us to formulate the conjectures 1A and 1B.

Conjecture 1A: Municipalities experience environmental pressures that persuade them to adopt personalized electronic service delivery.

Conjecture 1B: Perceptions of persuasive pressure are reported more frequently by adopters than by non-adopters.

5.3 Organizational search: scanning for knowledge, experiences and courses of action

Respondents from the municipalities reported that perceptions of persuasive pressure were followed by organizational searching and scanning activities, through which municipalities attempted to seek, identify and choose relevant knowledge, experiences and courses of action (see also Levinthal and March, 1982; Tidd et al., 2009). One respondent clearly illustrated how municipalities react to pressure:

> *"One member of our support staff made an inventory of associations that staff members are participating in, and she managed to compile a list of three or four pages…"* (Manager of service provision)

Typical targets for search and scan operations are forums and national outreach programs, companies and financial institutions, other municipalities generally, municipalities with which the municipality has an alliance, and within the organization itself (see Table 5).

Table 5: organizational search

Organizational search	Adopters	Non-adopters
Forums and outreach programs	59	48
Companies	49	51
Other municipalities	60	27
Municipal alliances	29	7
Own organization	22	9

Respondents reported that pressure did not directly result in new connections with other organizations, but rather that it resulted in more intensive contact with forums and associations (for instance, the Public Service Provision Managers' Association, the Association of Dutch Municipalities, and also outreach programs such as GovUnited and DIMPACT) with which one was already involved. As one public manager reported:

> *"We meet each other at meetings of municipalities with 100 000+ residents. One talks to others, exchanges experiences, we report our practices, and listen to other ideas … in this way, we converge on similar solutions as we all offer similar services"* (Manager Population Affairs and Taxes)

One respondent explained how one's own organization could serve as a source of relevant knowledge (see also Isabella, 1990):

> *"It happened partly due to one of our developers (…) She said she had knowledge of how personalized counters could be implemented but, until then,*

she had no time to work on them. She said it could be realized given that we already owned the necessary software packages - and she could develop it further. So we felt we were quite lucky to have such a developer who was able to build these facilities…" (Program manager)

To summarize, in all the selected municipalities we witnessed how pressure was followed by organizational search activities, both in the external environment, as well as in existing alliances and within one's own organization for solutions and inspiration that might already be available. It can also be concluded that both adopters and non-adopters seek and scan for relevant knowledge in national forums, outreach initiatives and companies, but that adopters more frequently report seeking out ideas, inspiration and solutions in alliances, other (often similar) municipalities and their own organization than non-adopters do. These observations lead us to formulate a second pair of conjectures (2A and 2B).

Conjecture 2A: Municipalities respond to persuasive external pressure by searching and scanning for knowledge, inspiration and suggested courses of action related to personalized electronic service delivery.

Conjecture 2B: Searching and scanning activities are more prevalent in adopters than in non-adopters.

5.4   Framing: translating pressure into local priorities and opportunities

According to Sahlin and Wedlin (2008; see also Silva and Hirscheim, 2007), and in line with the Scandinavian Institutionalism mentioned in the discussion on theoretical antecedents of diffusion, knowledge and ideas cannot simply be transfused from one organization to the other: rather, ideas, concepts and knowledge has to be repackaged and re-embedded (Isabella, 1990; Sahlin and Wedlin, 2008). In our field study, respondents explained that comparable ideas and 'chunks' of knowledge on personalization were framed completely differently in various adopting organizations (see Table 6 for a summary). Personalization was sometimes framed in terms of:

- A precursor to an organization becoming a service champion (enabling genuine citizen-centric service delivery);
- A means for achieving efficiency (*"If the processes are well-organized, I am convinced that in the long run we can do without large numbers of staff"* , Councillor);
- Boosting reputation ("*We think that we, being part of a high technology region, are obliged to modernize our service delivery",* Head of Customer Relations Department); and
- Exerting control ("*Now the focus is on the front office ... but in the near future we intend to reengineer processes in the back office as well, so as to simplify and speed up processes…",* Project Manager Service Delivery).

