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On the Effects of e-Government on Political Institutions

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Introduction

Research on e-government typically focuses on disruptive technologies and their presumed transformational effects on government. Yet the Internet and associated technologies are more than two decades old, and even cursory observation demonstrates that institutional change in government is often painstakingly slow. To theorize longer term developments in e-government, an institutional perspective on e-government is sketched and illustrated in this chapter. An institutional approach invites one to examine interactions among people, technologies and structures over time and in political environments characterized in part by conflict over ideas, rights and resources to uncover mechanisms that contribute to stability and change.

To extend institutional perspectives to account for e-government, the chapter introduces the concept of a *digitally mediated institution* – that is, a government organization characterized by a high degree of digital infrastructure and widespread use of digital

applications and tools. The chapter then sketches a partial review of various institutional mechanisms that underlie temporal features of institutional development including policy feedback, conventions, path dependence, and key dimensions of longer term institutional development including timing, sequencing and more gradual patterns of change than are typically presented in disjunctive formulations. Selected concepts are then illustrated briefly through two case studies of state-level digitally mediated institutional stability and change focusing on Europe and the United States federal government. These cases highlight the influence of early events on subsequent paths of development, the importance of timing and sequencing, critical junctures and the ways in which policy entrepreneurs often appear as puzzlers exhibiting uncertainty but seeking to construct and employ appropriate logics. The chapter ends with a brief discussion of implications for science, technology and society.

In keeping with the major themes of this *Handbook*, the chapter seeks to shed light on how and why ideas, artifacts, and practices come to be institutionalized or disrupted in political institutions. Institutional perspectives connect micro-level processes with more macro-level organizational and societal systems. With respect to e-government, cultural values dominant in American and European politics—including democracy, strong association of technological development with progress and social betterment, citizen participation, and mistrust of central government, among other normative values—underlie many institutional reform initiatives.

What are Digitally Mediated Institutions?

While much digital government research focuses on service provision and digital tools in governance, an institutional perspective invites examination of longer term and deeper inter-relationships between the Internet and state structure and behavior. I define the term, "digitally mediated institutions" as those political institutions that use a portfolio of digital information, systems and tools internally and across boundaries. Several dimensions of digitally mediated institutions differentiate them from other types of institutions. These dimensions include: *sunk costs* incurred in the development of large-scale socio-technical systems in public organizations; *rigidity* of many interfaces, systems architecture, code, and digital infrastructure; the *pressure* such systems exert on decision makers to re-engineer and re-structure to realize a return on investment in cyberinfrastructure; and *network dynamics* including the strong tendency toward interoperability--defined as the ability of multiple systems, applications, data, procedures and other rule regimes to work together, or to inter-operate--among organizational and inter-organizational actors in order to gain coordination benefits by leveraging digital information infrastructure.

Institutional Development over Time

Institutionalists have long been concerned with time and its role in institutional development. They have conceptualized states as institutional actors constrained by decisions and policies made in the past (Evans, Rueschemeyer and Skocpol 1985). They have traced the gradual evolution of institutional arrangements in part by demonstrating

how small changes during periods of putative stasis may accumulate to yield transformative change (Thelen 2004). More recently, researchers have examined institutional developments in networked systems drawing out the particular features of networks, shared conventions and their role in emergence (Singh Grewal 2008).

Institutional theories complement rational choice models of institutional development by foregrounding boundedly rational, social constructionist action. In these pre-rational views, actors often are uncertain about the best course of action (or about their interests or preferences). Relationships between political means and ends may be unclear. Calculative rationality fails to capture decisionmaking in environments characterized by uncertainty and ambiguity. Moreover, actors do not simply calculate; they seek and employ logics of appropriateness in displays of legitimacy; they imitate successful models without understanding their underlying features. While such behavior may be strategic, it is not calculative as formulated in rational choice perspectives (DiMaggio and Powell 1983; Powell and DiMaggio 1991). Mimetic forces and a desire for legitimacy influence many institutional actors to adopt new technologies. Uncertainties surrounding emerging Internet and social media use in e-government heighten pre-rational dispositions, producing an environment different from a traditional market or political setting.

Policy Feedback

The institutional tradition in political science has long recognized that policies have politics. In a seminal study of tariff policies, E. E. Schattschneider in 1935 argued that "new policies create a new politics." Theda Skocpol and others (e.g., Heclo 1974; Weir,

Orloff and Skocpol 1988; Skocpol and Finegold 1995; Mettler and Soss 2004) have conceptualized policy feedback as a core dimension of state structure and capacity. Skocpol coined the term "policy feedback" to explain how "policies, once enacted, restructure subsequent political processes." Skocpol noted two types of feedback. New policies affect state capacity by restructuring or reinforcing administrative arrangements, and policies influence the capacity, goals and identity of social groups affecting interest group politics. Thus, timing and sequence are critical to the politics created by policies. Reviewing subsequent related research, Mettler and Soss (2004) traced three lines of policy feedback: First, policies influence the "political interactions of organized interests and policy makers;" second, public policies affect the "beliefs, preferences, and actions of diffuse mass publics;" and, third, "public policies affect the depth of democracy, the inclusiveness of citizenship, and the degree of societal solidarity" (2004: 60).

