Organisational Paradoxes of Local E-government

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ABSTRACT

This article explores the complexities of realising the full potential of local e-government through the lens of paradox. In developed nations, this sector has been characterised as being initially slow, and now very variable, in coming to grips with both the opportunities and challenges of e-government. Indeed, it has been argued that e-government crystallises the complex interdependencies and uncertainties of the sector more generally, challenging the power of expert knowledge and rational reform. Some particular examples of paradoxical dynamics are suggested that highlight the dynamic organisational capabilities needed to sustain e-government.

Keywords

E-government, Local Government, Complexity, Organisational paradoxes

Introduction

Over the last thirty years, in many countries, information technology has been a significant platform for reform of the public sector (Worrall, 2011; Lee *et al.*, 2011).

As Bernhard (2013: 4) notes:

> *Different concepts have been used to characterise this era, such as the "information economy" (Heeks, 1999), the "knowledge economy" (Stough, 2006; Westlund, 2006), the "digital revolution" and "information age and network society" (Castells, 2010), or "digital-era governance" (DEG) (Dunleavy et al., 2005) ... Several researchers emphasize that this emerging information society challenges the relations between public institutions as well as within the organizations in many ways, which has led to change in the role, work and function of public administration in recent years (eg. Bannister, 2001; Beynon-Davies and Williams, 2003; Heeks, 2006; Worrall, 2011).*

Governments at every level around the world have been keen to exploit the potential of e-government (Chase, 2009; Hu *et al.*, 2010). Its value in the context of major global events has been specifically acknowledged. For example, a review commissioned by the United Nations (UNDESA, 2010) to evaluate the use of e-government following the economic crisis that began in 2008, concluded that e-services allowed governments to enhance transparency in governance, mitigate public unease and increase public trust, trace how public stimulus funds were being used, and leverage the value of government-held data.

However, analyses of its impact on government operations and service provision more generally are ambivalent (Hu *et al.*, 2013). At local level specifically, the potential of e-government has been hard to realise in practice, relative to the ways in which it was initially imagined (Hui & Hayllar, 2010). While various explanations for this have been offered, including the suggestion that it has been inadequately funded, many commentators and analysts believe that it has more to do with the complexity of developing the requisite organisational and systemic capabilities. Simply putting more resources into the task, it is argued, does not necessarily produce the kind of new thinking needed to address the fundamental challenges that face the sector (Hu *et al.*, 2013). The challenges of local government more generally have been aptly drawn out by Haveri (2006), who used empirical research to argue that the complexity of the sector now sets limits to the power of expert knowledge and rational reform in dealing with the tensions and uncertainties associated with systemic interdependencies and continuous change. This framing of local government as a complex phenomenon opens it up to the perspectives and possibilities of the emerging complexity literature. However, some commentators (for example, Cairney, 2013) have been critical of the complexity literature, on the grounds that it remains abstract and has rarely been operationalized in ways that make a difference to practice. The contribution made here is to use the concept of paradoxical organisational dynamics (Lewis, 2000; Smith & Lewis, 2011) to explore the dynamic organisational capabilities required to realise the full potential of local e-government. The organising paradoxes of virtual versus real-time encounters and rigid versus permeable boundaries are suggested and explored, highlighting possibilities for the development of dynamic organisational capabilities.

Realising the potential of local e-government

Since the early 1990s, the academic and practitioner literatures have imagined the possibilities for organisational and community functioning represented by e-government (Thomas, 2004; Samson, 2005); and been challenged to keep pace with the rapid development of the technological possibilities (Wescott, 2001; Wohlers, 2009). Like other commentators at the time, Baum and Di Maio (2000) suggested that e-government would move from basic information provision and citizen access to data bases, to self-service transactions available on a 24/7 basis; and ultimately to the seamless flow of information among government agencies, providing a single point of one-stop contact for constituents and allowing for more collaborative decision-making.