Table 6: framing of personalized e-government services

Framing in terms of:	Adopters	Non-adopters
Service delivery, being a 'service champion'	84	40
Efficiency	46	21
Reputation	24	16
Management and control	13	18

Overall, we conclude that persuasive pressures are actively framed by stakeholders so as to appeal to local priorities and ambitions, which are found to be enhancing citizen orientation, organizational efficiency and reputation (see also Deephouse & Suchman, 2008). These findings result in conjectures 3A and 3B.

Conjecture 3A: In municipalities, persuasive pressure and sought knowledge are actively framed in order to legitimize the adoption of personalized e-government.

Conjecture 3B: Framing occurs more frequently in adopters than in non-adopters.

5.5 Activation triggers: enabling episodic changes

From the transcripts of the various interviews, we distilled concepts that did not directly affect adoption but that, nevertheless, can be interpreted as being important in explaining adoption. Activation triggers of various kinds (coined discrepant events by Tyre and Orlikowksi (1994); see also Kim (1998); Zahra and George (2002); Tidd et al. (2009)) were reported by respondents as moderating the impact of persuasive pressures. Van Waarden and Oosterwijk (2006) see activation triggers as precursors of episodic as opposed to more linear forms of diffusion. In our study, we came across general shocks, staff changes and organizational mergers as activation triggers (see Table 7).

Table 7: activation triggers

Activation triggers	Adopters	Non-adopters
External shocks (accidents, rehousing)	17	4
Staff changes	8	5
Organizational merger	5	2

One clear example of an activation trigger was a firework factory exploding in the municipality of Enschede. This triggered a political crisis and, in the subsequent reorganization, personalized service delivery was seen as an opportunity to help shape the new organization. Respondents also mentioned new members of staff. As one respondent explained:

"With new members of staff, new ideas and new energy entered our organization (...). A new city manager, ICT developers, new departmental managers: they all managed to get up to speed with evolving developments" (Head of Service Delivery)

The merging of municipalities was also reported as a trigger event that helped boost ongoing developments. The idea of service delivery in general, and the more advanced forms of personalized e-government in particular, were embraced by some stakeholders as helping to shape the identity of a new municipal organization and to get away from the pre-existing local identities of the former smaller municipalities. The above activation triggers were reported more often by respondents from adopting councils than by respondents from non-adopters (see Table 7; see also conjectures 4A and 4B).

Conjecture 4A: External trigger events moderate the impact of perceived persuasive pressure on organizational searching and scanning activities.

Conjecture 4B: External trigger events are reported more frequently by adopters than by non-adopters.

5.6   Social integration mechanisms: translating and framing by actors

From fieldwork observations, and informed by our theoretical discussion of Scandinavian Institutionalism, we could see that translation, transfusion and repackaging of knowledge and ideas does not take place in a vacuum, but is a social integration process in which specific actors play a role (Czarniawska and Sevon, 2005; see also Pawlowski and Robey, 2004). Szulanski (1996, p. 29) states that "as time passes, a shared history of jointly utilizing the transferred knowledge is built up in the recipient, actions and actors become typified, and types of actions are associated with types of actors".

The actual framing, transformation and transfusion of ideas and knowledge, that occurs between the processes of organizational searching and scanning and the framing of ideas, involves various social integration processes. An example was given by one respondent who commented:

"… John Doe, of Consulting Inc[5], he is a remarkable character. He has access to senior management levels, where normally no-one understands the potential of modern ICTs. However, he is able to come up with brilliant applications, stories and examples..." (Program manager)

---

[5] The names of the respondent and the consultancy firm have been changed to maintain anonymity.

In our study, we identified three types of social integration: activities by in-house innovation champions, activities involving knowledge brokers and staff exchanges (see Table 8).

