Competing Institutional Logics of Information Sharing in Public Services: why we often seem to be talking at cross-purposes when we talk about Information Sharing

James Cornford

Email: j.cornford@uea.ac.uk

Postal Address: Norwich Business School, University of East Anglia, Norwich Research Park, NR4 7TJ, UK

Biography

James Cornford is Senior Lecturer in the Norwich Business School at the University of East Anglia where he is attached to the ESRC Business and Local Government Data Research Centre (grant number ES/L011859/1).

Abstract

Sharing information and data across organisational boundaries has proved hard to achieve. This is, in part, because we have framed the problem, and possible solutions, in one of three conflicting ways that draw on powerful institutional logics: design, governance and enculturation. Five strategies for addressing this conflict are presented – contingency, combination, conflict, ambiguity and synthesis. The conclusion links the problem of Information Sharing to the paradoxical nature of information.

Impact Box Text

Information Sharing is hard because we frame the issue in fundamentally different ways, each of which is valuable in its own way. Understanding the origins, strengths and weaknesses of these ways of framing information sharing, and exploring the various ways that they can be combined, can help managers and professionals to understand conflict and ambiguity in Information Sharing work and, perhaps, manage these issues more effectively.

Keywords

Information Sharing; Institutional Logics; Paradox of Organizing; Information Governance

Introduction

In this essay I aim to shed some light on why information sharing has proved so hard to do by examining how UK government policy, and the initiatives that have been established to promote information sharing, have sought to understand, frame and respond to that problem. Specifically, I contrast three ways of thinking about information sharing – as a (socio-technical) design problem, as an (information) governance problem and as a (organisational) culture change problem. I want to argue that these frames are much more than just mental maps that reflect personal choices, a local balance of power, or professional training. Instead, I argue that they represent institutional logics that operate across the organisational field of public service in the UK. After exploring each of these logics, I will try to explore some the ways that they can interact, with both positive and negative outcomes for effective information sharing. This is not an empirical paper, but it does draw on almost 20 years of experience of research with and on information and data sharing projects in UK public services.

Better sharing of information between organisations, and between professionals involved in public service, has become a central theme of public service reform. Specifically, information sharing across organisational boundaries is now seen as 'a pre-requisite for efficient processing of citizen services and for effective decision-making by multiple collaborative environments' (Gil-Garcia *et al*., 2009: 1), marking a shift from 'information protection' to 'information sharing' (Yang and Maxwell, 2011: 164). What Dawes et al. (2009) describe as a shift from 'need to know' to 'need to share'. However, information sharing, in particular using information technology and operating at scale, has proved much harder to do than many expected (Yang and Maxwell, 2011: 164): Green et al. (2015: 40) find that 'it's not as simple as it sounds' while Wilson and Gray (2015) summarise their argument as 'easy to say, harder to do well.' In practice, we often appear to be talking at cross-purposes when we discuss Information Sharing.

We can begin to understand why information sharing is so difficult when we explore the varied and partial ways in which it has been framed. The next section attempts to do this by using the concept of Institutional Logics. This concept is applied to information sharing, identifying three distinct logics – a design logic, a governance logic and an enculturation logic – and the waxing and waning of these logics is discussed in a UK context. A penultimate section explores the possibility of combining the three logics, suggesting and five potential solutions - Contingency, Combination, Conflict, Ambiguity, Synthesis. A final section provides a conclusion, linking the challenge of information sharing to the paradoxical nature of information itself.

Institutional Logics

The recent literature on competing institutional logics (e.g., Thornton 2004; Thornton and Ocasio, 2008) draws on well-established traditions of institutionalist research but adds an appreciation drawn from developments in economic and organisational sociology. Thornton and Ocasio (1999: 804) have defined institutional logics as 'the socially constructed, historical patterns of material practices, assumptions, values, beliefs, and rules by which individuals produce and reproduce their material subsistence, organize time and space, and provide meaning to their social reality.' Institutional logics are generally seen to operate within 'organisational fields' such as industries or sectors, transcending individual organisations. Finally, they are often 'institutionalised' in the form of trade associations and lobbying organisations, agreements and shared protocols, education and training curricula, professional codes of conduct, and so forth.

Thornton's (2004) study of the changing institutional logics in the higher education publishing business has been influential in the development of the concept. Thornton (2004) argues that institutional logics work primarily because they 'focus the attention of decision makers in organisations on issues and solutions that are consistent with the prevailing institutional logic' (2004: 12). Institutional logics focus this attention through four main mechanisms (2014: 13-14):

- by shaping meaning, appropriateness and the legitimacy of decision makers;
- by shaping the problem space – the identification of issues and problems;
- by shaping the solution space – delimiting the range of acceptable answers and solutions;
- by shaping an organisation's basic strategy and structure.

Thorton has argued that the theory of institutional logics 'is applicable to explaining institutional changes and management decisions in other industrial contexts, particularly professional services industries, such as health care and financial services, that are undergoing institutional transformation' (2004: xiii). Public services in the UK meet this condition well.

