

# CONTENTS

---

<i>List of Tables</i>	ix
<i>List of Figures</i>	x
<i>List of Acronyms</i>	xi
<i>Acknowledgements</i>	xv
<i>Series Preface</i>	xvii
<i>Notes on Contributors</i>	xx
<b>Introduction</b>	<b>1</b>
<i>Francesco Contini and Giovan Francesco Lanzara</i>	
<b>Part I Perspectives: ICT, institutions and e-government</b>	
<b>Chapter 1 Building digital institutions: ICT and the rise of assemblages in government</b>	<b>9</b>
<i>Giovan Francesco Lanzara</i>	
<b>Chapter 2 How institutions are inscribed in technical objects and what it may mean in the case of the Internet</b>	<b>49</b>
<i>Barbara Czarniawska</i>	
<b>Chapter 3 The regulative regime of technology</b>	<b>66</b>
<i>Jannis Kallinikos</i>	
<b>Chapter 4 ICT, marketisation and bureaucracy in the UK public sector: critique and reappraisal</b>	<b>88</b>
<i>Antonio Cordella and Leslie P. Willcocks</i>	
<b>Part II Experiences: ICT, institutional complexity, and the development of e-services</b>	
<b>Chapter 5 E-justice in Finland and in Italy: enabling versus constraining models</b>	<b>115</b>
<i>Marco Fabri</i>	

<b>Chapter 6</b>	<b>Aligning ICT and legal frameworks in Austria's e-bureaucracy: from mainframe to the Internet</b>	<b>147</b>
	<i>Stefan Koch and Edward Bernroider</i>	
<b>Chapter 7</b>	<b>Institutional complexity and functional simplification: the case of money claim online service in England and Wales</b>	<b>174</b>
	<i>Jannis Kallinikos</i>	
<b>Chapter 8</b>	<b>Assemblage-in-the-making: developing the e-services for the justice of the peace office in Italy</b>	<b>211</b>
	<i>Marco Velicogna and Francesco Contini</i>	
<b>Chapter 9</b>	<b>ICT, assemblages and institutional contexts: understanding multiple development paths</b>	<b>244</b>
	<i>Francesco Contini</i>	
	<i>Index</i>	<b>273</b>

# Introduction

*Francesco Contini and  
Giovanni Francesco Lanzara*

This book takes issue, both empirically and theoretically, with the problem of building e-government systems for the delivery of public services. In its contributing chapters it variously explores a range of phenomena that appear when Information and Communication Technologies (ICT) encounter the current administrative routines and the established institutional and normative frameworks of the public sector.

It is commonplace that the rise of the Internet offers the public sector a great deal of opportunity for change, and visible changes have indeed taken place in recent years. If we take even a cursory look at the public services delivered by governments to citizens in most Western democracies, we are likely to be surprised at the extent to which the production and delivery of such services are now dependent on ICT. Technology reaches out everywhere across an increasing range of public sectors, affecting the performance of core government functions and having an influence on the very legitimacy of public institutions. Nowadays the presence and operations of ICT in the public sector are visible (though perhaps not obvious) to any citizen who happens to engage in transactions with a state agency through a computer and the Internet – paying a tax or a fine, registering a vehicle, requesting a birth certificate, or applying for planning permission.

Yet, despite the rapid diffusion of ICT-based innovation and the perceived ‘visibility’ of the ongoing changes in the delivery channels of public services, the rate of failure of e-government development projects is high. Problems and pitfalls in implementation make the ‘Online One-Stop Government’ model still a distant ideal (Wimmer and Traunmuller, 2002). In practice the design of e-government systems is a difficult endeavour. The depth and magnitude of the changes have often been underestimated. The construction of a new electronic channel for the delivery of public services requires the establishment of a composite architecture, not only technological but also – and perhaps mainly – institutional. But bureaucratic

procedures and institutional frameworks exhibit pervasive institutional inertia, which renders transformation difficult.

The generally accepted model for building e-government systems is ‘the electronic public service delivery model’. Design focuses on specific functional applications, software programs, virtual interfaces and the output of services. The design problem is usually defined as ‘putting public services online’. Solutions are mainly imported from e-commerce and e-business environments, where ‘the public’ does not exist as a category and users are seen as customers buying and selling on the market, not citizens with rights and obligations. Yet, e-government is not only or simply e-service provision or putting online what is currently traded and delivered offline; it involves much more – the design of sound and effective ICT infrastructures and the creation of institutionally embedded communication systems. This entails nothing less than a reconfiguration of the existing institutional frameworks.<sup>1</sup>