Table 8: social integration

Social integration mechanisms	Adopters	Non-adopters
Activities of innovation champions (internal)	43	11
Activities of knowledge brokers (external experts)	26	14
Staff exchange	13	6

The importance of innovation champions can be illustrated by means of a quote which identifies a specific innovation champion:

"...the idea of personalization, that was more or less Erik's business. Our councillor was never a digital enthusiast, and despite limited resources we managed to make things happen. And that was due to the persistence of Erik, who kept on fighting, although the councillor said that he'd never succeed..." (ICT policy advisor).

Staff exchange was also mentioned as a moderator of adoption (in line with Mignerat & Rivard, 2009). One respondent explained:

"... We moved on when a member of Enschede's staff temporarily joined our organization. Due to personal circumstances, he was able to stay for a while in the Province of Noord-Brabant and we were able to make use of his experience. That helped quite a lot" (Departmental Manager Service Operations).

It is especially through these kinds of integration mechanisms that ideas and knowledge are actually transfused, translated and framed rather than merely being imitated (Howell and Shea, 2001; see also Bressant and Rush, 1995; Rice and Rogers, 1980; Sahlin and Wedlin, 2008; Silva and Hirscheim, 2007). These observations lead us to identify conjectures 5A and 5B.

Conjecture 5A: Knowledge gathered on personalized e-government services is spread and organizationally embedded through the activities of innovation champions, knowledge brokers and temporarily assigned staff members.

Conjecture 5B: Activities aimed at integrating the knowledge gathered within municipalities are more prevalent in adopters than in non-adopters.

6   Synthesis: Conjectures and Explanatory Model

The findings from this study provide a detailed account of how persuasive pressure is channeled within organizations, and of how various processes (searching and seeking, framing) and moderators (external shocks, social integration) are related to the adoption of personalized electronic service delivery. The conjectures can, through a process of induction, be included in graphic model that displays the processes of persuasion at work. We identify activation triggers and social integration mechanisms not as direct influences but as moderating influences on conjectures 1A and 1B, and 2A and 2B, respectively (see Figure 1).
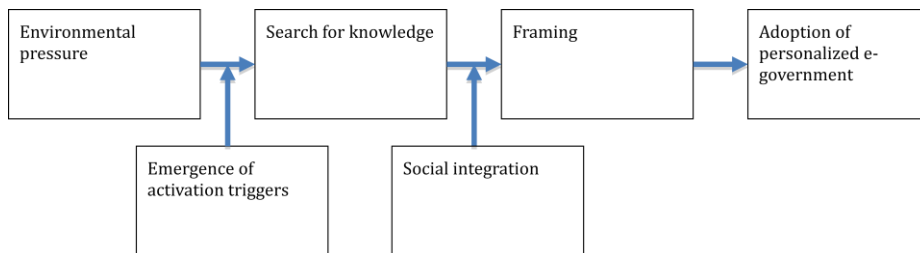

Figure 1: model of institutional influence on adoption of personalized e-government

The format of the framework is similar to Zahra and George's (2002) absorptive capacity (ACAP) model that generally explains organizational innovativeness. However, much more than in Zahra and George's ACAP model, the model displayed in Figure 1 acknowledges the 'push'-influence of institutions through channels of persuasion, rather than 'pull'-absorptive capacities (initiated by adopting organizations) emphasized by Zahra and George.

7   Discussion And Conclusions

This paper has explored the process through which public organizations – or rather Dutch municipalities – adopt personalized e-government services and has resulted in a conceptual model of institutional influence on the adoption of personalized e-government services. This model contributes to the literature on diffusion and adoption of new technologies in a number of ways.

First, this study acknowledges and gives a distinct conceptualization of the concept of 'institutional pressure'. We have coined the term 'persuasive pressure' to exemplify that organizations are confronted with various types of pressure: both vertical (stemming from beyond the set of potential adopters) and horizontal (related to reputation and rivalry considerations that stem from within the set of potential adopters). Furthermore, various sources of pressure were identified: citizens' expectations, benchmarks, national programs, as well as considerations of reputation and rivalry.