In any given organisational field, there can be more than one institutional logic, bringing logics into competition. Competing logics are significant for managers as they can be seen to underlie, and help to explain, the contradictory or paradoxical pressures mangers face (Meyer and Rowan 1977; Stacey, 2000; Luscher, Lewis and Ingram, 2006; Luscher and Lewis, 2008). Well established examples of paradox include 'ambidexterity' needed to explore future opportunities and exploit current realities (Tushman and O'Reilly, 1996; He and Wong, 2004; Raisch et al., 2009) or the need for many organisations to both compete and co-operate (e.g., Brandenburger and Nalebuff, 1997; Bengtsson and Kock, 2000). More recently, there has been increasing interest in organizational paradox, leading some to identify a field of 'paradox studies' (Smith et al 2017a: 1; Smith et al., 2017b).

Competing institutional logics can create tensions, paradox, misunderstandings and ambiguity. However, the simultaneous existence of competing logics also creates the possibility for individual managerial agency. Institutional theory is often characterized as excessively deterministic, creating little opportunity for agency as individuals are seen as constrained by conservative routines (e.g., Fountain, 2001). However, in the context of competing logics, managers can gain some degree of autonomy – we might even say relative autonomy – by playing off these logics against each other, creating a possible basis for a more agency-oriented model of 'institutional entrepreneurship' (Battilana et al. 2009). Where a single logic is dominant, managers' choices are highly constrained, as there will be a clearly defined, and limited, set of legitimate decision makers, problems and solutions within a given strategic and structural context. Where there are multiple logics at work, however, managers have the opportunity to seek alternative legitimate decisions, reframe problems and redefine solutions, perhaps even helping to reshape organizational strategy and structure.

Competing Logics of Information Sharing

In examining work on information sharing over the period from the late 1990s to the present I have identified three conceptually distinct competing logics of information sharing. I label these a design logic, a regulatory logic and an enculturation logic. We will examine each in turn using Thornton's four categories to identify:

- who are regarded as legitimate decision makers (about information sharing);
- what is regarded to be the information sharing problem or problems;
- what is felt to be the solution to this information sharing problem; and
- how these views of problem and solution shape the approaches taken by organisations .

Design Logic

The idea of a distinct "logic of design" is well established in various disciplines (engineering, architecture, computer science, etc.) with influential works dating back to the 1970s (e.g., March, 1976). More recently there have been attempts to develop 'design thinking' (see e.g., Dorst, 2011) as a distinctive approach across a range of domains.

The clearest expressions of the design logic in Information Sharing can be seen in relation to IT systems and e-government programmes. A repeated academic criticism of Information Sharing projects, has been that they frame the problem in purely technical terms, ignoring or underplaying the importance of the social sub-system (Gil-Garcia, Chun and Janssen, 2009; Pardo, Cresswell, Dawes, and Burke, 2004; Fedorowicz, Gogan, and Ray, 2004). However, we should be careful not to limit the design logic to a narrowly technical focus on the technological artefact. Even where a strong socio-technical perspective has been put forward, and attention is paid to organisational processes and working practices, projects and programmes do not necessarily escape the design logic. Business process redesign and a range of more or less successful attempts to engage professionals and frontline workers in work redesign, continue to frame Information Sharing as a design problem.

Drawing on Thornton's four categories, we can characterise a design logic as one that:

- sees system architects or designers, who may also be system users, as the key appropriate and legitimate decision makers;
- shapes the problem space – the identification of issues and problems – in terms of missing or inadequate tools and embodied procedures (understood as workflows or business processes);
- shapes the solution space –the range of acceptable answers and solutions – in terms of the provision of (ideally) shrink-wrapped systems which embody tools and procedures, possibly together with business process and work redesign;
- shapes the organisation's basic strategy and structure in terms of the acquisition or development and subsequent implementation of information sharing tools and procedures.

This perspective tends to draw most strongly, but not exclusively, on the mechanistic metaphors of organisation (Morgan, 1997), seeing information sharing a problem to be fixed or re-engineered through the creation of appropriate design solutions.

The most significant example of this approach in the UK has been the National Programme for IT in the Health Service (NPfIT) that ran from 2002 to approximately 2011. This programme sought to implement a range of systems, but at its core was the creation of an Electronic Health Record intended to enable the rapid transmission of information between different parts of the National Health Service (NHS) (Cresswell et al., 2011; Brennan, 2005). The smaller National Programme for Local E-government, which ran from 2002 to 2005 provides another example of a programme with a strong design logic. The local e-government programme included, as its largest project, the FAME project (FrAmework for Multi-agency Environments), which directly addressed information sharing or 'joining up' issues (McLoughlin and Wilson, 2013; http://www.fame-uk.org/ [accessed 16/12/2017]). The FAME approach sought to place information sharing explicitly in the context of 'Governance' and 'Legal Powers and Responsibilities' as well as more technical issues such as 'Infrastructure,' 'Identity Management' and 'Messaging, Events and Transactions.' However, the ultimate design-logic of this programme was expressed in the emphasis of its funders on the provision of 'shrink-wrapped' IT 'solutions.' The underwhelming outcomes of NPfIT, as well as a number of other major IT-based approaches to information sharing, coupled with the cost of major systems projects in the context of austerity, may help to explain the declining popularity of this approach at the scale of the 'National Programmes.' Nevertheless, the design logic remains powerful and is widely promoted by systems vendors and consultants.