At the present stage, not much is yet known about the underlying infrastructures that support the smooth running of software programs and functional applications that are critical for the deployment of electronic services in the public domain. Only sparse knowledge is available on the processes by which such infrastructures are assembled. And even less is known about the implications that they have for the overall architecture and viability of public institutions and for effective government-to-citizen computer-mediated communication. The need for the design of integrated e-government architectures has been recurrently evoked, but has not yet taken the centre stage in the research and development agenda. This gap is partly pardonable because these infrastructures are complex, elusive, unbounded and evolving. They defy empirical definition and have ambiguous ‘location’ in space and time. Besides, research so far has largely focused on the ‘performance’ of e-government (Dunleavy, Margetts, Bastow and Tinkler, 2006), and less on the ICT-enabled ‘architectures’ that support and make the delivery of public services possible. Practical concern has been on information systems, conceived as autonomous and self-contained software applications embodying specialised functionalities, while only mild interest has been shown in the emerging problems of interoperability of systems, programs or codes that were to be integrated in order to support more complex functionalities (Hanseth and Lundberg, 2001). Indeed, the early experience of e-service development in the public sector shows that interoperability extends beyond the problem of technical standards, involving critical issues of integration and compatibility between technologies and institutions (Hanseth and Monteiro, 1998).

Given these premises, the purpose of this book is to contribute to a deeper understanding of the emergent technical and institutional architectures for

e-government. Its major source has been a multiple-year research project on ICT for justice in four European countries. The project was sponsored by Italy's Ministry of University and Research and jointly coordinated by the Research Institute on Judicial Systems of the Italian National Research Council (IRSIG – CNR) and the Research Centre for Judicial Studies of the University of Bologna (CESROG) during the years 2002–06. Among the project's main objectives was the development of new methodologies for supporting ICT-based innovation in the judiciary and in public administration at large. As a critical public sector in contemporary democracies, justice exhibits specific characteristics that make it quite an interesting field for studying ICT development for e-government and the electronic delivery of public services. The judiciary is a normatively thick public domain, with a heavy regulative status and a bulky legacy system that make it quite recalcitrant to innovation (Di Federico, 2001). Problems of authority, autonomy, control, territorial jurisdiction, legal validity and legitimacy make all efforts at introducing ICT to the judiciary rather cumbersome. The interactions of 'new' technical procedures and requirements with engrained institutional practices often produce rigidities that obstruct the processes of innovation and the long-term evolution of the emerging ICT-mediated institutional ecology. Given the institutional conditions, the design of an integrated ICT-enabled institutional framework is difficult.

Yet at the same time, because of the very same characteristics mentioned above, the judiciary constitutes a field of phenomena and problems that can also offer broader insights into ICT-based innovation in the public sector and the dynamic interplay of ICT and institutions. The encounter – at times cooperative, at times competitive – between two powerful regimes of regulation – technology and the law – generates problems of accountability, effectiveness, legitimacy, fairness, authority and agency, which, at any rate, are shared by all government sectors where the delivery of public services to the citizen is the critical mission. But in the judiciary, perhaps due to its peculiar normative 'thickness', problems and tensions tend to manifest themselves in a magnified manner.

The argument running across the chapters is two-fold: on the one hand ICT and the networked information infrastructures that support the public sector's bureaucratic procedures help to build new institutional architectures and administrative processes; on the other hand the institutional and legal order channels and shapes ICT, treating it as a new object of codification. In this framework, the electronic delivery of public services is regulated by a mixed regime of technical and normative rules and entrusted to public-private networks, where private companies play an increasingly important role.

When an e-service is implemented two major changes occur:

1. ICT becomes a constitutive element of the public sector and the government's overall institutional fabric, not simply an instrument or a means to an end. ICT technical standards and software codes tend to assume regulatory functions, adding to, complementing or displacing traditional legal norms and regulations. Therefore two different regulative regimes emerge, which work in parallel and in competition and whose interactions often generate adverse side effects.
2. Public administration must increasingly rely on private companies, often multinational corporations, providing technical infrastructure, software applications, skilled personnel, and a range of critical functionalities such as identity certification, payment systems, technical maintenance and the like. Consequently, new institutional arrangements emerge that are increasingly based on private-public partnerships and extensive outsourcing, which in turn demand new forms of regulation and management, sophisticated contracting and new procedures for accountability.

A variety of institutional configurations result from the encounter and the entanglement of different elements: the technology, the law, the bureaucracy and the market. These elements have limited mutual compatibility and, when they come together, they generate frictions and tensions. The chapters of this book explore, each in its own way, the varied phenomenology and the practical implications of such encounters, with a specific focus on the limited compatibility and the tensions that arise in the process of building e-government systems and architectures.<sup>2</sup> The four chapters of Part I contribute in different ways to opening and articulating the emerging conceptual space at the intersection of ICT and institutions. To begin with, Giovan Francesco Lanzara describes the emerging landscape of digital institutions as an 'assembled mix' of technical and institutional components that are in part an evolutionary outcome and in part a product of human intervention and design. In an 'assemblage', administrative action tends to be 'dislocated' to technical devices and administrative capabilities are increasingly enabled and mediated by the technical infrastructure. Taking the case of the Internet, in the second chapter Barbara Czarniawska reviews the idea that institutions and the legal order in general are inscribed in machines and technical norms and the implications of this for e-government and e-justice. She discusses how the Internet and its norms may become mechanisms for social control, thus performing critical institutional functions, but at the same time she points at the boundaries of such control. Jannis Kallinikos' ideas about the regulative power of technology and its implications for bureaucracy are presented in the third