Researchers have defined institutions as bundles of rules or rule regimes. Public policies, including e-government policies, bundle similar rules. Pierson observes that: "Most of the politically generated 'rules of the game' that directly help to shape the lives of citizens and organizations in modern societies are, in fact, public policies." He continues: "If policies as institutions matter for political scientists, it is because the influence of policies on social actors--on who they are, on what they want, on how and with whom they organize--is such that it changes the way these actors engage in politics" (2006:116). Policy rule structures, once in place, shape preferences and influence channels of action available to political actors. The preferences of actors may shift around a policy structure, making

subsequent changes in the structure not only inconvenient but also politically disadvantageous or logically implausible.

Conventions

Institutions tend to be highly stable. How does this stability come about and what sustains it? While deep sources of stability lie in normative ideas and values, researchers have increasingly described structural and processual mechanisms that also underlie stability. Among these are conventions. Conventions develop when actions are interdependent, when coordination is needed and when actors consent to a behavior, a process, or a standard in order to overcome coordination problems and share benefits. Conventions are rules that exhibit positive feedback as each actor develops and acts upon mutually reinforcing expectations that others will follow the convention. Thus, networks of actors who share conventions typically “lock in” agreements as they adapt.

Network forces powerfully affect conventions. As one researcher notes: “The analysis of conventions is obviously relevant to a discussion of standards ... However, the idea of network power focuses less on settled conventions than ones emerging due to a combination of extrinsic and intrinsic reasons. Therefore, it emphasizes the positive feedback dynamic central to the interdependent action that drives the adoption of one convention rather than another” (Singh Grewel 2008:63).

Path Dependence

Long-term institutional developments are deeply influenced by their past. But what are the mechanisms of influence? Path dependent models tend to stress positive feedback loops. Specifically, when early events--possibly caused by accident or chance--influence subsequent decisions, a path is formed the retention of which may grow more attractive as its effects accumulate over time.

Institutionalists have demonstrated the explanatory usefulness and applications of path dependence and positive feedback frameworks across a range of social phenomena (Arthur 1994; David 1994, 2000; Pierson 2000, 2004). Path dependent processes are important to recognize because they counter to the claim that rational action will correct inefficient paths. Path dependent processes may lead to unpredictable outcomes because of the strong effect of (sometimes accidental or aberrant) early events; inflexibility with respect to breaking out of a path once it has "locked in;" "nonergodicity," meaning that early random events do not necessarily function as noise because of their potential future import; and the potential for producing inefficient paths because suboptimal solutions or arrangements may be reinforced and thus increasingly difficult to change. Understanding path dependent processes allows one to predict subsequent outcomes.

While theories of technology development and innovation have considered path dependence for some time, they have tended not to consider socio-technical path dependence *in the context of politics*, a context essential for study of e-government and, more generally, digitally mediated political institutions. Institutional behavior in political

environments is characterized typically by *collective action* rather than by individual action, the structure and characteristics of which are significantly different from one another. The use of *authority* through formal institutional roles, public policies and legislation sets the rules of political behavior apart from those of markets, which operate through exchange. Unlike market-based behavior as portrayed in neo-classical models of choice, political actors routinely *adapt their expectations and behaviors* to political rules and policies because these rules define the constraint space for action.

Long-Term Institutional Development

Historical institutionalists emphasize the importance of timing and sequence in political development highlighting the unfolding of events through time. Identifying *the specific mechanisms by which long-term effects occur* is necessary if comparisons across cases are to be made.

Institutionalists provide more powerful explanations of stability than of change. Indeed, conventions and path dependence provide accounts of increasing stability over time. Yet a focus on stability presents a problem for students of institutional change. Some institutionalists have argued that institutions change only when external shocks force them to do so. A related line of research conceptualizes change as punctuated equilibrium. In this view, during punctuations, openness to innovation and change results in rapid developments, followed by institutional stability. (See, for example, Krasner 1988.) Still other lines of inquiry focus on a complex interplay between agency and structure in institutional development, noting possibilities for political entrepreneurs to

intervene at "critical junctures" (Swidler 1986; Katznelson 2003; Thelen 2004, 2006; Orren and Skowronek 2004).

By contrast, other researchers argue for gradual yet transformative change over time (Thelen 2004, 2006; Grief and Laitin 2004; Clemens and Cook 1999). They theorize institutional change in part as *a process of mobilizing support* among political actors to develop, reinforce or revise institutional arrangements (Thelen 2004; Carpenter 2001). For example, Thelen argues that institutions themselves are the object of more or less continuous political contestation rather than stable arrangements that undergo renegotiation periodically. Still other researchers examine changing temporal patterns over long periods of time as a way of describing institutional change, in some cases emphasizing accumulation of small changes including technological change (Bell 1973) and, in other cases, conceptualizing thresholds that lead to critical periods in social movements (McAdam 1982).