Second, in line with the Scandinavian school of Institutionalism, human 'agency' was concluded to be an important part of the explanation. Persuasive pressure was not

found to determine eventual outcomes, but was mitigated by active knowledge gathering by organizational actors, 'framing' of solutions and social integration processes initiated by innovation champions, knowledge brokers and through staff exchange (see also Mignerat & Rivard, 2009).

Third, and, related to the second conclusion, we conclude that institutionalization is not a deterministic process, but a rather political process that includes activities by key stakeholders, power and politicking. As a whole, it can be seen as a dynamic 'legitimization game' (see also Zilber, 2008).

References

Andersen, K. V., Henriksen, H. Z. (2006). E-Government Maturity Models: Extension of the Layne and Lee Model. *Government Information Quarterly, 23*(2), pp. 236-248.

Ashworth, R., Boyne, G., & Delbridge, R. (2009). Escape from the iron cage? organizational change and isomorphic pressures in the public sector. *Journal of Public Administration Research and Theory, 19*(1), 165-187. doi:10.1093/jopart/mum038

Bekkers, V. J. J. M., & Homburg, V. M. F. (Eds.). (2005). *The information ecology of E-government (E-government as institutional and technological innovation in public administration)* (2nd ed.). Amsterdam: IOS Press.

Bobrowski, P., & Bretschneider, S. (1994). Internal and external interorganizational relationships and their impact on the adoption of new technology: An exploratory study. *Technological Forecasting and Social Change, 46*(3), 197-211.

Bessant, J., & Rush, H. (1995). Building bridges for innovation - the role of consultants in technology-transfer. *Research Policy, 24*(1), 97-114. doi:10.1016/0048-7333(93)00751-E

Bringer, J. D., Johnston, L. H., & Brackenridge, C. H. (2006). Using computer-assisted qualitative data analysis software to develop a grounded theory project. *Field Methods, 18*(3), 245-266. doi: 10.1177/1525822X06287602

Caldwell, R. (2003). Models of change agency: A fourfold classification. *British Journal of Management, 14*(2), 131-142.

Czarniawska, B., & Sevon, B. (2005). *Global ideas: How ideas, objects and practices travel in the global economy*. Copenhagen: Copenhagen Business School Press.

Deephouse, D.L., Suchman, M. (2008). Legitimacy in Organizational Institutionalisation. In: Greenwood, R., Oliver, C., Sahlin, K.,Suddaby, R. (eds). *The Sage Handbook of Organizational Institutionalism.* Thousand Oaks: SAGE. Pp. 49-77.

Dos Santos, B., & K. Peffers. (1998). Competitor and vendor influence on the adoption of innovative applications in electronic commerce. *Information & Management* 34(3). 175-184.

DiMaggio, P. J., & Powell, W. W. (1983). The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. *American Sociological Review, 48*(2), 147-160.

Esping-Andersen, G. (1990). *The Three Worlds of Welfare Capitalism.* Cambridge: Polity Press & Princeton: Princeton University Press, 1990.

Frumkin, P., & Galaskiewicz, J. (2004). Institutional isomorphism and public sector organizations. *Journal of Public Administration Research and Theory*. 14(3). Pp. 283-307.

Gilbert, D., Balestrini, P., & Littleboy, D. (2004). Barriers and benefits in the adoption of e-government. *International Journal of Public Sector Management*, 17(4), pp. 286-301.

Ho, A. T. (2002). Reinventing local governments and the E-government initiative. *Public Administration Review*, 62(4), pp. 434-444.

Holden, S. H., Norris, D. F., & Fletcher, P. D. (2003). Electronic government at the local level. *Public Performance & Management Review*, 26(4), pp. 325-344.

Homburg, V. M. F. (2008). *Understanding E-government: Information systems in public administration*. London: Routledge.

Homburg, V. M. F., & A. J. D. Dijkshoorn (2011). Diffusion of Personalized E-Government Services among Dutch Municipalities (An Empirical Investigation and Explanation). *International Journal of E-Government Research*. 7(3). 21-37.