chapter. The author points out that, due to limited compatibility, effective translation or reduction of bureaucratic procedures to technological devices and media require ‘functional simplification’ and ‘system closure’, without which e-government systems and the operations of e-bureaucracy will be seriously impaired. Antonio Cordella and Leslie Willcocks broadly examine the mutual relationships between bureaucracy and the market in the making of e-government systems, going beyond the unsatisfactory experience of New Public Management. Based on an appraisal of the UK public sector they assess the possibilities and the limitations of outsourcing in the provision of government e-services and stress the need for a new balance between the private sector and the market on the one hand and, on the other, the crucial mission of public bureaucracies in modern democracies.

The five chapters of Part II deal with experiences of ICT development in four European countries. In the fifth Chapter Marco Fabri compares two very divergent examples in Europe, Italy and Finland, leading to what he calls the constraining and the enabling models for e-justice development. Whilst in Finland the procedural law is seen as an enabler of technology, in Italy technology is regarded as an enabler of the exact application of procedural law, with the two models yielding quite different outcomes as to the effective development of e-services for the citizens. Stefan Koch and Edward Bernroider’s study of the Austria’s ICT projects in Chapter 6 illustrates the transition from traditional ICT development based on mainframe, proprietary logic to the open logic of the Internet. As the design focus shifts from in-house software applications to interfaces and communication infrastructures, the new systems, in order to be developed and operated, require the collaboration of multiple private and public actors within a changed institutional configuration that crosses the boundaries of traditional bureaucratic organisations. In Chapter 7, based on a rich case study of a web-based electronic system for money claims in England and Wales, Jannis Kallinikos illustrates how the technical components of the pre-existing installed base can be resourcefully exploited and smartly combined with institutional and normative components to the purpose of designing the new services. Kallinikos argues that complex administrative procedures undergo a process of functional simplification to fit technological requirements, while offline procedures are occasionally activated to back up the online system. Next, Marco Velicogna and Francesco Contini tell the story of the painstaking and controversial effort to develop a web-based portal and e-services for the Justice of the Peace Office in Bologna, Italy. Tracking the ongoing process of development as participant observers and project facilitators for more than two years, the authors describe the subtle dynamics of the installed base, technical and institutional, and, most crucially, discover that the achievement of a satisfactory alignment of

technical and institutional infrastructures requires a continuous activity of bargaining, brokerage, coordination, cultivation and *bricolage* within the project. Finally, the last Chapter by Francesco Contini pulls the research threads together drawing the major lessons from the case studies. Using the theoretical concepts illustrated in the first part of the book, Contini assesses and compares the different development experiences in terms of the multiple mediations that need to be enacted between the technology and the institutional framework both in the design and in the contextual use of e-services. Such mediations are shown to play a critical role in the making of assemblages and in dealing with the issue of the fair accessibility and usability of e-government services in contemporary democracies.

## Notes

1. The scale of the institutional changes entailed by ICT and government is stressed in several studies and reports to the European Commission. See for example Leitner (2003).
2. Giovan Francesco Lanzara was responsible for editing Part I of this volume and Francesco Contini for Part II.

## References

- Di Federico, G. (2001), *Foreword*. In Fabri, M. and F. Contini (eds), *Justice and Technology in Europe: How ICT is Changing Judicial Business*. The Hague: Kluwer (v–viii).
- Dunleavy, P., Margetts, H., Bastow S. and J. Tinkler (2006), *Digital Era Governance*. London: Oxford University Press.
- Hanseth, O. and E. Monteiro (1998), ‘Changing Irreversible Networks: Institutionalization and Infrastructure’. *Proceedings of the IRIS Conference*. Retrieved at [heim.ifi.uio.no/~oleha/Publications/nordunet.pdf](http://heim.ifi.uio.no/~oleha/Publications/nordunet.pdf). Visited 7 November 2007.
- Hanseth, O. and N. Lundberg (2001), ‘Designing Work Oriented Infrastructures’. *Computer Supported Cooperative Work*, 10, 347–372.
- Leitner, C. (2003) (ed.), *eGovernment in Europe: the State of Affairs*. Report presented at eGovernment 2003 conference. Como, Italy, 7–8 July. European Institute of Public Administration, Maastricht, NL.
- Wimmer, M. and R. Traunmuller (2002), ‘Towards an Integrated Platform for Online One-Stop Government’. *ERCIM News, Special Theme: e-Government*, Issue 48, January, 14–15.