Other mechanisms, or systematic explanations of causal factors, shape change over time. Thelen (2004) described layering as "the partial renegotiation" of institutional mechanisms or processes in situations when actors lack power or cognitive ability to comprehensively reconstitute a bundle of institutional dimensions (or rules). Similarly, Schickler, in a detailed study of institutional change in the U.S. Congress, used the term "disjointed pluralism" to conceptualize "institutions as multilayered historical composites that militate against any overarching order in ... politics." This layering results in a

sedimentation of rules, processes and other institutional arrangements that are "more haphazard than the product of some overarching plan" (2001:15-18).

A stream of institutionalist accounts of stability and change examine the role of those actors who have lost political battles and, as a result of loss, emerge as catalysts for institutional change (see, for example, Clemens and Cook 1999; Clemens 2002; Thelen 2004). Others have highlighted interactions among multiple institutions as precursors of institutional change often producing unanticipated results (Orren and Skowronek 2004) or among policy entrepreneurs whose political skills and network position allow them to articulate a new vision and to mobilize support for institutional change (Burt 1995; Padgett and Ansell 1993; Clemens and Cook 1999; Schickler 2001; Clemens 2006).

E-Government as Digitally Mediated Institutional Development

Research on e-government can be enriched in explanatory power and validity by incorporating institutional perspectives and extending them to account for the characteristics of digitally mediated institutions. Digitally mediated institutions and policies, of the type that abound in e-government, exhibit many dimensions of path dependence. These tendencies are directly related to the technological systems employed, thus increasing inertia and the probability of unanticipated, often suboptimal, outcomes as e-government systems and policies develop. Sunk costs are typically high for complex software and hardware systems, which are notoriously expensive to develop and maintain, making change potentially highly costly if policies change. In addition, these technical

system dynamics are intertwined in complex ways with positive feedback and path dependence in politics.

The potential of networked systems lies, by definition, in their interoperability. Thus, conventions—standards—are a prerequisite for shared benefits through coordination. Moreover, the attractiveness of interoperability extends beyond benefits to political actors to civil society -- the users of such systems, citizens who may be able to gain access, information and transparency through such interoperability. Digitally mediated institutions have intensified pressures to develop conventions.

The logics and complexity of digital systems influence their development. Digital systems tend to be opaque to non-technical decision makers. Among the implications of this statement are the effects on decision “quality” of lack of knowledge regarding system capacity. Recent current events concerning surveillance, privacy, data sharing and analytics demonstrate the general lack of knowledge of most political decision makers regarding the technical systems about which they develop policies. While institutionalists observe the use of logics beyond mere calculation and maximization among political actors, digitally mediated institutions also exhibit technological logics, which stem from underlying norms and values within the profession of engineering and socialized through education and training into engineers, software specialists, and those who build and maintain such systems. Among the chief attributes of engineering logics are norms of efficiency, streamlining, “faster-better-cheaper,” and a tendency toward standardization and convergence as "efficient" solutions to coordination. This technical logic layers over

the social and political logics that tend toward conventions as a means to overcome challenges to coordination problems.

Digitally mediated institutions combine policy feedback and the dynamics of collective action and political mobilization with path dependence in technological systems thereby producing an additional layer of unexpected outcomes, dynamic and emergent network tendencies and greater complexity than institutional developments without digital infrastructure. Together, temporal mechanisms of institutional development and characteristics of digitally mediated institutions invite us to attend to longer term, gradual developments that characterize most complex digital government. Digitally mediated institutional developments are more often characterized by long-term, gradual change than they are by disjunctive change, even when disjunctive technological innovation has taken place (Fountain 2001a). The two cases of digitally mediated institutional development that follow illustrate some of the ideas presented in the brief review above. The first case traces the promise and challenges of technology-enabled cross-agency collaboration in the U.S. federal government. The second case briefly examines the development of conventions and standards to protect intellectual property in Europe.

Enacting an Institutional Environment for Cross-Agency Collaboration

In the early 1990s, policymakers in the Clinton Administration began building e-government to “transform” government institutions by leveraging information and communication technologies.¹ A key innovation was the “virtual agency,” essentially a portal or “one-stop shop” containing all of the government’s information and services

organized by a specific subpopulation, for example, senior citizens, students or business. Government reformers made an explicit decision not to try to reorganize agencies and programs but to use virtual reorganization of information to streamline and improve services. Their preferences and strategy were influenced by institutionalized challenges to change. However, even efforts to build cross-agency information sharing on the Internet were thwarted by deeply embedded layers of budget, oversight and other administrative processes that reinforced single-agency behavior and hindered coordination. During the Clinton Administration, disjunctive, technological change occasioned by the Internet did not lead to disjunctive institutional change in the state. By contrast, technology often was enacted in ways that reinforced institutional norms and practices as well as bureaucratic politics leading to suboptimal outcomes (Fountain 2001a).