In principle, the diversity of local government communities in terms of geographic as well as social profiles and built environments, and the services they provide, would seem to make the interactivity and immediacy of the internet deeply attractive in that context (Mitchell, 2001; Bushell, 1997; Shackleton, Fisher & Dawson, 2006). And the drivers for highly connected, streamlined communications between agencies at local community level continue to develop. For example, emergency and recovery situations in recent times in Australia highlight the key role that local government authorities play in their communities during disasters. This was evident in the online communications occurring during and for a long time after the Black Saturday bushfires in Victoria in 2009 and the Brisbane floods in 2011, where councils operated municipal emergency response centres (Whitelaw, 2011). These situations also demanded an efficient and ongoing whole-of-government response.

There have been a number of significant empirical studies of the progress of e-government at federal, provincial and local levels since the turn of this century. Given that the impact of e-government initiatives is likely to be multidimensional, it would seem desirable to assess it from a range of different perspectives. However, compared with external evaluations that focus on user satisfaction and the quality of portals and sites, few efforts are being made to study the progress of e-government from an internal perspective, at any level of government (Hu *et al.*, 2013). As a result, the view from inside the organization as to the cost-effectiveness of e-government and its impact on organizational functioning remains less clear. Studies of local e-government reflect this lack of internal perspective. They include those undertaken by Bellamy (1999); Mitchell (2001) in the UK; Ronaghan (2001) on the benchmarking of progress in e-government among UN member states; Chadwick and May (2003) in the US, Britain and Europe; West in the USA (2001; 2007); the international project of the Organisation for Economic Co-operation and Development (2005); Fraser's (2007) study in Canada; a multinational study of e-government implementation by Bekkers and Homburg (2007); and a seven nation study by Dunleavy *et al.* (2008). Studies of activity at local government level in America include those of the Intergovernmental Advisory Board (1999) on websites in the US; the analysis by Musso, Weare and Hale (2000) of 270 municipal websites in California; the work of Moon & Norris' (2005); Dawes' (2008) review of the challenges of e-government in the US at State and local levels; and the Pew Internet and American Life Project measuring users of all levels of government services in the US (Smith, 2010). British studies include Reddick's (2004) study on e-government growth; and Hodges' (2012) work on joined up government. In Europe, studies include Wohlers' (2009) analysis of four levels of local government

online in Germany and the United States; and the study by Pina, Torres and Royo (2010) of 75 local government websites in the European Union; while Baldershiem & Ogard (2008) have examined municipal websites in Nordic countries. In Australia, author (2012) undertook a benchmarking study of 100 public council websites in two Australian States.

While these studies have had differing areas of focus, their overall conclusions are remarkably similar: that the full potential local e-government has been difficult to realise. For example, Norris and Moon (2005) found that adoption of e-government was progressing rapidly (if measured by the existence and operation of web sites), but that the movement toward integrated and transactional e-government was progressing much more slowly. And five years later Pina *et al.* (2010) concluded that technological options were being applied within pre-existing social and political structures, with no substantial changes in the style of the government to citizen relationships. 'The internet is an aid but is not yet running as an effective medium to facilitate citizen consultation, policy discussion, or other deliberative democratic inputs into the policy-making process' (Pina *et al.*, 2010: 16–17). Others agree:

> *Innovations used in e-government have been more instrumental than transformative. Certainly, the new technologies have helped to enable reforms, but few of these reforms go beyond the achievement of improvements to existing business systems and processes (Hui & Hayllar, 2010: 128).*

Author (2012) found that initial progress had been made in Australian local government the area of interactive services online (such as online payments), but that more innovative features (such as wikis, consultation forums, social media, games, video and podcasts, and targeted e-services) had had a much slower uptake.

As noted already, different explanations have been offered for this relatively slow uptake. Some take the view that local e-government would inevitably struggle to compete for adequate resourcing given the range of services expected of local governments with limited budgets. Some have argued the importance for local government of well-developed national policies on e-government, suggesting that take-up by local governments is problematic if they have to go about it autonomously without the benefit of frameworks like the Local Government Modernisation Agenda in the United Kingdom (Freeman, 2011). Others, however, have suggested that the challenges are even more fundamental. Norris and Moon (2005) and Almarabeh and AbuAli (2010) take the view that e-government cannot be understood simply in terms of the technological facilities and communication services involved, but rather as the way government organises itself: 'how its administration, rules, regulations and frameworks set out to carry out service delivery and to co-ordinate, communicate and integrate processes within itself' (Almarabeh & AbuAli, 2010: 30). Baldershiem and Ogard (2008) suggest serious consideration of the potential of e-government has been limited by traditional thinking that local government is essentially about the provision of material infrastructure and high-touch services.