## INDEX

- accountability, 3, 4, 10, 15, 33, 34, 38, 47, 101, 144, 270  
 accreditation, 56, 57  
 actants, 21, 24, 54  
 action net, 14, 42, 44, 54, 242, 270  
 activation, 54, 224, 225, 231, 240  
 Actor Network Theory, 44, 46  
 actor(s), 5, 11, 12, 14, 19–21, 24–8, 30, 34, 38, 41, 44, 46, 64, 74, 82, 116, 122–3, 138, 149, 151, 176, 186, 188, 202–3, 211–13, 218, 223, 227, 232, 234–8, 241, 244, 245, 247–50, 253, 257, 261–2, 263, 265, 268  
 adaptation, 20, 171, 230, 237, 260, 268  
 administration, 97, 100, 103–4, 107–8, 111, 116–17, 126–8, 130, 137, 138, 142, 144–5, 147, 153, 155–9, 161, 163, 167, 169, 170, 198, 209, 232, 239, 246, 257  
     judicial, 116, 209, 232  
     public, 97, 117, 137, 149, 156, 157, 158, 159, 246  
 administrative action(s), 4, 15, 30, 31, 34, 37, 42, 100  
     concatenation, of, 30, 31  
     dislocation of, 30, 31, 32, 42  
 administrative capabilities, 4, 17, 31  
 administrative complexity, 102, 103, 104, 106  
 administrative simplification, 196  
 administrative streamlining, 199–201  
 agency, 79, 85, 90  
 Ananova, 60, 62  
 applications development, *see* systems development  
 arc of projection, 59, 60, 268  
 arc of reciprocation, 59, 268  
 architecture, 1–4, 30, 35, 55–6, 59, 96, 125, 132–3, 135, 185, 187–8, 209, 247, 251–3, 257, 259–64  
     institutional, 23, 247  
 assemblage(s), 4, 6, 9, 11–18, 24, 26, 27, 29–31, 33–4, 37–9, 41, 44, 47, 72, 137, 211, 214–15, 222–5, 228–9, 231, 232, 234–8, 240, 244, 247, 251, 259–61, 265, 268  
     institutional components of, 4, 13, 15, 16, 17, 18, 26, 33, 34, 35, 211, 226, 238, 244, 247, 268  
     technological components of, 11, 40, 233, 234, 235, 244, 257  
 assembly, 57, 200  
 Austria, 5, 27, 28, 35, 149, 156, 164, 165, 166, 170, 173, 263, 264, 270  
 authority, 3, 12–14, 25, 27–9, 32, 35, 36, 40, 92, 100, 119, 126, 127, 133, 139, 141, 142, 196, 233, 235, 236, 238, 260, 265  
 automation, 67, 70, 75, 77, 79–80, 132, 213, 260, 265, 268  
  
 basic registries, 117  
 Beagle, 133  
 best practice(s), 93, 170  
 boundaries, 5, 10, 12, 14, 29, 31, 32, 36, 52, 54, 78, 234, 235, 237  
 boundary object, 32  
*bricolage*, 6, 24, 229, 236  
 bureaucracy, 4, 5, 11, 28, 35, 42, 43, 88, 97, 99, 100, 103, 104, 147  
 bureaucratic, 1, 3, 5, 12, 15, 19, 20, 27, 30, 36, 37, 71, 90, 98, 99–105, 107, 226, 233, 234, 245  
     control, 19, 36  
     coordination, 104  
     defences, 126  
     logic, 19  
     organisations, 5, 12, 28, 35, 39, 49, 67, 71, 73, 78–9, 82, 98–104, 186, 216, 218, 234, 245  
  
 case management system, 117, 119–25, 132–4, 137–41, 204, 215–19, 221–2, 224, 227, 230, 234, 236, 239, 253, 256, 258, 261, 262, 263, 264  
 citizenship, 35, 90, 96  
 Civil Trial OnLine, 20, 130, 134, 267  
 closed network, 251, 252, 264, 269  
 closure, 5, 25, 74, 75, 77–9, 80, 253  
     *see also* functional closure