Governance Logic

A governance, or regulatory, logic frames the problem of information sharing in a very different way. Rather than emphasising the *enabling* of information sharing, its focus is on the *control and channelling* of information sharing behaviours. An important strand of this governance logic has been a search for highly abstract principles to govern information sharing such as Wenjing's (2011: 369-71) five principles: *Legitimacy, Necessity*, *Reasonableness, Procedural transparency* and *Flexibility in dispute settlement.* At a more practical level, this logic has drawn on wider work on Information Governance. Information governance has been defined as 'the specification of decision rights and an accountability framework to ensure appropriate behavior in the valuation, creation, storage, use, archiving and deletion of information' (From http://www.gartner.com/it-glossary/information-governance; Accessed 6/17/2016). The key words and phrases emphasise a legalistic understanding of rights and accountability and the goal of 'ensuring appropriate behaviour.'

Information Governance has become well established in the public services, and in particular in the health service, and has a well-established role in information and library science community, building in particular on the field of records management. In the UK, the Information Governance approach has its strongest roots in the health sector (Donaldson and Walker, 2004) and has a powerful institutional base in NHS Digital, (formerly NHS Health and Social Care Information Centre – HSCIC), the Information Commissioners Office (ICO) and in the Information Governance Alliance (IGA). The IGA positions itself as 'the authoritative source of advice and guidance about the rules on using information in health and care' (http://systems.hscic.gov.uk/infogov/iga; accessed 6/17/2016). The information governance toolkit, first released in 2003, is now widely used across the health service and social care. The key product of the governance logic has been the proliferation of formal Information Sharing Agreements.

Drawing again on Thornton's four categories, we can characterise a governance logic as one which that:

- sees information or data managers and lawyers as the key appropriate and legitimate decision makers;

- shapes the problem space – the identification of issues and problems – in terms of missing, unclear or unfollowed rules and protocols;
- shapes the solution space – the range of acceptable answers and solutions – in terms of the provision, or clarification, of rules and their effective enforcement; and,
- shapes the organisation's basic strategy and structure in terms of the implementation of information sharing protocols and various forms of 'guidance'.

Early Governance logic approaches sought to fully specify decision rules for information sharing. However, research has suggested that there are always exceptions to protocols and that individual judgement will always ultimately be required (6. et al, 2010). More recent governance logic approaches have emphasised the lack of consistent interpretation of the rules. For example, the Local Government Association (LGA), in its response to the 'better use of data' consultation argued that 'as the legislative landscape is so diverse and it is often difficult and unclear under which circumstances information can be shared, setting up such frameworks to enable the sharing of data has been a burdensome task. Due to a lack of consistent regulation and guidance, the approach to information governance is inconsistent between local authorities and agencies which makes the sharing even more complex' (LGA, 2016). The Home Office's Multi-Agency Working and Information Sharing Project noted that '[t]here was some misunderstanding among professionals about what client information can be shared, for example around confidentially …This could result in low confidence and uncertainty about what information can be shared' (Home Office, 2013). The sense of confusion and ambiguity about the rules and how they should be interpreted sometimes comes close to that found in the enculturation logic. For example, the Law Commission's Report Data Sharing between Public Bodies noted that '[s]ome identified a culture of anxiety surrounding data sharing and leading to risk aversion and to the use of flexibility to adopt restrictive interpretations and practices.' (Law Commission, 2014: 107). Academic Studies have similar findings. One study concludes that 'the complex legislative and regulatory context guiding information sharing is a source of some lack of confidence in relation to which personal case information may be shared, with who, and under what circumstances' (Peel and Rowley, 2010: 11; see also Graham, Gooden and Martin, 2016; Yang and Maxwell 2011).

In addressing this issue, the governance logic has focused on creating additional guidance and training for public servants. However, this is sometimes criticised as unhelpful because each additional layer of guidance or training merely adds to the confusion of those who have to make the decision to share (or not share) information. The most developed example of information sharing governance in the UK comes from the work that has been done by Dame Fiona Caldicott, the

National Data Guardian (1997; 2013; 2016), and the system of guardianship that bears her name. The example of the Caldicott reports raises another important issue – the possibility of balancing the need to protect individuals with the need to share. The first Caldicott report (1997), for example, identified six principles that should govern the sharing of patient information:

- justify the purpose(s);
- don't use patient identifiable information unless it is necessary;
- use the minimum necessary patient-identifiable information;
- access to patient identifiable information should be on a strict need-to-know basis;
- everyone with access to patient identifiable information should be aware of their responsibilities; and,
- understand and comply with the law.

In her subsequent review, published in 2013, she was obliged to add a seventh principle – that the duty to share information can be as important as the duty to protect patient confidentiality. In part, this final, positive statement was added in response to the accusation that the first six principles were, and were widely seen as, restrictive, promoting a risk-averse culture – what the second Caldicott report (2013) also calls a 'culture of anxiety' – with regard to information sharing within UK Health and Social Care.

Enculturation Logic

The enculturation logic frames information sharing as a "people problem" or, more specifically, a problem of 'siloed' organisational and professional cultures, rather than a lack of tools or infrastructure, or a lack of clear and unambiguous rules and judgements. Such perspectives have considerable support in the academic literature (e.g., Richardson and Asthana, 2006; Oliver 2008; Kelly and Bielby, 2016). Where the design logic is mostly concerned with creating channels that enable information to flow around and between organisations, and the governance logic is concerned to ensure that any such flow meets established criteria, the enculturation logic focuses on the 'people' aspect of information sharing and on the creation of 'cultures of information' that value information sharing. Drawing on Thornton's model again, this perspective:

- sees frontline practitioners and managers as key appropriate and legitimate decision makers;
- shapes the problem space – the identification of issues and problems – in terms of the lack of value given to information sharing in everyday work and thus the lack of motivations, models of good practice or more generally leadership in information sharing;

- shapes the solution space – the range of acceptable answers and solutions – in terms of processes of cultural change using narratives, case studies and action research;
- shapes the organisation's basic strategy and structure in terms of the cultivation of a partnership orientation and an information sharing culture.