For a range of services to be accessed through a single point (such as a login page), where all the required information is easily found, where the customer experience is personalised, easy to use, convenient and connected, requires not just redesign of the front office. Success depends on developing key organisational capabilities, including realigned business models and governance

practices, nimble, flexible collaborative internal cultures, the capacity for sophisticated service-chain analysis, and integrated back-of-house processes and structures (Author, 2012). This point has been made before:

> The full realisation of the potential of digitalisation of local government operations will require thorough changes at the front and back office levels of the municipal organisations as well as in roles and relationships among groups of actors. Therefore, a well designed and well functioning web site is an indication of capability of deep-going organisational change (Baldershiem & Ogard, 2008: 126).

Local e-government as a study in organisational and systemic complexity

It can be argued that an internally seamless and systemically connected organization, that is citizen-centric and democratic, is not just difficult but an inherently complex phenomenon. Cumulative empirical study and conceptual analysis of the development of local e-government across the world point to the challenges of putting in place the necessary organisational and systemic capabilities, given the number of variables involved at organisational and systemic levels, their interconnectedness, and the tensions created or exacerbated by trying to deal with any one of them separately.

Hu *et al.*'s (2013) recent and extensive review of international literature on the progression of local e-government reinforces this conclusion. They noted the lack of a common definition of e-government and the considerable range of the measures used to assess the scope and success of its implementation. And echo the earlier assessments of Gronlund (2007) and Heeks (2007) that research and commentary on all levels of e-government is hampered by a lack of a guiding or unifying theoretical framework for understanding the phenomenon. Investigation of it overlaps with several other research and theoretical domains, including using information technology in decentralization and democratization processes, the impact of technology on organisational/institutional environments, and theories of global integration. And empirical measures reflect at least four different perspectives: those of service quality, inner organisation quality, organisational capability and information technology capability (Hu *et al.*, 2013).

All these considerations suggest a domain of complexity in the terms put forward by Stacey (1992), who argued that phenomena are complex when there is theoretical ambiguity and disagreement about what the issues are and practical ambiguity and disagreement about the outcomes of any actions or interventions. Systems thinkers (for example, Holland, 2006) have associated complexity with the notion of unresolvable tensions, where attempts to resolve an issue produce positive outcomes for some but make others worse off; where there are multiple variables and the relationships between them are not obvious; and the issues involve serious unintended consequences and impacts. The proposition that local e-government can be usefully considered as complex in these terms is taken up and explored in the rest of this paper.

The conceptual positioning of social, economic, geo-political and technological issues as complex is developing momentum in the literature (Allen, Maguire & McKelvey, 2011). However, there has been criticism that complexity theory has so far not been operationalised in ways that make a practical difference to public policy, to the management of organisations or to their engagement with the

systems of which they are a part (Cairney, 2013). We suggest that paradox theory, as developed by Lewis (2000), and Lewis (2011) and Lewis and Smith (2014) offers ways of bridging this theory-practice gap in relation to local e-government. We begin by describing some of the competing tensions that are associated with local e-government, then introduce and use the paradox framework to understand them as organisational and systemic paradoxes. We then conclude with some possibilities for practice.