In spite of bureaucratic resistance, policy entrepreneurs continued to mobilize and work for innovation. For example, during the George W. Bush administration, 25 cross-agency e-government initiatives, originally termed the Quicksilver projects and carried forward from the Clinton Administration, were central. Policymakers forged new rules, including the establishment of the government's first Chief Information Officer and the Office of E-Government and Information Technology, in the U.S. Office of Management and Budget. Bush administration officials sought to consolidate information systems and streamline standard administrative functions such as travel, payroll, and authentication across the government. Cross-agency projects encompassed policy domains as diverse as disaster management, rulemaking, grants, benefits and loans.

The record of success for these projects varied. Some, including electronic rulemaking and grants management, succeeded as communities of practice among bureaucrats from across agencies developed shared, cross-agency conventions and standards. Others, including authentication, floundered due to political conflict or lack of convergent standards to coordinate activities. The combination of temporal mechanisms used across the Clinton and Bush administrations as part of their efforts to renegotiate norms of agency autonomy in order to leverage the benefits of networked governance included the development of new conventions, more or less constant efforts at renegotiation, and limited but important positive feedback as new legislation, rules, positions and understandings accumulated incrementally from 1993 to 2008.

During the first and second Obama administrations, mandates requiring cross-agency collaboration as a strategic imperative for improving government performance have grown in importance. As e-government innovations have matured into standard agency practice, demand for networked governance has been driven by calls for: solutions to pressing, complex policy problems that cross bureaucratic boundaries; cost savings and efficiency; reduction of duplication; and further leveraging of technology to enable agencies to share platforms, systems, applications and information.

The Government Performance and Results Modernization Act

The Government Performance and Results Act Modernization Act (GPRAMA) of 2010 (H.R. 2142) became law in 2011. It extends the Government Performance and Results Act (GPRA) of 1993 and requires stronger development of government-wide priority goals and greater use of cross-agency coordination. The law requires the Office of

Management and Budget (OMB) to include cross-cutting, government-wide priority goals in its formulation of the annual performance plan, mandated originally under GPRA (Kamensky 2011). This instantiation of e-government innovations into formal legislation illustrates long-term institutional change in the federal government. Should one think of the legislation as a punctuation in previous equilibrium or a threshold reached through incremental accumulation of small changes or as a gradual transformation? These framings of events are essentially subjective; all exhibit validity. One can say with certainty that no external shock occasioned the legislation.

The GPRA Modernization Act clearly indicates that Congress endorses interagency activities. In stark contrast to traditional bureaucratic perspectives, GPRAMA makes clear that many strategies, priorities, and goals of the government lie *inherently* across agencies (U.S. Congress 2010). This shift in language and logics of appropriateness, encoded in legislation, evidence a formalization of new ideas, norms and practices.

President Obama's FY2012 budget named 14 cross-agency priority goals, the first set of such goals in the nation's history. The projects grew out of existing administration priorities but respond directly to GPRAMA's requirements.

Cross-Agency Priority (CAP) Goals	

Outcome-Oriented Goals	Management Improvement Goals
<ul style="list-style-type: none"> • Exports • Entrepreneurship and Small Business • Broadband • Energy Efficiency • Veteran Career Readiness • STEM Education • Job Training 	<ul style="list-style-type: none"> • Cybersecurity • Sustainability • Real Property • Improper Payments • Data Center Consolidation • Closing Skills Gaps • Strategic Sourcing

Institutional Constraints on Collaboration

Legal requirements for interagency collaboration are layered on an institutional environment still designed for agency autonomy. For example, several laws prohibit specific agencies from sharing data with other agencies to protect personal privacy or national security. In fact, many agencies still guard access to “their” data as part agency culture in spite of presidential directives on “open government” that require agencies to make data more accessible to the public and to share it with other agencies. Moreover, access to data remains problematic in spite of sunshine laws that require agencies to make information available to the public.

Legislation requires agencies to secure permission of Congress before developing shared interagency budgets for joint projects or operations. Most interagency project budgets

entail complex memoranda of understanding that may require a year or more of negotiation. Still other laws and rules constrain development and use of shared budgets, operations and personnel. The appropriations process itself, a core function in government, is highly agency and program specific, making cross-agency projects difficult to develop and sustain.

Laws and regulations specify “the rules of the game” for departments and agencies that, in turn, shape the behavior of government officials. The structure of congressional committees and subcommittees fragments jurisdiction and oversight of cross-agency efforts (Radin 2012). Clearly, public policies as institutions circumscribe the environment for cross-agency collaboration in the federal government and specify many of the ways those collaborations will be designed and managed. Legal impediments can stymie forward motion of interagency working groups.

At least four broad types of institutional processes work against cross-agency collaboration: the vertical structure of bureaucracy, often called “stovepipes,” which is the fundamental organizational form of the executive branch of government and three central governance processes—legislation, accountability, and budgeting.