In institutional terms, the main agency developing this perspective has been the Centre of Excellence for Information Sharing ('the Centre' - http://informationsharing.org.uk/), officially launched in October 2014. The Centre defines its mission as follows: 'Our role is to challenge, inspire and support change in order to transform services through improved information sharing across the public sector.' The Centre's Website highlights its concerns with 'culture' and 'mindset' and explicitly contrasts them with 'polices' and 'databases':

> We work with a variety of local places, across a range of policy areas to help uncover and understand what is limiting good information sharing between them and their partners. Challenging culture is at the heart of our work. We recognise that you can have the best policies and databases in place, but without the right culture and mind-set, these will only take you so far [http://informationsharing.org.uk/about-us/; Accessed 15/12/2017].

The Centre is explicit about the role of other agencies, in particular with regard to information governance arguing that it can 'work closely with organisations who deal with the governance side to information sharing – like the Information Governance Alliance and the Information Commissioner's Office' [http://informationsharing.org.uk/faqs/; Accessed 15/12/2017].

The Enculturation logic typically uses the tools of (cultural) change management, creating stories and narratives, often in the form of case studies, to support local sense-making, creating events and occasions for interaction and learning, and favouring approaches such as action learning and appreciative inquiry. Perhaps unsurprisingly, therefore, this logic is highly sensitive to local context and reluctant to advocate a 'one size fits all' model of information sharing.

We can conveniently summarise the three logics in the following table.

[Table 1 about here]

Periodization and dynamics: Change over time

We can see the development of debate on Information Sharing in UK Public Services in terms of Raymond Williams' notion of 'residual, dominant and emergent' cultural forms (Williams, 1977: See also Bryson, 2008). Williams developed this approach in order to move away from the idea of a single monolithic national culture and to create some space for agency and change. We can see recent developments in the focus of attention in Information Sharing in these terms, with the design logic as the residual form, the governance logic as dominant and the enculturation logic as the emergent perspective.

From this point of view, the design logic was very strongly reflected in the various e-government initiatives of the late 1990s and early 2000's including, in the UK, the local e-government programme and the National Programme for IT in the Health Service. These were complex programmes with varied outcomes, but they all had a strong 'design' focus, reflecting their technological origins. Frustrations with the slow pace of development in these programmes saw a shift of emphasis, and of name, with the emergence of 'transformational government' (T gov). T gov sought to build on the increasingly available infrastructures created by the e-government programmes but to link these technological possibilities to new organisational forms and new processes, extending the design approach from a more narrowly technical artefact to the organisational realm, drawing on theories of socio-technical design (see Gil-Garcia, Chun and Janssen, 2009; McLoughlin and Wilson, 2013).

e-government (and its transformational successor – t-government) can also be seen as the originators of the governance logic approach. Information and communication technology systems create an almost inexhaustible demand for highly specified decision logics (Cordella, 2007). For example, Identity Management and Role Based Access Control Systems require the formalisation and, to some extent centralisation, of both the organisational role structure and the various records systems that contain information. This can be complex within organisations. For inter-organisational information sharing it can become even more torturous. To manage these interactions multi-agency partnerships began to draw up local 'Information Sharing Agreements' and 'protocols' to make the interaction between individuals and systems more explicit and formal.

The proliferation of such information sharing agreements, with attendant complexity, formed the ground for the further development of the governance logic, expanding from the confines of patient information in health care (e.g., Caldicott, 1997), to encompass the whole domain of health and social care (Calidicott, 2013) and, increasingly, wider public services. This complexity also led to attempts to reduce the number of gateways between agencies and to simplify sharing agreements. Explaining these protocols and agreements, and their implications to staff has also been a challenge, leading, to a large volume of guidance and training, sometimes sending conflicting messages.

The limitations of the Governance approach can be seen to have driven the emergence of the enculturation logic. The need for some individual discretion (6 et al., 2010) and the problem of a 'culture of anxiety' around information sharing, have highlighted the importance of individual judgement in the context of cultural values. Further, while formal information sharing agreements between organisations and bodies did create the possibility of legally sharing information in a governed manner, it has also reinforced awareness of the boundaries between organisations. By highlighting and more clearly demarcating the legitimate gateways between silos, it has also highlighted the many barriers and differences between organisations and sectors. The emphasis on 'silo mentality,' the lack of trust between agencies with complementary functions and often the sheer lack of knowledge about other agencies have all fed into the development of the enculturation logic.

Can the three logics be combined?