The tensions inherent in e-government

On the basis of extensive review of the literature published since 1998, Author (2012) has proposed four clusters of functional capabilities to capture the possibilities for local e-government envisaged in that literature. We suggest that these reflect the complexity of the phenomenon of local e-government. The first cluster is focused on interactive capabilities that allow feedback and dialogue, and the presence of fully executable services online, such as the capacity to pay accounts, request services and track the progress of requests or inquiries. The second cluster enables understanding of users and stakeholders, and customising and personalising websites to effectively engage with the needs and preferences of specific groups. It highlights the ability to provide targeted information and customised services to meet specific user needs, rather than simply adopting a mass-communication approach. Central to this is the concept of creating customer value. This can be achieved through the use of collaborative online tools and applications, and fostering partnerships with innovative private agencies. The third concerns the connectedness and integration of access to government services, including the existence of portals that provide one-stop-shop access. As a focus for functional capability, it offers dual opportunities: to improve access to and provision of services for users, whilst fostering business efficiencies and benefits through collaboration amongst complementary service providers. The fourth highlights issues of governance: the processes of ensuring that the organisation enacts appropriate standards of stewardship, trustworthiness, duty of care and ethical behaviour in relation to issues of accessibility, reliability, usability, privacy and security.

The realisation of each of these capabilities immediately suggests significant tension between competing drivers for action and even contradictory tensions that seem to pull in opposite directions. So for example, the first capability cluster creates the expectation of rapid reliable impersonal service that is available 24/7 and that keeps up with the technologies offered in other areas of citizens' life and work. The competition, in the mind of users, in relation to on-line service standards is with other, very different industries. But the investment of resources needed to do this must compete not just with the resource requirements of a range of other local government services, but with strategic and operational planning processes that operate with very different business models in terms of cost-effectiveness and efficiency.

The functional capabilities of organisational governance, and of community engagement and democracy, pose other significant tensions for local government including the development of citizen-centric cultures, devolved decision-making, and a willingness to open up traditionally closed systems to public knowledge and participation.

Communication networks span the globe, allowing individuals, groups, and organisations to interact regardless of time or location. However, the networked society is fraught with complexity and vulnerable to new threats - threats to stability, privacy, security, and stewardship. This environment of risk and opportunity presents continually evolving challenges for public service (Dawes, 2008: 86).

Very serious contradictions and tensions are in play here: the desire to offer greater transparency and access, to empower citizens and challenge inequities, while respecting their privacy, and keeping their information secure. Ironically, the use of technology with the intent of enhancing access and empowerment can aggravate what has been labelled the digital divide between social groups (Ho, 2002).

And despite the attractiveness of integration across different organisations and levels of government, Castleman and Cavill (2004) concluded that 'the task of integration between channels for one government is challenge enough; to integrate across different levels of government and between governments is especially problematic' (Castleman & Cavill, 2004: 271).

Often some of the information that an agency needs in order to plan, make decisions, or take action is held by other public or private organisations, collected for widely different purposes, and maintained in disparate formats. Environmental management, health care, and emergency response are a few of the areas in which information sharing and integration are becoming essential to effective performance. These integration efforts are technologically, organisationally, legally and politically challenging and therefore often involve the need for cross-boundary governance structures, new work processes, and significant policy attention, as well as technical tools and organizational change that respond to the needs, capabilities, and limitations of multiple organisations (Dawes, 2008: 92-93).

Significant systemic capabilities are involved in achieving inter-agency cooperation and e-democracy. Commentators suggest that in many western countries, the public sector generally is moving to a networked, more open, and flexible governance structure (Sorensen & Torfing, 2007; Torfing & Triantafillou, 2011). Transition from government to governance (Pierre & Peters, 2000; Healey, 2007) reflects the fact that government operations have become more expensive, more dependent on public-private collaboration, and more differentiated. The transition emphasizes decentralized and market-based processes and networks (Bernhard, 2013: 9), instead of top-down activity where government agencies have a clear role and responsibility. As a result, these agencies connect in increasingly complex ways, not just with each other but with actors and activities in the surrounding community or society. The systemic and organisational tensions inherent in this situation are many: 'flexibility versus control, exploration versus exploitation, autocracy versus democracy, social versus financial, global versus local' (Lewis & Smith, 2014: 127). And dealing with these tensions creates contradictory demands:

... structures that are mechanistic and organic (Burns & Stalker, 1961), leaders who are autocratic and democratic (Quinn, 1984), cultures that enable control and flexibility (Flynn & Chatman, 2001), orientations that stress learning and performance (Bunderson & Sutcliffe, 2003) and thinking that is forward and backward looking (Gavetti & Levinthal, 2000) (Lewis & Smith, 2014: 128).