- CMS, *see* case management system  
 CNIPA, 127, 128  
 code, 13, 15, 19, 20, 28, 54–7, 59, 61, 62, 70, 80,  
 117, 130, 132, 139, 143, 162, 163, 169, 199,  
 219, 224, 225, 231, 234, 254–6, 267  
 legal, 12, 18, 19, 169, 268  
 of procedure, 117, 120, 170, 179, 184–5, 199,  
 216  
 software, 4, 12, 13, 219, 256  
 commodity, 92  
 communication  
 channels, 17, 36, 154, 170  
 systems, 2, 147, 149, 172, 254, 258  
*see also* ICT  
 compatibility, 33–4  
 functional, 33–4  
 institutional, 33–4  
 technical, 33–4  
*see also* interoperability  
 configuration, 4, 5, 9, 11, 14–19, 23, 24, 27,  
 29–31, 67, 168, 224, 226, 229, 232–4  
 institutional, 4, 5, 11, 14, 15, 19, 24  
 conservation, 21, 22, 23  
 context of design, 59–61, 257, 266  
 context of use, 59–61, 169, 244, 257, 259,  
 266, 268  
 contract state, 90, 91, 96  
 contractual organisation, 88, 94–6  
 control, 43, 45, 46, 65, 83–5, 93, 98, 111, 147,  
 210, 211, 225, 241, 271, 273  
 control rights, 27, 36  
 coordination, 6, 10, 12, 28, 31, 33, 37, 80, 82,  
 99, 101, 102, 104, 105, 127, 160, 216, 224,  
 225, 239  
 market mechanisms, 99, 101  
*see also* bureaucratic coordination; rule-  
 based control and coordination  
 core competence, 88, 89, 94  
 courts, 10, 28, 39, 116, 118, 120–6, 128–32,  
 134–9, 141–3, 147, 152–3, 162–8, 170,  
 175–82, 185, 189, 191–6, 198–9, 201–8,  
 212, 214–21, 223–6, 228–31, 233, 235, 237,  
 239, 240, 244–5, 248–56, 258–69  
 critical mass, 22, 37, 213, 225, 250, 259  
 cultivation, 6, 26, 41, 213  
 culture, 20, 30, 67, 73, 78, 79, 80, 81, 82, 199  
 cyberspace, 46, 55, 56, 57  
 delegation, 13, 14, 39, 104, 245  
 democracy, 15, 90, 96, 100  
 democratic institutions, 97  
 democratic values, 90, 102  
 Department of Social Security (UK), 89, 95, 105  
 design, 1–6, 15, 19–22, 32, 33, 35, 37, 40–1,  
 50, 59, 60–2, 66, 77, 96, 98, 101, 103, 122,  
 129, 131, 139, 149, 161, 162, 170, 171, 182,  
 220, 237–9, 244, 247–50, 253, 256, 257,  
 259, 261, 266–8  
 in action, 211, 213  
 of artefacts, systems and contexts, 67–71  
 of assemblages, 24–30  
 kernel theory, 26  
 patterns of, 27–30  
 and project champions, 28  
 setting, 27–8  
 as situated intervention, 28  
*see also* context of design; context of use;  
 functional simplification; legitimisation  
 of technology  
 designing  
 as adapting, 28–9  
 redesigning routines, interfaces and  
 jurisdictions, 28–9  
 as repairing, 28–9  
 differentiator, 92  
 digital institutions, 4, 9, 244  
 digital signature, 127, 130, 134, 135, 136, 142,  
 154, 164, 253–6, 263, 267  
*see also* PKI  
 economic standards, 97  
 e-government, 1–7, 11, 29, 49, 56, 62, 91, 94,  
 98, 103–4, 147, 154, 159, 161, 237, 244,  
 260, 268  
 e-justice, 4, 5, 49, 62, 115, 168  
 ELC, *see* Electronic Legal Communication  
 Electronic Legal Communication, 21, 34–5,  
 147–9, 163–72, 249–50, 252–4, 262–8, 270  
*Elektronischer Rechtsverkehr* (ERV), *see*  
 Electronic Legal Communication  
 England and Wales, 28, 35, 82, 141, 174, 175,  
 177, 180–2, 186–9, 194, 206, 207, 268  
 e-services, 5, 6, 20, 34, 36, 37, 113, 115, 119,  
 123, 125, 126, 137–40, 211–40, 244,  
 246–51, 257–60, 262, 265–8  
 evolvability, 25, 47  
 filter, 16, 58, 98, 260  
 filtration, 56, 57  
 financial institutions, 120, 186  
 Finland, 5, 18, 20, 28, 41, 115, 116, 119–23, 125,  
 126, 137–41, 251, 253, 256, 267, 268  
 folder, 123, 216, 217, 245  
 formal regulation, *see* regulation, normative  
 formal role system, 61, 67, 71, 73, 78, 79, 81, 82  
*see also* bureaucracy