By definition, bureaucracies have well-defined jurisdiction and authority relations ordered through a clear chain of command. Max Weber argued that bureaucracy was the only form of organization capable of coordination and control in industrializing societies (Weber [1922] 1978, chap. 11). While for the past thirty years or so, public managers and

management experts have pursued the promise of e-government to forge more flexible, innovative and productive forms than traditional bureaucracy, the basic structure of bureaucracy persists – and with good reason (Fountain 2001b; Kettl 2006). Collaborative governance, networks across agencies and other cross-boundary arrangements have been layered over traditional bureaucratic organizations. They have not replaced them.

In recent years, legislators have mandated that agencies and programs cooperate to achieve public ends, but legislation often requires particular agency behavior without providing needed authority or resources. Thus, a sedimented cacophony of legislative rules simultaneously requires, incentivizes, prohibits and constrains cross-agency collaboration. Accountability is also problematic: accountability flows directly from the vertical structure of bureaucracy. A director is directly accountable to Congress for the actions of his or her agency.

Cross-agency collaboration blurs lines of authority and accountability. Public managers are challenged when asked to maintain vertical accountability in their agency activities while supporting “horizontal” or networked initiatives for which lines of accountability are less direct and clear. The budget process is organized to authorize and appropriate funds to individual departments for department-specific programs (Bardach and Lesser 1996; Allen et al. 2005). Yet shared resources form a significant source of cohesion for interagency collaboration, in part because they change the nature of the relationship from multiple exchanges to a shared system. Researchers have found that the amount of

resources shared by the group is one of the determinant factors for partnership effectiveness.

Although pockets of good practice have developed, institutional systems and policies to support interagency collaboration have lagged (Allen et al. 2005; Wilkins 2002; Fountain 2001a). Many agencies continue to define data and to implement procedures (including those for services to the public) in agency-specific ways in large part to focus on accountability to Congress. Yet at the same time, standard administrative functions, such as grants administration, could be further harmonized across agencies to better serve the public. Although progress has been made, grants management, which still varies from one agency to another in spite of legislation that requires streamlining across agencies, is one of many examples where the traditional structure of accountability has hindered development of e-government (GAO 2013).

Yet in spite of these challenges, for nearly thirty years policy entrepreneurs in the permanent senior civil service have mobilized, often with external interest groups and other stakeholders, and have accumulated practical experience over time with the development and governance of sustainable cross-agency operations, and this experience creates an environment conducive to the future development of e-government initiatives.

The two case studies that follow illustrate several of the concepts enumerated above. The first case, drawn from Europe, sketches the trajectory of a relatively new agency designed from the beginning with e-government in mind. The second case, based in the United

States, depicts the constraints posed by history, culture, and the layering of legislation, practice and commitments over time.

Governance of Trademarks in Europe

Created in 1993, the European Commission Office for the Harmonization of the Internal Market (OHIM) began with a mandate to strengthen the internal market of the European Union (EU) by working to lower and, when possible, remove barriers to “the free movement of goods and services” across Europe.² The legislation creating the agency, which became operational in 1996 and is based far from Brussels (the home of the European Union) in Alicante, Spain, also created the Community Trade Mark (CTM) and the Registered Community Design (RCD). A trademark or design registration from OHIM offers intellectual property protection for brand names and related images in all 27 EU member states. The CTM makes it possible to register once, pay one fee, and manage a trademark or design in one language. To make this vision of harmonization a reality would require digital data, processes and systems of the type central to e-government.

States traditionally have regulated intellectual property rights according to the theory that legal protection supports innovation and creativity as well as competition in market systems. In the EU, trademarks may be registered at several levels of governance: at the national level, through national offices within each member state, at the regional level in some instances (for example, through the Benelux—for Belgium, Netherlands and Luxembourg--Intellectual Property Office), at the European Community level through OHIM, and at the international level through the World Intellectual Property Office

(WIPO) in Geneva. These partially nested rule regimes and institutions have been layered on one another as Europeanization and globalization have developed over time.

The primary governance and oversight bodies for OHIM--its Administrative Board and Budget Committee--were designed to reflect the negotiated compromises made to coordinate the interests of member states and the Commission. The Administrative Board consisted of representatives from each of the member states, each of whom wielded a vote on OHIM's policies. Administrative Board members largely came from the intellectual property (IP) offices of their home countries, rather than from relevant ministries. This resulted in parochialism, conflicts of interest and other tensions. The initial design of OHIM's governance bodies was meant explicitly to check "interference" from Brussels in the ability of OHIM to function autonomously. Oddly, the Commission was represented in OHIM's governance bodies but had no voting privileges.

As a new political institution, OHIM has affected national IP offices in complex ways, for example, by changing the opportunities for interest groups to influence intellectual property policies by introducing a new layer of governance and policy at the European level. In fact, the CTM was established to "Europeanize" many businesses in member states by making it easier for them to conduct business across national boundaries within Europe. The establishment of e-government practices and systems at OHIM challenged national IP offices to modernize and to improve their administrative operations. Most national offices have viewed the CTM as an institutional vehicle in competition with the national trademark, but over time, national office bureaucrats are realigning their

expectations, preferences and activities to work effectively within the new politics created by this new policy.