Paradox as a meta-theoretical perspective for understanding the complexity of local e-government

Lewis and Smith (2014) argue that for many years the management literature has relied primarily on contingency theory to engage with these tensions, exploring under what conditions should managers emphasize either one thing or another. Arguable the contingency approach has been very prominent in the literature on local e-government, exacerbated by the need for individual countries and administrations to get to grips with local circumstances. Bernhard (2013) and Hu *et al.*'s (2013) studies of e-government at local level in Sweden and China respectively represent recent examples of these contingent analyses.

While acknowledging the increasing sophistication of the contingency perspective, and its status as meta-theory, Lewis and Smith are concerned that polarised, 'either-or ways' of understanding not only over-simplify the inherent nature of the tensions involved, but make them significantly worse. As a consequence, they question the practical usefulness of management strategy and planning based on relatively simplistic models of organisations and systems. And over the past fifteen years they have explored and argued the value of paradox of an alternative meta-theory, located in the paradigm of complexity thinking.

Building on Cameron and Quinn's (1988) earlier exploration of the divergent and disruptive dynamics of contemporary organisational systems and context, Lewis (2000), Smith and Lewis (2011) and Lewis and Smith (2014) have argued that there is a critical difference between organisational dilemmas and the more complex phenomenon of paradoxical organisational functioning. Dilemmas involve clear alternatives (McGrath, 1982), where choices can be made by weighing up the relative advantages and disadvantages of each. A dilemma is resolvable through contingent interventions because although making a choice might involve giving up something, it also creates a clear and viable path of action. Smith and Lewis (2011: 386) define paradox as 'contradictory yet interrelated elements that exist simultaneously and persist over time'. A paradox not only involves tension between opposing elements: these tensions exist only because the elements in conflict are deeply inter-connected and reinforce one another. Like the two faces of a coin, one can only exist because the other also exists. Paradoxes cannot be resolved because choosing one path does not resolve things: the initial tensions resurface in another forms, at other times or in other places.

Although paradoxes emerge from mutually reinforcing cycles, these cycles are not always obvious, playing out over time, with very different surface symptoms masking the underlying connectedness of the dynamics in play. When people try to deal with paradoxes by making what seem like clear either/or choices, they don't realise that whatever they choose actually reinforces the problem they are trying to resolve. So the tensions are self-perpetuating: they bring each other into being and they persist because attempts to resolve one aspect of the tension merely aggravate the other. This fundamental inter-dependency reflects the branch of systems thinking that represents systems as non-linear and dynamic (Banathy, 2000). Ford and Ford (1994) among others, have suggested that the dualities of Cartesian logic have encouraged a kind of thinking in the West that makes it difficult for people to discern paradox at all. The result is a focus on obvious polarities: autonomy versus independence, logic versus emotion, trust versus mistrust, stability versus change, cohesion versus division, control versus empowerment.

Lewis (2000: 765) searched for exemplary organisation studies that have explored the mutually reinforcing tensions that are the source of organisational paradoxes. As a result, she identified three core areas of focus in understanding the paradoxical activities and elements of organisations: paradoxes of learning, paradoxes of organising and paradoxes of belonging In 2011, Smith and Lewis (2011) undertook an even more extensive review of 360 articles focused on organisational paradox, covering twenty years of publication (1989-2008) in twelve American and European management journals. As a result they added a fourth area, that of performing.

Paradoxes of organising emerge from the desire to retain control, order, routine, formality, clarity and efficiency while trying to empower people, build trust, flexibility and commitment and encourage creativity (Flynn & Chatman, 2001; O'Connor, 1995). *Paradoxes of learning* result when attempts to innovate, change and create new futures involve destroying or abandoning past wisdom and practice. Engagement with new possibilities is limited by existing frames of reference, and competencies that have been strengths become liabilities when things change (Weick & Quinn, 1999).