- framing, 61
- functional closure, 67, 74, 77, 233
- functional simplification, 5, 13, 20, 39, 67,  
74–80, 82, 125, 138, 142, 174, 175,  
199–201, 203, 204, 247–50
- gateway, 16, 25, 29, 33, 184, 251, 252, 253, 259,  
261, 266  
human, 252, 253, 261
- general public, 115, 116, 129, 130, 155, 161,  
183, 215–17, 219, 221, 231, 237, 239, 240,  
253, 256
- Gestell*, 37, 40, 72
- governance, 6, 34, 35, 37, 38, 44, 45, 47, 71, 73,  
81, 107, 110, 116, 118, 126, 128, 137–8,  
140–1, 147–8, 257, 261–2, 263
- Government-as-Machine model, 91, 97
- grass-root project, 169
- grounded theory, 148, 150, 161, 212
- hierarchy, 10, 28, 35, 36, 67, 73, 78, 79, 109  
de-scaling of, 36  
re-scaling of, 36
- ICT
- in the Austrian justice system, 147–8, *see*  
*also* Electronic Legal Communication;  
Legal Information System
- in the Finnish justice system, 131–44, *see*  
*also* Santra; Sakari; Tuomas
- and institutions, 2, 3, 4, 9, 13, 35
- in the Italian justice system, 145–60, *see*  
*also* Beagle; Civil Trial OnLine; Re.Ge.,  
SICC; SIDDA; SIDNA
- in the judicial system of England and Wales,  
205–6, *see also* Money Claims Online  
and risk, 38, 79, 124, 183–4, 233, 252
- ICT development, 3, 24, 38, 107, 148, 149, 151  
of e-services, 2, 5, 115, 118–19, 125, 137, 175,  
181–6, 197–9, 202, 212–13, 219, 229,  
233, 246, 248, 262, 263  
of information infrastructures, 26, 127, 268  
re-engineering and regulative approach, 140  
*see also* systems development
- ICT infrastructure, 2, 10, 15, 16, 18, 30, 31,  
33–5, 116, 117, 126–9
- ICT outsourcing, *see* outsourcing
- ICT standards and protocols, 9, 12, 16, 18, 33,  
37, 116
- ICT systems, *see* Civil Trial OnLine; Electronic  
Legal Communication; installed base, and  
e-services development for the Justice of  
the peace; Money Claims Online
- ICT-based institutional arrangements, 3, 12,  
15, 24, 35
- ICT-based regulation, 11, 15, 18
- ICT-based systems, 2, 17, 18, 21, 23, 35, 67–8,  
79, 162, 174, 178, 197–8, 200, 247
- impartiality, 100, 101, 102
- incentive strategy, 168
- increasing return, 19, 24, 34, 37
- incremental process, 213
- inductivist procedure, 176
- information exchange, 115, 216, 234, 246, 257,  
258, 260
- information infrastructure, 3, 33, 35, 82, 151,  
157, 198, 213, 256–61, 264  
and assemblages, 15–16  
cultivation of, 25, 213  
growth of, 213, 250, 259, 268  
and institutions, 10, 24–6  
technical and functional compatibility, 33
- in-house capability, 92, 95, 96, 106
- innovation, 1, 3, 15, 18–28, 33–4, 37–8, 41,  
69, 91, 115, 127, 129, 140, 149, 169, 175,  
211–12, 214, 216, 232, 239, 246–7, 249,  
265, 267  
diffusion of, 1, 19, 37, 68, 71, 148, 176–7,  
180, 183, 197–200, 204, 225
- inquiry, 36, 177, 237–8
- inscription, 13–14, 39, 46, 49–50, 54–5, 62,  
202, 235, 246, 254, 265  
*see also* Actor Network Theory
- insourcing, 90, 107
- installed base, 5, 17–30, 40–1, 151, 169, 182,  
233, 238, 245–9, 256, 259, 261, 264  
ambivalent nature of, 29  
dynamics of, 24, 26, 30, 219  
and e-services development for the Justice of  
the peace, 212–16, 219–20  
and ICT developments in Austrian  
judiciary, 168
- institutional components of, 29, 245–6  
and MCOL development, 196–8  
and path dependence, 197  
technical components of, 26, 29
- institution building, 11, 26
- institutional background, 225
- institutional change, 6, 18, 21, 25, 30, 40, 62–3,  
115, 249
- institutional complexity, 76, 113, 115, 142, 174,  
199, 248, 260, 262
- institutional components, 4, 15–18, 26, 30, 33,  
35, 211, 226, 234, 238, 244, 247, 268
- institutional context, 12, 62, 175, 237,  
244, 267