Homburg, V. M. F., & Georgiadou, Y. (2009). A tale of two trajectories: How spatial data infrastructures travel in time and space. *Information Society*, 25(5), pp. 303-314.

Howell, J., & Shea, C. (2001). Individual differences, environmental scanning, innovation framing, and champion behavior: Key predictors of project performance. *Journal of Product Innovation Management, 18*(1), 15-27. doi:10.1016/S0737-6782(00)00067-9

Horst, M., Kuttschreuter, M., & Gutteling, J. M. (2007). Perceived usefulness, personal experiences, risk perception and trust as determinants of adoption of e-government services in the Netherlands. *Computers in Human Behavior*, 23(4), pp. 1838-1852.

Isabella, L. (1990). Evolving interpretations as a change unfolds - how managers construe key organizational events. *Academy of Management Journal, 33*(1), 7-41. doi:10.2307/256350

Kim, L. (1998). Crisis construction and organizational learning: Capability building in catching-up at hyundai motor. *Organization Science, 9*(4), 506-521.

Kimberley, J.R. (1979). Issues in the Creation of Organizations: Initiation, Innocation and Institutionalization. *Academy of Management Journal.* 22. 437-457.

King, J., Gurbaxani, V., Kraemer, K., McFarlan, F., Raman, K., & Yap, C. (1994). Institutional factors in information technology innovation. *Information Systems Research, 5*(2), 139-169.

Lai, K., Wong, C. W. Y., & Cheng, T. C. E. (2006). Institutional isomorphism and the adoption of information technology for supply chain management. *Computers in Industry, 57*(1), 93-98. doi:10.1016/j.compind.2005.05.002

Levinthal, D. A., & March, J. G., A Model of Adaptive Organizational Search. *Journal of Economic Behavior and Organization*, 2 (1981) 307-333.

Ling, T. (2002). Delivering joined-up government in the UK: dimensions, issues and problems. *Public Administration.* 80(4). Pp. 615-642.

Loh, L. & Venkatraman, N. (1992). Diffusion of information technology outsourcing influence sources and the Kodak effect. *Information Systems Research*, 334-358.

Mignerat, M., Rivard, S. (2009). Positioning the institutional perspective in information systems research. *Journal of Information Technology. 24(4).* 369-391.

Moon, M. J. (2002). The evolution of E-government among municipalities: Rhetoric or reality? *Public Administration Review*, 62(4), pp. 424-433.

Moon, M. J., & Bretschneider, S. (1997). Can state government actions affect innovation and its diffusion?: An extended communication model and empirical test. *Technological Forecasting and Social Change, 54*(1), 57-77.

Moon, M. J., & Norris, D. F. (2005). Does managerial orientation matter? The adoption of reinventing government and e-government at the municipal level. *Information Systems Journal*, 15(1), pp. 43-60.

Miles, M. B. & Huberman, A. M. (1994). *Qualitative data analysis (*2nd ed.). Thousand Oaks, CA: Sage.

Norris, D. F., & Moon, M. J. (2005). Advancing E-government at the grassroots: Tortoise or hare? *Public Administration Review*, 65(1), pp. 64-75.

Orlikowski, W.J. (2000). Using Technology and Constituting Structures: A Practice Lens for Studying Technology in Organizations, *Organization Science*, 11, 4, 2000: 404-428.

Orlikowski, W.J. & Barley, S. (2001). Technology and Institutions: What Can Research on Information Technology and Research on Organizations Learn from Each Other? *MIS Quarterly* 25(2). pp. 145-165

OECD. (2009). *Rethinking e-government services (user-centred approaches).* Paris: OECD.

Os, G. S. van (2011). The challenge of coordination: Coordinating integrated electronic service delivery in Denmark and the Netherlands. *Information Polity*, 16(1), pp 51-61.

Patton, M. Q. (2002). *Qualitative Research and Evaluation Methods.* Thousand oaks, CA: Sage Publications.