Paradoxes of belonging arise when groups seek to become cohesive and distinctive by valuing and leveraging the diversity of their membership and their interconnections with other groups. They inevitably arise when individuals try to maintain their separate identities, values and contributions, while creating a group that is distinctive, aligned and focused in its effort. The same tensions can emerge for groups and individuals in being part of a supply chain, industry group, market or community while being competitive and differentiated (Pratt & Foreman, 2000; Huy, 2002).

Paradoxes of performing are created by the competing interests and approaches of many different internal or external stakeholders. The divergent goals of financial growth, social responsibility and ecological sustainability organisations produce complex systemic dynamics that make not only action, but explanation of that action, very difficult (Margolis & Walsh, 2003; Denis *et al.*, 2007).

The exemplar studies suggest that tensions play out between these categories, not just within them (Smith & Lewis, 2011: 384). So building future capability and trying to succeed in the present bring *learning and performing* into conflict. *Learning and belonging* are in tension around the need to change while retaining a sense of self and purpose. *Organising and learning* conflict with one another as the search for focus and efficiency competes with the desire for change and agility. *Organising and performing* contest the requirements of process and the needs of stakeholders; *belonging and performing* are in tension when individual goals are different from organisational ambition; and *belonging and organising* compete when identity is compromised by process and protocols.

This work has, in turn, stimulated a range of further applications. For example, Vera and Crossnan (2007) have explored learning paradoxes in organisations; Sundaramurthy and Lewis (2003) have explored organising and performing paradoxes in corporate governance; and Gilbert and Sutherland (2013) have studied the paradoxes of organising and performing related to autonomy and control in organisation. The next section of this paper illustrates how paradox thinking might suggest useful strategies and practices for engaging with some of the complex tensions associated with local e-government.

The application of paradoxical thinking to local e-government:

We argue that Author's (2010) framing of dynamic capabilities suggests some specific nuanced examples of Lewis and Smith's depiction of the major *organising* paradoxes that are particularly relevant to e-government.

Robust versus permeable boundaries

We suggest a paradox organising for e-government centred around the notion of robust versus permeable boundaries: specifically, that the creation of formal, secure boundaries intended to define the legal and other obligations of the organisation, what it owns in cyber-space, and the responsibilities of it staff, immediately attracts effort to penetrate them and render them permeable. Hernes (2004) has offered a framing of organizational boundedness that is helpful in exploring the fundamental ways in which e-government challenges the boundaries of local government organisation. Hernes suggested that in order to understand organisational boundaries in contemporary terms, it is necessary to consider their physical, social and mental dimensions, Using this multi-dimensional construction of boundaries, it is arguable that the desire for systemic connectedness through the internet, and the rise of social media in connecting individuals and agencies, have changed the meaning of what is 'inside' and what is 'outside' the organisation.

A specific example centres on the significant partnerships that come into play when councils outsource the redevelopment of websites. In this situation, all content, databases and materials can shift to new partners, requiring the re-statement of rules around confidentiality, privacy, accessibility and security. In these situations, staff from one organization spend much of their time in another, immersed in the data sets, culture and expectations of the host organisation and subject to the same rules of communication and reporting. Identity, accountability, liability – even ownership of resources – become contestable through testing the boundaries. Supply chains of any complexity also move the organisation into the systemic space of significant interdependence.

Now, too, the local town hall that was once physically placed within clear municipal boundaries is located both globally in cyberspace and in a customised portal for individuals. Websites open up councils to unlimited scrutiny, a scrutiny that might include a hostile website or a campaign created by people with global rather than local concerns, and offering continuing critique of the competence and integrity of staff, as well as the collective intentions and actions of council. They create a different, potentially more immediate, sort of relationship with council's own citizen stakeholders.

The idea of borderless organisation also has significant implications for how democracy is understood. As Cammaerts and Van Audenhove (2005) point out:

> *Citizenship has always been a dynamic notion, subject to change and permanent struggle over its precise content and meaning. Recent technological, economic and political transformations have led to the development of alternative notions of citizenship that go beyond the classic understanding of citizenship relating to nation states and rights (Cammaerts & Van Audenhove, 2005: 179).*

Very large numbers of people now have the means to get involved, to generate their own agendas through rallying support, lobbying and advocating. This requires a radical reconsideration of the management of policy, consultation, engagement and decision-making. It challenges conventional ideas of protocol, due process, hierarchy, the control of information and the need to know. It can pose a threat to the council's governance, in the sense that its reputation, identity and credibility are harder to defend, while arguably its organizational, legal, social and moral obligations are considerably extended. When citizens set out in good faith to participate, questions arise as to how is their privacy and security, on the one hand, and their right to a voice, on the other, is to be mediated, controlled or protected.

