

# New Public Management Is Dead—Long Live Digital-Era Governance

**Patrick Dunleavy**

*London School of Economics and Political Science*

**Helen Margetts**

*Oxford Internet Institute, Oxford University*

**Simon Bastow**

**Jane Tinkler**

*London School of Economics and Political Science*

## ABSTRACT

The “new public management” (NPM) wave in public sector organizational change was founded on themes of disaggregation, competition, and incentivization. Although its effects are still working through in countries new to NPM, this wave has now largely stalled or been reversed in some key “leading-edge” countries. This ebbing chiefly reflects the cumulation of adverse indirect effects on citizens’ capacities for solving social problems because NPM has radically increased institutional and policy complexity. The character of the post-NPM regime is currently being formed. We set out the case that a range of connected and information technology–centered changes will be critical for the current and next wave of change, and we focus on themes of reintegration, needs-based holism, and digitization changes. The overall movement incorporating these new shifts is toward “digital-era governance” (DEG), which involves reintegrating functions into the governmental sphere, adopting holistic and needs-oriented structures, and progressing digitalization of administrative processes. DEG offers a perhaps unique opportunity to create self-sustaining change, in a broad range of closely connected technological, organizational, cultural, and social effects. But there are alternative scenarios as to how far DEG will be recognized as a coherent phenomenon and implemented successfully.

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Defining periods in the evolution of any complex system, such as public management systems in advanced industrial countries, is a tricky task. New developments accrete and accumulate while older trends are still playing out and apparently flourishing. Relatively established ideas move from leading-edge countries or sectors to implementation in previously laggard areas, even as the same ideas are being repudiated or reversed in the erstwhile pioneering locations. And a confusing welter of changes goes on simultaneously, among which it is difficult to distinguish ephemeral and hyped-up innovations from those that are fundamental and longer lasting (Lynn 2000).

Despite these substantial difficulties, it seems clear that a significant change has recently occurred in the public management systems of some influential advanced countries. (We focus especially here on the United States, United Kingdom, Canada, Australia, New Zealand, and the Netherlands.) The intellectually and practically dominant set of managerial and governance ideas of the last two decades, new public management (NPM), has essentially died in the water. This cognitive and reform schema is still afloat, and a minority of its elements are still actively developing. But key parts of the NPM reform message have been reversed because they lead to policy disasters, and other large parts are stalled. Often these past innovations are incapable now of being easily reversed. Even their strongest advocates now expect them to have little impact on altering the overall effectiveness of government. NPM practices are extensively institutionalized and will continue—just as NPM itself did not displace large elements of previous public management orthodoxies, sometimes characterized as “progressive public administration” or PPA (Hood 1994, chap. 7). Moreover, NPM ideas are still gaining influence in previously rather resistant countries, such as Japan (Yamamoto 2003) or India (Chakraverti 2004), even if some NPM enthusiasts doubt their applicability there (Schick 1998). But NPM is no longer new. Rather, it is now a two-decades-old set of public management ideas (James and Manning 1996; Kickert 1997; Manning 2000). Even analysts sympathetic to NPM have been driven to acknowledge that it is “middle-aged” and generates adverse by-product outcomes, though they still resist evidence of its senescence (Hood and Peters 2004). We argue here that the torch of leading-edge change has passed on from NPM and will not return.

There is a scattering of proposals for characterizing the post-NPM wave of management changes that is currently underway. Many seem overly optimistic (Minogue, Polidano, and Hulme 1998), looking forward to “banishing bureaucracy” (Osborne and Plastrik 1997) or achieving a “post-bureaucratic” administration (Heckscher and Donnellon 1994; Kernaghan 2000). In the European Union the idea of administrative convergence has partly been seen as blunting NPM’s impacts, creating countervailing shifts, especially in regulatory areas (Wood 2004). Our take here highlights the central importance of information technology (IT)-based changes in management systems and in methods of interacting with citizens and other service-users in civil society in the underpinning and integrating of current bureaucratic adaptations. We see this influence as having effects not in any direct technologically determined way but via a wide range of cognitive, behavioral, organizational, political, and cultural changes that are linked to information systems, broadly construed. We term this new constellation of ideas and reform changes “digital-era governance” (DEG for short). The label highlights the central role that IT and information system changes now play in a wide-ranging series of alterations to how public services are organized as business processes and delivered to citizens or customers.