There is an ambivalence in much of the literature about organisational paradoxes. Are rival demands or frames positive, each testing the other and creating fruitful debate, or even leading to the creation of a whole new approach by reconciling the common truths across the competing logics? Are they distinct but complimentary perspectives that can be composed to create a fuller view, a gallery rather than a single picture, one that enables a richer appreciation of the subject? Alternatively, are they rival frames, mutually destructive or disrupting, creating conflict, sectional interests, miscommunication and tension within organisations and organisational fields? To answer these questions I suggest five possible ways in which these logics can be seen to interact: a contingency model, a combinatorial model, a conflict model, an ambiguity model and, finally, a tentative synthetic model (Summarised in table 2).

Contingency

A contingency model would suggest the appropriate logic is contingent on the context. We might see this analysis as complementary to work on inter-organisational knowledge sharing. Loebbecke et al. (2016: 8), for example, identify four 'types of co-ordination and control mechanisms' in inter-organisational knowledge sharing between commercial organisations.

- A 'structural co-ordination and control' mechanism, such as joint ventures, which are formal, contractual and hierarchical. This model echoes some versions of the governance or control logic identified above.
- A 'procedural co-ordination and control' mechanism, including contracts standards and Service Level Agreements. Again, this has some resonance with the Governance logic but could also be linked to the design logic.
- A technical co-ordination and control mechanism, using systems with managed access, very much akin to the design logic.

- A social co-ordination and control mechanism based on 'relational contracting, personal relationships and team working.' This approach is closest to the enculturation logic.

At the core of their argument, however, is a contingency model. Different co-ordination mechanisms work for different kinds of knowledge or information. Summarising very crudely, they identify four kinds of knowledge based on the distinction between tacit and explicit knowledge and between unilateral (one way) and bilateral (dialogical) sharing. Using a similar contingency model, we might identify the design logic as the best approach with highly structured and explicit, mainly unilaterally shared information. By contrast, the enculturation logic might be expected to work better with bilateral (and multi-lateral, team-based) information sharing with a large tacit or interpretative component. However, within public services, information-sharing contexts seldom fall clearly or neatly within these classifications, but rather combine them, suggesting the need for a more complex hybrid approach.

Complementarity

The three logics *can* also be seen as complimentary. Each logic can acknowledge the others. System designers understand that they must take account of the controls and regulations and the cultures of information use within which their tools will operate; governance perspectives understand well that users need functional tools to communicate and that they need to feel (culturally) empowered to do so; from the enculturation perspective, the importance of both rules and tools is acknowledged. These are not wholly incompatible or untranslatable, rather they are perspectives that shape and order particular elements, often the same elements, in different ways. And yet, judicious combinations of approaches still appear hard to operate in practice. Shared understanding across the three logics is hard to establish, and perhaps harder to maintain and requires constant translation activities and strong leadership. These elements are costly and time-consuming. The FAME project might provide one example, where the attempt to acknowledge the different logics, was ultimately overpowered by the sponsor's demand for 'shrink wrapped product' and easily reproducible solutions (Gannon-Leary et al., 2006).

Digging a little deeper into each logic shows how it tends to frame its rivals as necessary but subordinate, secondary or derivative. From the design perspective, rules and culture are seen as essential, but they are considered as secondary, important only as far as they inform the design of, or affect the ultimate user acceptability of, the technical artefact or system. From the governance perspective, the significance of artefacts and systems is primarily in terms of their ability to communicate, implement and enforce the rules and guidelines and provide for accountability. And, finally, from a cultural perspective, tools and rules are significant only in so far as they are interpreted, adopted and used by specific actors using relevant cultural frames. The argument here is that these logics are, in practice, impossible to fully align and that any combinations are unstable and prone to generate conflict.

Conflicting Logics

If these logics cannot be easily combined, then they will tend to come into conflict or tension with each other, drawing on their different institutional and professional constituencies. From this point of view, a more political vision of rival factions emerges. Unlike the essentially functionalist contingency approach, from a conflict perspective, outcomes are based on the local and standing balance of power. To some extent, we can see this in everyday arguments about how to approach information sharing and even more so in arguments about why it has proved so difficult. The lack of financial backing, or political will, for large scale, monolithic technology-based projects, would appear to have given more scope for other approaches to emerge. Meanwhile the relatively low cost, financially and politically, of the enculturation approach has considerably strengthened its hand in the era of austerity. Conflicting logics can be seen as mutually beneficial. Each logic can challenge the others, raising practical problems and issues and helping to test and improve argument and plans. Such conflict can also be destructive, diverting resources and energies into un-productive activities. Once again, it can be difficult to achieve agreement about how to characterise a particular situation.

Ambiguity

Another way of seeing the interaction of these logics is to see it as generating a general ambiguity or uncertainty about what Information Sharing *is* and what it involves. Some level of confusion is understandable when using very different descriptions of a given situation, or combining different languages or jargons, (often using the same words to denote different things). Key terms such as ‘information’ or ‘identity,’ for example, can have very different meanings depending on the logic that informs their use. There has always been some debate about whether ambiguity is ‘a resource or a problem for organizational action’ (Jarzabkowski, Sillince and Shaw, 2010: 219). Ambiguity can be seen as problematic. The lack of a shared language can generate frustration and time has to be taken to translate or specify more clearly in many situations. More positively, ambiguity can be ‘strategic,’ lubricating interaction between different groups and perspectives (Eisenberg, 1984). Finally, ambiguity can be seen as ‘generative,’ enhancing creativity and imagination and enabling the emergence of new approaches.

Looking ahead – a synthetic possibility?