Pawlowski, S. D., & Robey, D. (2004). Bridging User Organizations: Knowledge Brokering and the Work of Information Technology Professionals. *MIS Quarterly.* 28(4). Pp. 645-672.

Pieterson, W., Ebbers, W., & van Dijk, J. (2007). Personalisation in the public sector: An inventory of organizational and user obstacles towards personalisation of electronic services in the public sector. *Government Information Quarterly, 24*(1), 148-164.

Pollitt, C., & Bouckaert, G. (2004). *Public management reform: A comparative analysis*. Oxford: Oxford University Press.

Reddick, C. G. (2004). Empirical models of E-government growth in local governments. *E - Service Journal*, 3(2), pp. 59-84.

Reddick, C. G. (2009). Factors that explain the perceived effectiveness of E-government: A survey of united states city government information technology directors. *International Journal of E-Government Research*, 5(2), pp. 1-15.

Rice, R. E., & Rogers, E. M. (1980). Reinvention in the innovation process. *Knowledge-Creation Diffusion Utilization, 1*(4), 499-514.

Rogers, E. (1995). *Diffusion of innovations (4th ed.).* New York: Free Press.

Sahlin, K., & Wedlin, L. (2008). Circulating ideas: Imitation, translation and editing. In R. Greenwood, C. Oliver, K. Sahlin & R. Suddaby (Eds.), *Organizational institutionalism* (pp. 218-242). London: Sage.

Silva, L., & Hirschheim, R. (2007). Fighting against windmills: Strategic information systems and organizational deep structures. *MIS Quarterly, 31*(2), 327-354.

Suchman, M.C. (1995). Managing Legitimacy: Strategic and Institutional Approaches. *Academy of Management Review. 20(3).* 571-611.

Svensson, J. (2002). Legal expert systems in social administration: From fearing computers to fearing accountants. *Information Polity.* 7(2,3). Pp. 143-154.

Szulanski, G. (1996). Exploring internal stickiness: Impediments to the transfer of best practice within the firm. *Strategic Management Journal,* 17, 27-43.

Tidd, J., Bessant, J., & Pavitt, K. (2009). *Managing innovation.* Chichester: John Wiley & Sons Ltd.

Tolbert, P. S., & Zucker, L.G. (1996). The Institutionalization of Institutional Theory. In S. R. Clegg, C. Hardy y Walter R. Nord (Eds.), *Handbook of Organization Studies* (pp. 175-190). Thousand Oaks, CA: Sage.

Tyre, M. J., & Orlikowski, W. J. (1994). Windows of opportunity - temporal patterns of technological adaptation in organizations. *Organization Science, 5*(1), 98-118.

Venkatraman, N., Lawrence Loh & Jeongsuk Koh (1994). The Adoption of Corporate Governance Mechanisms: A Test of Competing Diffusion Models. *Management Science.* pp. 496-507

Van Waarden, F., & Oosterwijk, H. (2006). Turning tracks? Path dependency, technological paradigm shifts, and organizational and institutional change. In J. T. Hage, & M. Meeus (Eds.), *Innovation, science, and institutional change.* Oxford: Oxford University Press.

Wang, H., & Doong, H. (2010). Does government effort or citizen word-of-mouth determine e-government service diffusion? *Behaviour & Information Technology, 29*(4), 1-15.

Zahra, S. A., & George, G. (2002). Absorptive capacity: A review, reconceptualization, and extension. *The Academy of Management Review, 27*(2), 185-203.

Zilber, T.B. (2008). The Work of Meanings in Institutional Processes and Thinking. In: Greenwood, R., Oliver, C., Sahlin, K.,Suddaby, R. (eds). *The Sage Handbook of Organizational Institutionalism.* Thousand Oaks: SAGE. Pp. 151-169.

Zorn, T. E., Flanagin, A. J., & Shoham, M. D. (2011). Institutional and Noninstitutional Influences on Information and Communication Technology Adoption and Use Among Nonprofit Organizations. *Human Communication Research.* 37(1). Pp. 1-3