Agency Start Conditions: Early Events Set a Path

From its operational beginning, civil servants within OHIM decided to develop a paperless office. The agency had 23,000 CTM applications on the first day they were made available in 1996. To their shock, OHIM's managers found that CTM applications during the first year would equal 43,000, overwhelming the operational and technical capacity of the agency even as strong demand legitimized the new and untested policy that gave rise to the CTM. An agency official observed: “National offices could fall back to paper if [their IT systems] failed. We did not have that possibility. We had no tradition to fall back on.”³

From Growth to Productivity. OHIM launched its first website, OAMI-Online, in 1998 and began making documents available online. But the “paperless office” at that time provided only first-generation electronic sources of information and required staff to scan paper mail or faxes into digital form (although it soon became possible to import data sent via faxes directly into the system) and, throughout the trademark or design application examination process, to print, mail or FAX paper documents back to users or other entities.

Yet by 2008, even *The Economist*, which has reported on the overwhelming failure rate of e-government projects, pronounced that “OHIM offers a streamlined, paperless operation and does much of its business online, keeping costs down and speeding up the

processing of applications” (*Economist* 2008). What was the path by which this success was forged?

Wubbo de Boer, a Dutch lawyer and civil servant became the second president of OHIM in October 2000 bringing 30 years of experience and expertise to the job. The dynamic president and his managers developed a horizontal organization, building a senior management team without divisional separations which set out to focus intensively on the needs of what OHIM calls its "users," primarily large firms handling brand management and forming a set of powerful interests in the European economy. They created a Quality Management Department to devote sustained attention to analyzing and improving administrative processes. The president noted that the unit "created a point of reflection for many things to be said and thought that were not possible before: to do something that was fundamental." The autonomy and resources of the new agency allowed scope for re-imagining and structuring a new type of agency designed to leverage the Internet.

The staff at OHIM, mostly European Commission civil servants, began to realize that the core strategy was shifting from building agency capacity through growth in staff to capacity building through productivity gains guided by simplification of processes and procedures, attention to user needs, careful measurement of performance and continued innovation using technology. In fact, at a crucial point, the president decided that staff growth would end, even as the volume of trademark applications continued to increase. This approach to building agency capacity prompted internal tensions that ultimately strained the entire European network of trademark institutions as OHIM continued to grow in CTM registrations and to make dramatic productivity gains by automating key

steps in core tasks as part of its vision as an agency of the information age. This put it at odds with traditional civil service conventions.

During the early years of the agency, the recruitment of trademark and design examiners focused on lawyers and paralegals. But the skill mix required of examiners changed as e-business tools, to use the agency's term, and the use of large databases became embedded in the design of the examiners' work greatly reducing search costs and paperwork.

Executives within OHIM worked assiduously to use internal staff mobility, in part through strong investments in training internal staff, to strengthen the skills of existing staff in order to reassign within the agency those whose jobs had been made obsolete by technology and who could master new skills required for the examiner positions. In 2001, to facilitate the operational transformation of the agency, the management team developed a policy enabling employees to receive 12 days of training a year, an unprecedented investment for an EC agency. In fact, mailroom personnel and other clerical workers were offered the opportunity and training to become examiners. OHIM also established generous, flexible telework policies for its employees.

In 2004, OHIM's managers established performance targets for each employee for each 12-month period. By linking performance objectives to appraisal—and to the organizational culture—the notion of performance standards became salient throughout the organization though not without tension. This blending of neo-liberalism with informatization caused a paradoxical mixture of pride in performance and trepidation concerning job security. As we will see in the U.S. case study to follow, the complexities involved in linking performance objectives, appraisal, technological modernization and

other dimensions that contribute to e-government are far more challenging when multiple agencies are involved in these developments. The success of OHIM is due in part to the authority granted to OHIM's agency executives to design a new agency. While the U.S. federal government and the European Commission may be rough analogues in terms of federalism, they are institutionally entirely different, not least because of their differing historical paths.

OHIM as a Benchmark for Europe: The Service Charter. To create "external pressure" on the institution, OHIM conducted its first annual web survey of users in 2005 and published the results on its website in 2006. The agency surveys users annually, using a highly detailed instrument, and reports the results publicly with the explicit norm of transparency as key to public service and to pressure itself to closely monitor and improve performance. Based on user feedback, OHIM developed three primary service dimensions—timeliness, accuracy and accessibility—and began to analyze the work of examiners with a view to focusing their expertise on the core tasks of examination while assigning ancillary tasks, such as data entry and translation, to others. Building on their three service dimensions, OHIM's managers elaborated a series of quality standards for service dimension, drawing from user survey results.