If the co-existence of these three logics of Information Sharing tends naturally to generate conflict or ambiguity can they be effectively combined? One final possibility, drawing on the connection between conflicting logics and the opportunity for agency, might lie in the new emphasis on forms of (institutional) entrepreneurship in public service reform. From this, point of view, we might argue, information sharing is frame as the launch of a service or business, drawing on the conceptual and rhetorical resources of recent high tech entrepreneurship. Picking selectively from the three logics, it seeks to combine them to create a new model of information sharing. From the design logic, this entrepreneurial approach has taken a strong role for technology but it has rejected the monolithic approach of 'big computer systems,' emphasising instead much more agile methods that see designs as emergent, and which model technology on social media, rather than enterprise systems. Using the rhetoric of the 'minimum viable product' – a simple and basic product that can be quickly placed in the hands of users, enabling rapid user feedback which informs future iterations – this approach emphasises simplicity, speed, agility and responsiveness. From the governance logic, it takes an appreciation of the need for accountability and public acceptability of information sharing, but it seeks to avoid the complex rules and regulations associated with that logic in favour of a lighter ethic, again derived from 'social media'. From the enculturation approach it takes the focus on the local and the specific, on local agency – champions and change agents – and the need for public servants, service users and third parties to "buy into" information sharing. While each of the three current logics is acknowledged, they are each subordinated to a new entrepreneurial framing. A possible institutional base for this approach could be the National Endowment for Science Technology and the Arts (see e.g., NESTA, 2016).

Conclusion

The three logics all have important and valid contributions to make to information sharing – artefacts have to be designed and infrastructures built (or cultivated), some kind of controls on Information Sharing must be implemented, and all of this will be in vain if individuals do not feel empowered and that information sharing is legitimated within their organisational and professional cultures. Yet institutional theory suggests that a harmonious combination outcome is unlikely, suggesting that a major task for practitioners is to manage the tensions between these various priorities. Studies of such organisational paradox in other contexts suggest that there is no easy resolution, but rather a process of 'working through' that 'does not imply eliminating or resolving paradox, but constructing a more workable certainty that enables change' (Luscher and Lewis, 2008: 234).

What does all this mean for managers and professionals? How can this analysis inform the practice of Information Sharing? Perhaps the first lesson is simply, to be aware of the ways in which specific logics shape one's own practice and that of others. Concerns that seem obscure, pedantic or abstract from one point of view can look very different from another point of view. A stronger awareness of the power of these logics to shape perceptions of problems, solutions and legitimate authority can be a first step towards more efficient, productive and respectful conversations within projects and initiatives. For those seeking to lead Information Sharing initiatives – and one of the most valuable contributions of the enculturation logic has been an awareness of the need for good leadership in Information Sharing – the five strategic options for combining the logics might also be helpful in considering what approach to take. While none of the combination strategies looks like providing a magic bullet, each does have its strengths and may form the basis for 'workable certainty' that enables progress to be made (Luscher and Lewis, 2008).

Perhaps, then, the ultimate message of this analysis is the need to accept that Information Sharing is a complex business that will, like other areas of management, resist simple solutions. What underlies this complexity is the fundamentally paradoxical nature of information itself: that it flows too freely for some while remaining stubbornly immobile for others; that it is simultaneously "sticky" and "leaky" (Brown and Duguid, 2000: 150); that it can be given away but also retained; that is can be both a private and public good; that it can appear as discrete 'stuff' and yet is also entangled in social relations. While the fortunes of these three logics may continue wax and wane, it seems unlikely (although always possible) that they will be effectively synthesised at more than a temporary and local level. Rather, there will remain a range of basic, rival ways of framing the information sharing problem and thus 'multiple practices supported by conflicting logics, rather than a single, dominant organizational form, to be institutionalized' (Purdy and Gray, 2009: 355). In this context, we could do worse than follow Wendy Smith's advice to managers facing complex and paradoxical imperative to shift from 'offsetting organizational complexity with clarity and stability' and move towards 'embracing complexity with inconsistency and dynamism' (2014: 1618).

References

6, P., Bellamy, C., and Raab, C. (2010), Information sharing dilemmas in public services: using frameworks from risk management. *Policy and Politics, 38,* 3, pp.465-481.

Battilana, J. Leca, B. and Roxenbaum, E. (2009), How actors change institutions: towards a theory of institutional entrepreneurship. *The Academy of Management Annals, 3*, 1, pp. 65–107.

Bengtsson, M., and Kock, S. (2000), Coopetition in business networks: to cooperate and compete simultaneously. *Industrial Marketing Management*, *29*, pp. 411–426.

Brandenburger, A. M. and Nalebuff, B. J. (1997), *Co-opetition: A revolutionary mindset that combines competition and cooperation in the marketplace*. (Doubleday).

Brennan, S. (2005), *The NHS IT project: The biggest computer programme in the world... ever!* (Radcliffe Publishing Ltd.)

Brown, J. S. and Duguid, P. (2000), *The Social Life of Information*. (Boston: Harvard Business School Press).

Bryson, J. (2008), Dominant, emergent, and residual culture: the dynamics of organizational change. *Journal of Organizational Change Management*, 21, 6, pp. 743 – 757.

Caldicott, F. (1997), *Report on the Review of Patient-Identifiable Information,* Report commissioned by the Chief Medical Officer of England.