- institutional design, 27, 33
- institutional framework, 2, 3, 6, 11, 15, 23, 26, 35, 260
- institutional innovation, *see* institutional change
- institutional installed base, 18, 20–1, 212, 215, 261  
*see also* installed base, institutional components
- institutional order, 3, 5, 50, 52, 55, 60, 62, 63, 200
- institutional sponsors, 28
- institutions, 7, 9, 11–19, 36, 50, 56, 62, 63, 66, 68, 97, 175, 219–20, 255, 259
- integration, 2, 14, 32, 92, 103, 125, 184–5, 241, 257, 263, 264
- interlocking between online and offline procedure, 204–5, 248–53, 266
- Internet  
access and diffusion, 117, 129, 156–7, 159, 161, 183, 198, 213, 218, 221, 234, 252  
breakdowns, 215, 221–2, 228–9, 234, 236  
control by, 4–5, 49, 56, 252  
as enabler, 1, 5, 125  
and freedom, 55  
as open network versus closed network, 5, 125, 157, 169, 171, 262  
portal, 5, 31–2, 36–7, 57, 60, 64, 126, 217, 220, 240  
regulation of, 56, 67  
standards, 197–8  
technologies, 155, 164, 168–9, 183, 186, 188, 201, 204, 252, 260  
users, 116, 162, 258
- Internet-based capabilities, 31
- Internet-based systems, 164, 175, 177, 197  
*see also* Internet, technologies
- interoperability, 2, 29, 33–4, 36, 42, 183, 200
- Italy, 3, 5, 19–20, 28–9, 35, 41, 115, 126, 129, 131–3, 135, 137, 139, 140, 142, 211, 253, 268
- JOP, *see* Justice of the Peace office
- judge(s), 120, 122–5, 139–42, 149, 162, 166, 177–8, 189, 192–3, 195, 199, 206, 214, 218, 223, 231, 233, 240, 245, 246–9, 254, 257, 269
- judicial actors, 218
- judicial institutions, 245
- judicial procedures, 10, 18, 199, 248, 250, 254, 257, 267
- judiciary, 3, 32, 35, 41, 116, 126, 128, 131, 135–6, 142, 163, 174, 184, 185, 211–12, 246
- jurisdiction  
functional, 17, 29, 36, 41, 77, 234, 259, 260  
legal, 3, 35–7, 122, 134, 136, 178, 182, 193, 199, 201, 202, 212, 214, 217, 220, 223–6, 228, 231, 234, 237, 239, 240, 249
- Justice of the Peace office, 5, 20, 28, 31–2, 34, 211–38, 255, 259–61, 262, 266, 268–9
- justice system, 83, 126, 253  
Austria, 147  
England and Wales, 82, 175, 178, 197, 199  
Finland, 116  
Italy, 126, 131, 135, 142, 214  
justice systems specificity and public administration, 244–8
- legal framework, 17, 27, 40, 62, 115–16, 118–19, 126, 129–30, 147, 161, 245, 251  
*see also* normative framework
- Legal Information System, 21, 147, 149, 152–61, 165, 169–71
- legal order, 3, 4, 54
- legal practices, 18–19, 148
- legitimation of technology, 247, 252, 265
- LIS, *see* Legal Information System
- mainframe, 5, 122, 147, 155–7, 165, 169, 171
- market, 2, 4–5, 9, 32, 40, 42, 56, 59–60, 62, 71, 81–2, 88–107, 167, 198, 232, 239, 245, 257, 260, 263–4
- market testing, 89–91, 107
- marketisation, 88, 90, 98, 107, 257
- market-like organisations, 102
- MCOL, *see* Money Claims Online
- mediations  
and assemblages, 15–16, 213, 247, 266–8  
between online and offline procedures, 257  
between technology and institutions, 6, 11, 13, 237, 244, 247, 251, 256  
and ICT developments, 234–5, 237, 266
- mediator, 224, 268
- Money Claims Online, 20, 28, 29, 34, 35, 174–208, 214, 248–9, 253, 255–6, 258, 264, 266–7
- negotiation, 66, 157, 200, 203, 235, 237–8
- network  
closed, 251–2, 263–4, 269  
computer, 10, 28, 35, 37–8, 123, 129, 161, 164, 169, 171, 183, 187, 188, 197, 215, 253, 260  
computer (network) as control systems, 233  
infrastructure, 10

- network – *continued*  
  justice, 116–17, 128, 222, 251, 254, 261,  
    262–3, 269, *see also* RUPA  
  open, 157, 171  
  *see also* Internet  
networked information economy, 56  
network-like form, 3, 10, 14, 17, 32  
New Public Management (NPM), 5, 37, 97–9,  
  101, 102, 105, 107  
normative framework, 1, 14, 26, 212, 215, 216,  
  232, 234, 237, 246, 251, 256, 268  
  *see also* legal framework  
norms  
  interpretation of, 219  
  legal, 12, 13, 29, 52, 78, 79, 80, 82, 104, 130,  
    152–3, 212, 216, 218, 219, 231, 235  
  non-technical, 53  
  social, 54, 56, 59, 78  
  *see also* rules  
NPM, *see* New Public Management  
  
objectification, 66, 69, 79, 80, 202, 203  
  as control strategy, 80  
  technological, 66, 69, 79  
  v. subjectification, 79–80, 202–3  
open source, 56, 59, 60–2, 82, 134,  
  161, 214, 255  
outsourcing, 5, 88–94, 97–9, 101–7  
  and risk, 92–5, 98, 106–7  
ownership, 32, 36, 57, 93, 129, 149, 157, 165,  
  224, 235  
  
PEC, 129  
Performance-Control model, 91, 94, 96, 97  
PKI, 130, 135, 138, 253–6, 262–4  
  *see also* digital signature  
power, 37, 40, 51, 53, 74, 97, 126, 128, 149, 202,  
  234, 235, 260, 265  
practical experimentation, 212, 219, 239  
practices  
  design, 26, 69  
  institutionalised, 3, 10, 13–14, 19, 34, 53, 56,  
    69, 81, 93, 95–6, 98, 177, 234, 250  
  management, 96  
  organisational, 13–14, 17, 19, 21, 22–3, 26,  
    30, 33, 52, 66, 68, 101, 123, 124, 134,  
    139, 140, 151–2, 169, 175, 199, 202, 216,  
    217, 227, 235, 238, 250, 255, 265–7, 269  
  of the public sector, 92, 95, 100  
  *see also* legal practices  
*praxis*, 69  
privacy, 17, 37, 55, 117, 130, 219, 221, 224, 226,  
  234, 256, 259  
  