Managing virtual versus real time service

Smith and Lewis' (2011) framing of organising paradoxes draws attention to the inevitable tensions created when traditional control mechanisms, authorisations, accountabilities and safety nets are put in place in the context of local e-government. It also invites a rethinking of another aspect of paradoxical organising: what it means to control, authorise, hold to account, and manage risks both virtually and in real time.

A key dynamic organisational capability for e-government is the capacity to work *ex tempore*: 'outside the flow of time' (Ciborra, 1999: 78), and beyond the constraints of clock time. As a capability, this means identifying in real time the changing priorities of various stakeholders, rather than relying on rigid and pre-determined milestones; and handling situations swiftly without reference to formal decision processes and hierarchies. Operating e-government 24/7 highlights that value is constantly negotiated and re-negotiated in real time. Improvised work involves rapid decision-making about trade-offs between time, money and value as perceived by a range of stakeholders. However, self-authorised improvisation will be in tension with requirements for protocols designed to limit and standardize judgment, creating anxiety about what could happen if staff step outside tight frameworks of risk management, even when it can be demonstrated that more limited action is ineffective or damaging.

The frame of the organising paradox also invites reconsideration of the ways in which teams and teamwork are understood and managed in virtual terms. Virtual teams can be thought of as temporary and contingent, even extending beyond the formal boundaries of any one organisation. Virtual teams mobilise and dissolve rapidly, with loyalties to disparate stakeholders in tension with the temporary alliances virtual team members must form with one another, in order to progress work in which they have differing but significant stakes and interests. The notion of the genuine team offered by Katzenbach and Smith (2005) can be usefully revisited in this context. In their terms, a team becomes more than just an effective working group when members of the team are prepared to hold each other to account, in ways that are timely and constructive, without waiting for a shared manager or steering committee to arbitrate on standards of performance or solve problems. A virtual team in which each member belongs to a different organisation or stakeholder might never be held collectively accountable by anybody except themselves. In the terms suggested by Smith and Lewis and described earlier, the paradoxical tensions implicit in a genuine virtual team extend to ones of belonging and performing, not just organising.

Dynamic capabilities

Smith and Lewis (2011) are clear that paradoxes invite either-or thinking, decision–making and practice at both strategic, whole-of-organisation (and even whole-of –system) level, and that the only ways to avoid this default reaction are to surface and name paradoxes and to deliberately create dynamic organisational capabilities to engage with them:

… in contrast to contingency theory, a paradox perspective assumes that tensions persist within complex and dynamic systems. These tensions are not only normal but, if harnessed, can be beneficial and powerful. The juxtaposition of coexisting opposites intensifies experiences of tension, challenging actors' cognitive limits, demanding creative sense-making, and seeking more fluid, reflexive and sustainable management strategies (Smith & Lewis, 2011: 395).

In their view, dynamic organisational capabilities include managerial practices, organisation structures, analytical and decision-making tools, systems and processes. Their thinking echoes the earlier contribution of Teece, Pisano and Shuen (1997: 516) who suggested the need for dynamic capabilities: capacities 'to integrate, build, and reconfigure internal and external competence to address rapidly changing environments'; to quickly and effectively mobilise resources, to improvise, and to engage in bricolage. Others have elaborated on what these dynamic capabilities might include. Gibson and Birkinshaw (2004), Leybourne (2010), as well as Smith and Lewis (2011), are among those who have marshalled extensive research and literature to suggest management processes that draw on improvisation and active experimentation; encourage agility, creativity, intuition and tacit knowledge; leverage multiple dependencies and relationships; and locate decision-making and initiative with team members. Leybourne (2010) has made a recent and substantial contribution in offering a synthesis of *agile activity* with traditional *stage-gate processes* of management. Leybourne's (2010) improvisation matrix identifies when analytical and creative approaches are appropriate at different stages and under different circumstances.