Caldicott, F. (2013), *Information: To share or not to share? The Information Governance Review*. Report to the Department of Health by Dame Fiona Caldicott, London, March.

Caldicott, F. (2016), National Data Guardian for Health and Care Review of Data Security, Consent and Opt-Outs. (www.gov.uk/.)

Cordella, A. (2007), E-government: towards the e-bureaucratic form? *Journal of Information Technology, 22*, pp. 265–274.

Cresswell, K., Ali, M., Avery, A., Barber, N., Cornford, T., Crowe, S., Fernando, B., Jacklin, A., Jani, Y., Klecun, E., Lichtner, V., Marsden, K., Morrison, Z., Paton, J., Petrakaki, D., Prescott, R., Quinn, C., Robertson, A., Takian, A., Voutsina, K., Waring, J. and Sheikh, A. (2011), The long and winding Road… An independent evaluation of the implementation and adoption of the National Health Service Care Records Service (NHS CRS) in Secondary Care in England.

Dawes, S. S. (1996), Interagency information sharing: expected benefits, manageable risks. *Journal of Policy Analysis and Management*, *15,* 3*,* pp. 377-394.

Dawes, S. S., Cresswell, A. M., & Pardo, T. A. (2009), From "need to know" to "need to share": Tangled problems, information boundaries, and the building of public sector knowledge networks. *Public Administration Review*, *69,* 3, pp. 392-402.

Donaldson, A. and Walker, P. (2004), Information Governance: a view from the NHS. *International Journal of Medical Informatics*, *73*, 3, pp. 281-284.

Dorst, K. (2011), The core of 'design thinking' and its application. *Design Studies*, *32*, 6, pp. 521-532.

Eisenberg, E. M. (1984), Ambiguity as strategy in organizational communication. *Communication Monographs 51*, 3, pp. 227-242.

Fedorowicz, J., Gogan, J. L., and Ray, A. W. (2004), The ecology of interorganizational information sharing. *Journal of International Information Management, 13*, 2, p. 1.

Fountain, J. (2001), *Building the* Virtual State. (Harvard University Press).

Gil-Garcia, J. R., Chun, S. and Janssen, M. (2009), Government information sharing and integration: Combining the social and the technical. *Information Polity*, *14*, 1/2, pp. 1-10.

Graham, F. S., Gooden, S. T. and Martin, K. J. (2016), Navigating the transparency–privacy paradox in public sector data sharing. *American Review of Public Administration 46*, pp. 569–591

Green, B. L., Ayoub, C., Bartlett, J. D., Furrer, C., Von Ende, A. Chazen-Cohen, R., Kleevens, J. and Nygren, P. (2015), It's not as simple as it sounds: problems and solutions in accessing and using administrative child welfare data for evaluating the impact of early childhood interventions. *Children and Youth Services Review*, *57*, pp. 40-49.

Greenwood, R., Díaz, A. M., Li, S. X., and Lorente, J. C. (2010), The multiplicity of institutional logics and the heterogeneity of organizational responses. *Organization Science*, *21*, 2, pp. 521-539.

He, Z.-L. and Wong, P. K. (2004), Exploration vs. Exploitation: An Empirical Test of Ambidexterity. *Organization Science*. *15*, 4, pp. 481-494.

Home Office (2013), Multi-Agency Working and Information Sharing Project Early Findings. (www.gov.uk/)

Gannon Leary, P., Baines, S. and Wilson, R. (2006), Collaboration and partnership: A review and reflections on a national project to join-up local services in England. *Journal of Interprofessional Care, 20*, 6, pp. 1 – 10.

Kelly, M. and Bielby, J. (eds) (2016), *Information Cultures in the Digital Age.* (Springer).

Jarzabkowski, P., Sillince, J. A. A. and Shaw, D. (2010), Strategic ambiguity as a rhetorical resource for enabling multiple interests. *Human Relations*, *63*,2, pp. 219–248.

Law Commission (2014), *HC 505 - Data Sharing between Public Bodies* (LC351).

LGA (2106), Better use of data consultation. Local Government Association Response, April (www.local.gov.uk/)

Loebbecke, C., van Fenema, P. C. and Powell, P. (2016), Managing inter-organisational knowledge sharing. *Journal of Strategic Information Systems*, *25*, pp. 4-14.

Luscher, L. S. and Lewis, M (2008), Organizational change and managerial sensemaking: Working through paradox. *Academy of Management Journal*, 51, 2, pp. 221-240.

Luscher, L. S., Lewis, M. and Ingram, A. (2006), The social construction of organizational change paradoxes. *Journal of Organizational Change Management*, *19*, 4, pp. 491 -502.

March, L. (1976), The logic of design and the question of value, In *The architecture of form,* Lionel March, ed. (Cambridge University Press).

Meyer, J. W. and Rowan, B. (1977), Institutionalized organizations: Formal structure as myth and ceremony. *American Journal of Sociology*, *83*, 2, pp. 340-363.

Morgan, G. (1997), *Images of Organization*. (Sage).

NESTA (2016), *Wise Council: Insights from the cutting edge of data driven local government.* (NESTA).

Oliver, G. (2008), Information culture: exploration of differing values and attitudes to information in organisations. *Journal of Documentation*, *64*, 3, pp. 363 – 385.