private sector, 5, 88–9, 92–5, 97–9, 106–7  
private sector organisations, 2, 29, 31, 33, 35,  
  89, 91–3, 95, 106–7, 116, 130, 136, 156,  
  239, 251  
privatisation, 89, 91, 107–8  
procedural code, *see* code, of procedure  
procedural norms, 54  
procedural simplification, 200–2, 248  
production cost, 105  
professional user, 216–17, 219, 220–1, 227, 229,  
  240, 260  
property rights, 36  
public agencies, 9, 33, 218, 244, 245  
public management ethos, 107  
public policies, 98, 100  
public sector, 1–5, 9, 16, 30, 88–90, 92–9,  
  101–3, 105–7, 116–17, 119, 127, 129–30,  
  183, 197, 237, 246, 248, 265  
  organisations of the, 1–2, 11, 13, 16, 18–19,  
    99–100, 162, 175, 197, 239, 246, 252–9,  
    265  
public service, 1–3, 32, 42–3, 89–1, 94–8,  
  102–5, 175, 246, 250, 252–3  
  
quality standards, 127, 130  
  
Re.Ge. (*Registro Generale*), 131–2  
ready-made, 29, 198  
*Rechtsinformationssystem*, 152  
  *see also* Legal Information System  
reflective tool, 221  
regulation, 73, 79  
  new forms of, 4, 16  
  normative, 3–4, 12, 30, 36, 39, 67, 78–82,  
    91, 100–1, 118, 152–3, 167, 175, 199,  
    218, 246  
  regimes, *see* regulative regimes  
  social or cultural, 78, 81  
regulative power, 4, 70, 256  
regulative regimes, 4, 33, 66, 67, 70–3, 79–83,  
  247, 251, 256  
relevance, filtration and accreditation, 56–7  
robustness, 25, 47, 259  
rule of virtuality, 205  
rules, 3, 13–14, 17, 21, 26, 31, 34, 55, 68–71,  
  75–6, 78, 80, 91, 101, 105, 118, 120, 127,  
  130, 139, 153, 175, 177, 179, 190, 199, 205,  
  219, 234–5, 238, 245–7, 254, 256  
  administrative, 20, 250  
  cultural, 71, 100, 127  
  interpretation and adaptability of, 235, 245–6  
  professional, 70  
  social, 59

- rule-based control and coordination, 99, 101, 104, 264, 266
- RUPA, 128
- Sakari*, 118, 122–5, 138
- Santra*, 20, 28, 119–22, 248–9, 251–3, 261–4, 266, 268–9
- security policies, 222–3, 229, 233  
*see also* systems security
- sensitive data, 32, 222  
*see also* privacy
- SICC, 134, 136
- SIDDA, 133, 143
- SIDNA, 133, 143
- skill profiles, 71, 79, 81
- social security system (Austria), 157, 166
- social structure, 67, 73, 78–82
- socio-technical systems, 18, 26, 31, 33, 50
- specificity, 11, 102, 139, 216, 244, 246, 261
- standard, 29, 54, 72, 77–9, 121–3, 125, 132, 162, 183, 200, 201, 218, 245  
code system, 117  
document, 121, 132  
procedure, 72, 77, 79, 125, 127, 177, 201, 245  
setting, 26, 34, *see also* standardisation  
software applications, 86, 122, 123, 162, 183
- standardisation, 53, 76, 78–80, 200, 203, 245, 246
- standing reserve, 21, 40, 72
- systems development, 24, 29, 34–5, 116, 125, 127, 129, 131, 138–9, 149, 177, 262
- systems security, 17, 37, 96, 127, 129, 138, 154, 163–4, 168, 186–7, 214, 220–6, 236, 240, 252, 259–61
- technical artefact as institution, 52
- technical norms, rules and regulations, 4, 49, 50, 52–6, 67, 71–3, 75, 77–83, 127, 130, 200, 203, 204, 218, 225, 234, 246–7, 254–6, 267
- technical standards, 2, 4, 9, 12, 14–16, 18, 31, 33, 37, 116–17, 158, 183, 197–8, 200, 263–4
- techno-institutional change, 18–30
- techno-juridical issues, 222–4, 250, 254–7, 264, 268
- technological infrastructures, 213, 238–9
- technological mediations, 199–202
- technology  
diffusion of, *see* innovation, diffusion of  
as a form of regulation, 15, 19, 49, 56, 67, 78, 81, 139, 199  
and institutions, 66, 68  
maturity, 92, 93, 140, 147, 168  
regulation of, 50, 54–6, 67, 70–3, 75, 77–9, 81–3, 130, 134, 137, 139, 140, 142, 156, 158, 163, 167–8, 200, 203–4, 215, 219, 225, 234, 247, 252, 255
- technology-as-text, 49–54
- transaction costs, 106, 262  
theory, 101–6
- translation, 5, 14, 266–8
- transparency, 38, 56, 97, 99, 101, 158
- Tuomas*, 20, 28, 119–22, 262, 264
- UK, *see* United Kingdom
- United Kingdom, 5, 20, 29, 43, 44, 60, 63, 65, 88–91, 93, 94, 105–7, 111, 145–6, 208, 242–3
- user innovation, 169–71
- Web-based systems, 5, 21, 37, 125, 132–3, 138, 174, 175, 197, 212, 264  
*see also* Internet, technologies; Internet, portals
- Y2K, 155–6, 161