In addition, the progressive introduction of more web-based information and e-business tools created a dynamic environment online for users with inevitable bumps in the road as new systems were developed, implemented and refined. The agency's focus on users and its commitment to transparency pressured OHIM's technology managers to build greater user participation into the design and development of new e-business tools. This

alignment between continuous improvement in internal performance, through close communication with users, and mobilization of strong support from interested business groups formed a self-reinforcing cycle with strong path dependence, mobilization of interest groups and realignment of interests over time.

In 2008, Charlie McCreevy, European Commissioner for the Internal Market and Services, announced that “The Commission supports the ambition that (OHIM) should be the benchmark amongst industrial property offices, and targets for further improvement in the work of the Office are high.” (OHIM Annual Report 2008.) The service charter of OHIM, a set of performance targets expressed as commitments to users, and the performance standards within it, were used internally to suggest targets for individual employees and for units in order to measure their productivity and, in the aggregate, the agency’s performance. The agency published on its website its actual performance against its service standards on a quarterly basis to promote transparency and accountability.

The agency was unusual among European political institutions because it possessed the financial means for substantial development projects and had invested approximately €30 million per year, or 20-25 percent of its budget, to build a “complete e-business service offering” in five years. (The agency’s operating revenues consist primarily of the application fees.) As development of a digitally mediated institution continued, new tools, systems and databases gave rise to continued re-examination of work processes, first in the back office, for example, in routine, clerical tasks and, later, through simplification and streamlining of the core examination tasks. Moreover, by making its databases,

search tools and other innovations accessible to the public and its users, the agency fostered substantial co-production of trademark and design registration. By 2010 OHIM was able to offer a comprehensive suite of e-business tools or “solutions” to its users.

The success of e-government requires not only technological developments but also a host of related changes in employee skills and work practices to align with organizational and administrative changes. While ample resources may make these developments more feasible, resources do not necessarily diminish the dislocation experienced by employees confronting rapid change. OHIM's senior management group had largely mandated administrative innovations on agency staff, producing tensions that could not be diminished solely through perks such as training and telework.

Ironically, given its commitment to measurement, only in November 2009 did OHIM implement its first employee survey. Some of the results were troubling; in fact, one manager characterized the response as a "staff protest vote in terms of the management policy." While the deep cultural shift in norms of work and productivity were applauded by some of OHIM's workers, the changes perplexed and angered other OHIM staff who wondered why an agency with a budget surplus and the highest productivity in Europe continued to push for higher performance levels. These internal tensions mirrored strains in the inter-institutional network of trademark agencies as well, and these would have to be negotiated as part of the interplay between institutional stability and change.

Specifically, national IP offices were pushed to change due to advances at OHIM. While these tensions existed, they did not fundamentally inhibit the move to paperlessness and

the accompanying increase in productivity. In fact, one of the paradoxes of the case is the near simultaneous mixture of pride and tension associated with advances at OHIM.

Using Interoperability for European Harmonization

As part of its role in a multi-level governance network, OHIM, initially under pressure from national trademark offices, developed a series of collaborative projects with national offices by which the European trademark system has been developing shared standards, shared platforms, shared classification systems, shared databases, shared tools and, through these interoperability gains, shared understanding and a shared view of trade mark and design in a federated system.

At the end of 2009, OHIM released its internal electronic file manager to national trademark offices through a free license. Subsequently, the agency made available a common trademark search engine tool to allow users to search for trademarks across the registers of WIPO, OHIM and EU national offices. Another tool shared with national trademark agencies provided the means for examiners to compare the classification databases of national offices online. Going further, OHIM worked with a group of national trademark agencies to produce a common database available in the 22 EU languages and for use by all IP offices. Still further, OHIM and national partners launched projects to create a single European platform for filing national, international and CTM applications through a single interface. Managers at OHIM and national

agencies undertook to develop a pan-European web portal, which, OHIM claimed, would provide a central source for IP information within the EU.

All of these projects—and the significant institutional changes they would make possible—were due to convergence on conventions -- shared technical standards and open source technologies in order to increase interoperability within OHIM and, in turn, within the European system of national trademark and design offices. From 2003 to 2005, a group of technical experts in the trademark and design domains met four or five times each year to discuss and develop common standards, which would be necessary for harmonization of the internal market.

OHIM is widely considered the benchmark for trademark and design registration. Their experience and innovative capacity offered to national offices a set of important strategic and administrative practices, e-business tools, and other information resources that could be adopted whole cloth or adapted to national settings. The cost savings to national IP offices of forgoing their own development of information systems was substantial. While performance standards and increasing productivity may have met more resistance, they became associated with e-governance through the institutional developments pursued by OHIM's managers. Opportunities for knowledge sharing among the national offices and with OHIM had made the vision of a European multi-level governance and administrative system for trademark and design operationally feasible. Although a thicket of legal, political and practical issues would require political negotiation and careful policy evaluation to harmonize, the technological systems and e-business tools required to run a

multi-level, coordinated system were available for immediate use. While the layering of institutional arrangements is important, so is the layering of logics. In this case, computing logics, digitally mediated, are juxtaposed with logics of governance--subsidiarity, territoriality, and the shared understandings between states and the civil servants who inhabit public bureaucracies.