Pardo, T. A., Cresswell, A. M., Dawes, S. S., & Burke, G. B. (2004), Modeling the social & technical processes of interorganizational information integration. In *System Sciences, 2004: Proceedings of the 37th Annual Hawaii International Conference on* (8-pp). IEEE.

Peel, M. and Rowley, J. (2010), Information sharing practice in multi-agency working. *Aslib Proceedings, 62*, 1, pp. 11 – 28.

Purdy, J. M. and Gray, B. (2009), Conflicting logics, mechanisms of diffusion, and multilevel dynamics in emerging institutional fields. *Academy of Management Journal*, *52*, 2, pp. 355-380.

Raisch, S., Birkinshaw, J., Probst, G. and Tushman, M. L. (2009), Organizational ambidexterity: balancing exploitation and exploration for sustained performance. *Organization Science*, *20*, 4, pp. 685-695.

Reay, T. and Hinings, C. R. (2009), Managing the rivalry of competing institutional logics. *Organization Studies*, *30*, 6, pp. 629-652.

Richardson, S. and Asthana, S. (2006), Inter-agency information sharing in health and social care services: the role of professional culture. *British Journal of Social Work*, *36*, 4, pp. 657–669.

Smith, W. K. (2014), Dynamic decision making: a model of senior Leaders managing strategic paradoxes. *Academy of Management Journal*, *57*, 6, 1592–1623.

Smith, W. K., Lewis, M. W., Jarzabkowski, P. and Langley, A. (2017a), *Oxford Handbook of Organizational Paradox*. (Oxford: OUP).

Smith, W. S., Erez, M., Jarvenpaa, S., Lewis, M. W. and Tracey, P. (2017b), Adding complexity to theories of paradox, tensions, and dualities of innovation and change: introduction to organization studies special issue on paradox, tensions, and dualities of innovation and change. *Organization Studies, 38*, 3-4, pp.303 –317.

Spencer, J. L. (2013), Information governance. The price of data sharing. *Health Services Journal*, *123* (6361), pp. 28-9.

Stacey, R. D. (2000), *Strategic Management and Organisational Dynamics: The Challenge of Complexity* (3rd Edition). (Harlow: Pearson).

Thornton, P. H. (2004), *Markets from culture: Institutional logics and organizational decisions in higher education publishing*. (Stanford, CA: Stanford University Press).

Thornton, P. H. and Ocasio, W. (1999), Institutional logics and the historical contingency of power in organizations: Executive succession in the higher education publishing industry, 1958-1990. *American Journal of Sociology*, *105*, pp. 801-843.

Thornton, P. H. and Ocasio, W. (2008), Institutional logics. In R. Greenwood (Ed.), *The SAGE handbook of organizational institutionalism*, pp. 100-129. Los Angeles; London: SAGE.

Tushman, M. L. and O'Reilly, C. A. (1996), The ambidextrous organization: managing evolutionary and revolutionary change. *California Management Review*, *38*, 4, pp. 8-30.

Williams, R. (1977), *Marxism and Literature*. (Oxford: OUP).

Wilson, R. and Gray, A. (2015*), Information Sharing: Easy to Say, Harder to Do Well*. Centre of Excellence in Information Sharing (informationsharing.org.uk/)

Yang, T-M. and Maxwell, T. A. (2011), Information sharing in public organisations: a literature review of interpersonal, intra-organizational and inter-organizational success factors. *Government Information Quarterly, 28*, pp. 164-175.

	Design Logic	Governance Logic	Enculturation Logic
Basic framing	Information Sharing is a design problem	Information Sharing is a governance problem	Information Sharing is a cultural or people problem
Central theme	Enabling	Controlling, clarifying	Encouraging, motivating, supporting, leading
Framing of the Problem Space	We lack the tools and procedures to share information securely and effectively	We lack, or fail to understand, the rules that govern information sharing	We don't have a culture of information sharing
Typical Product(s) (framing of the solution space)	A (software) tool, an information system/environment, process	An information sharing agreement/protocol; guidance; training	Stories, narratives, case studies, best/good/promising practices
Important Institutional actors in the UK Context	SOCITM (https://www.socitm.net/) LeGSB (The Local eGovernment Standards Board); Software vendors IT Consultants	NHS Digital (formerly Health and Social Care Information Centre HSCIC); Information Governance Alliance; Information Commissioner's Office; National Data Guardian and the Caldicott Guardians	Centre of Excellence for Information Sharing
Academic Underpinning	Computer Science, Information Systems, business process management	Information law; Information management/information science/librarianship, records management	Change management, cultural change; inter-professional practice
What else do we have to share in order to share information?	A shared technical infrastructure	A shared body of rules and regulations	A shared culture of information sharing

Table 1: Summary of the three logics

Interaction Model	**Basic Character**	**Advantages**	**Disadvantages**
Contingency	Different logics for different situations	Ideally means solutions tailored to situation	Lack of clear and un-disputed classification of situations
Combination	Combine the strengths of each logic	Ideally best of all worlds	Lowest common denominator
Conflict	Fight it out between rival logics	Rivalry tests and improves each approach	Wasted resources; outcome dependent on local balance of power
Ambiguity	Multiple logics generate confusion	Potential for new approaches to emerge	Individual frustration; wasted resources
Synthesis	Transcendent entrepreneurial synthesis of logics	Potential new approach	Unproven and untested

Table 2 Summary of the Five Interaction Models