Edmonson's (2012) more recent framing of teamwork on the fly is another excellent example of thinking that in the both-and space. Using the case study of the building of the Water Cube for Beijing 2008 Olympic Games, she explores the process of teaming, rather than teams. The construction of the Cube involved twenty different disciplines, each with different jargons and sets of norms, and people from four very different countries. It was a ground-breaking project with strict deadlines, in which no two situations were ever the same. Edmonson offers the ideas of hardware and software as dimensions of teaming: the former involving scoping, the crafting and customising of temporary processes and protocols to provide scaffolding for different stages of teaming, temporary co-location at critical periods, and a revisiting of the genuine teams idea of reciprocal interdependence mentioned earlier. Software is about deliberately creating psychological safety, ways of acknowledging and embracing failure, experimenting with ideas, and speaking up.

From a practical point of view, these conceptualisations help to locate where managerial effort might be usefully focused to assist in engaging with paradoxical organisational realities. Clearly boundary-spanning activities need to be carefully designed so that skill and confidence to take action in the moment is matched by mandates that are not withdrawn in arbitrary ways by nervous middle managers. This in turn suggests that the organisation must become skilled in learning from

exemplar moments of interaction with stakeholders. These are potentially going to be different from previous transactions, as citizen-users work out for themselves what constitutes value and how they, in turn, develop ways of engaging with their local government community.

Kofman's (2006) concept of impeccable co-ordination also takes on fresh interest. This idea challenges the huge waste of organisational effort that results when people make half-baked commitments that are not serious even as they are being made, vague statements and well-intentioned wish-lists that put rhetoric above reality. Impeccable co-ordination invokes intelligent use of the pareto principle: 'Sure, we can this and this and this, but have you thought about what it's really costing us and what value it's really adding?' This form of distributed agency mandates everyone to be skilled in the alignment of effort with intent.

Conclusions

This paper has suggested that local e-government provides a constructive and practical example of the sort of phenomena identified as complex in emerging literature. Framing e-government in this way provides not only a way of operationalizing some of the more abstract conceptualizations of complexity thinking but opens up new ways of directly engaging with the challenges of e-government.

The vision and possibilities articulated for e-government in the literature, and in practitioner commentary, stretch to the transformation of local government from the traditional town hall to a seamless, virtual customer service centre, online 24/7, coupled with the capacity for citizens to discuss issues, present ideas, contribute to local decisions, collaborate with others, and shape their local communities through genuine participation in e-democracy. Earlier literature and studies on e-government anticipated that local government (and in fact all levels of government) online would progress through a number of stages to arrive at a customer-centric, participation-enabling, seamless-service-delivering, transparent, flexible and accessible state of democratic government online. Author (2012) has also offered a mapping of the functional capabilities required to access the full potential of e-government, as currently envisaged.

However, while cataloguing and exploring the functional capabilities of effective e-government provides a road map of what needs to be put in place, this is a road map that also alerts the traveler to the difficult nature of the terrain being traversed. The potential of e-government for local government, and the significant tensions involved in realizing that potential, present complexities that extend much further than the adoption of new technological tools that can improve efficiency and effectiveness in communications and service delivery.

The meta-theoretical perspective of paradoxical thinking suggested by Lewis (2000), Smith and Lewis (2011) and Lewis and Smith (2014) offers a potentially powerful way of engaging with these complexities, both conceptually and practically. An alternative to contingency theory, paradox theory points to dynamic enabling capabilities, calling into question the structures, leadership, cultural attitudes, systems and processes that are thought to have served local governments well over many decades.

Given the complexity of re-designing organisational structures and practices, and the many actors involved with their varying interests, resources, relationships and strategies, it seems that local e-government will involve continual engagement with tensions that will be difficult to ever definitively resolve (Bekkers & Homburg, 2007). Arguably, however, contemporary and evolving perspectives that acknowledge and engage with complex phenomenon have much to offer the sector.

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