From the start, OHIM envisioned itself as a “paperless office.” As a new agency, it had the scope to develop rules and arrangements that would forge and reinforce its e-government path. In fact, it is an unusual agency in its elaboration and synthesis of process management, analysis, training and technology development. Timing and sequencing are critical in OHIM’s history. Begun just as the Internet “revolution” is in full force, it had no legacy systems to change. In the larger European governance space, the agency was a first mover and, without any intention of doing so, developed systems that national IP offices could license and use nearly whole cloth thus creating a standard and fostering European conventions that allow interoperability across the various levels of governance. Throughout its development, each new system and tool forged a path making subsequent information systems and practices easier to undertake and implement.

Discussion and Conclusions

Both cases of digitally mediated institutional development presented here exhibited high degrees of uncertainty creating an environment of pre-rational choice and the use of logics of appropriateness. In contrast to the U.S. federal government, OHIM, and to some extent the new European Commission, had the distinct advantage of being “new” with

new authorities and a new mission. Moreover, the development of interoperability across the trademark and design registration policy domain in Europe benefited from operating within one specific policy domain. In the U.S. federal government, agencies focused on very different policy domains have attempted, with some success, to develop conventions and to overcome challenges to coordination. While impressive developments in e-government are found in the U.S. federal case, challenges to e-government developments across agencies are equally impressive in their tenacity.

The scale of the U.S. federal government dwarfs that of OHIM, thus increasing complexity. Moreover, the role of the U.S. Congress and its relationship to the executive agencies is quite different from that of the European Parliament and European Commission agencies. The U.S. Congress plays a much stronger role in legislation, appropriations and operations of agencies making change, including development of e-government, more challenging. Thus, the scope of the two cases differs, and the overall governance structures and history differ as well. In both cases, policy entrepreneurs--senior civil servants or officials with deep expertise, experience and long periods of engagement--forged communities of practice and searched out opportunities for movement. These entrepreneurs typically are skilled at mobilizing support among external stakeholders as well as those within government. These two cases offer portraits of longer term institutional developments in different political systems. They are meant to display a range of mechanisms specifying temporal dimensions of institutional development and to highlight the ways in which digitally mediated institutions overlay and intensify institutional perspectives.

Ideas, artifacts and practices come to be institutionalized or disrupted through the actions of coalitions, through incremental redesign of operations and procedures with positive feedback and lock-in, at times, but also with the possibility that incremental changes will be reversed as new political regimes change paths. A key force for momentum is found in the fact that actors seek conventions to be able to engage in collective action. Digitally mediated institutions vividly tend toward conventions through development of standards for interoperability.

In this chapter, I examine technoscience at the level of the state. State structure and capacity is built up from individuals, small groups, and communities of practice who puzzle over challenges, propose and develop quasi-solutions that require agreement, then develop policies and systems. In these cases, core ideas about e-government travel globally through professional networks. At the same time, state actors include those for whom the status quo represents considerable power. These actors counter some e-government developments with the force of highly stable institutionalized practices.

The U.S. and EU cases illustrate cultural values that emphasize democratic governance as a vehicle for modernity, speed and efficiency, using digital means whenever possible. So far, the result is a changing notion of boundaries, of agency autonomy, of federalism in Europe, and a highly imperfect but forward moving set of shared systems and processes in governance. The U.S. case in this chapter highlights the strength of early events and lock-in in path dependence. Agency centric institutions within the federal government,

encoded in law and reinforced in agency-congressional relations, have protected agency autonomy and make e-government developments that would network agency capacity an ongoing challenge. The result is a mosaic that includes stunning innovation combined with equally impressive resistance to change.

In this chapter, I have sought to connect e-government with institutional mechanisms that describe and explain political stability and change in and across bureaucracies. Two cases drawn from complex political institutional developments in e-government over more than a decade illustrate interactions among actors, processes and new technologies as they unfold in institutional development. In these accounts, digital technologies are not leading to the demise of political institutions but are embedded in political conflicts and policymaking. In the case of the U.S. Government Performance and Results Modernization Act, a reconceptualization of the appropriate locus for policymaking, from single agency to networks of agencies, is a result of a series of gradual changes, only some of which are directly related to e-government. In the case of European trademark policies and practices, the use of shared information and standards has provided a strong platform on which competing interests have found a series of focal points to further cooperation amid contestation. This conceptualization of digitally mediated institutional development is meant to encourage more attention to the precise mechanisms and conceptualizations that describe and explain longer term institutional developments and the influence of digital mediation in these processes.

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Endnotes

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² This case is excised from a detailed study of the development of the European Commission Office for Harmonization of the Internal Market. See Fountain, Galindo Dorado and Rothschild, 2010.

³ Quotations in this case study are drawn from interviews conducted by the author with OHIM managers and key stakeholders in 2009 and 2010.