There has long been a significant divorce in the public management field between the practical and empirical centrality of IT and information changes on the one hand and their

marginality, indeed almost complete absence, from the central texts of public management theory and the literature on public sector change on the other.<sup>1</sup> This situation has not been corrected by a few accounts that verbally overtilt the other way by implausibly predicting e-government utopias or already claiming the construction of a “virtual state” or “digital government” (Accenture 2004; Fountain 2001; Jupp 2003; Lawson 1998), still less “digital democracy” or “virtual democracy” (Alexander and Pal 1998; Davis 1999; Ferdinand 2000; Holmes 1997). By contrast, we stress below that DEG is a movement of the digital *era* in society at large. But DEG is about governance, it is not solely or even primarily about digital changes. The general neglect of IT in public management theory has been unhealthy, tending to marginalize the discipline’s influence on practical policymaking, despite some useful earlier treatments of “information age” (Bellamy and Taylor 1998; CITU 2000; Harvard Policy Group 2000; Heeks 1999; Heeks and Davies 1999). At the same time, insightful commentary on public administration issues from IT professionals is relatively rare (but see Ciborra 1993, chap. 12). We seek to redress this deficit, reemphasizing that IT and information system influences are as salient in current public sector management as they are fundamental in contemporary Weberian rationalization processes.

Our central aim here is to define digital-era governance by comparison and contrast with its immediate predecessor, NPM. The first section of the article reviews the arguments that explain NPM’s current stagnation. The second part outlines the contrasting lineaments of DEG and itemizes its major components and how they interrelate. The conclusions sketch some scenarios for implementation.

## **THE CRISIS OF NEW PUBLIC MANAGEMENT**

There is now a substantial branch industry in defining how new public management should be conceptualized and how it has changed, in particular as it has evolved through the New Zealand, Australian, U.K., and latterly European public administration systems. The result is that “NPM is a slippery label” (Manning 2000; Savoie 1995). Different conceptualizations of NPM all stress different things. For Barzelay (2000, 156), it “is primarily concerned with the systematic analysis and management of public management policy. This policy-domain relates to all government-wide, centrally managed institutional rules and routines affecting the public management process.” Rival conceptions characterize NPM in terms of specific policy principles, of “trait” policy interventions seen as typical, or as an overall “paradigm” for reforming government institutions. But even among these accounts, NPM is variously characterized. Sometimes it is represented as copying business managerialism of a now older kind (Pollitt 1993), and in terms of unusually strong customer service orientation. At other times, NPM is defined in terms of internal organizational cultures and the use of a repertoire of more individualistic, less hierarchical organizational control mechanisms (Aucoin 1996; Hood 1998). Some conceptions additionally seem to assimilate NPM into strongly normative concepts, as in Aucoin’s (1990) discussion of “the well performing organization.”

Our approach here recognizes NPM as a two-level phenomenon (Dunleavy 1997). It has been, first, a strongly developed and coherent theory of managerial change based

<sup>1</sup> For example, *Handbook of Public Management Practice and Reform* (Liou 2001) extends to nearly eight hundred pages and includes three references to the Internet (apparently useful for job advertisements) and two to information technology. Similarly, the survey volume *Public Management Reform* (Pollitt and Bouckaert 2000) includes only three references to IT.

on importing into the public sector central concepts from (relatively) modern business practices and public choice–influenced theory. The three chief integrating themes in NPM have focused on:

- *Disaggregation*—Splitting up large public sector hierarchies in the same way that large private corporations earlier moved from U-form to M-form (multifirm) structures; achieving wider, flatter hierarchies internally; and respecifying information and managerial systems to facilitate this different pattern of control. In the public sector this theme implied a strong flexibilization of previous government-wide practices in personnel, IT, procurement, and other functions (Barzelay 2000), plus the construction of management information systems needed to sustain different practices.
- *Competition*—Introducing purchaser/provider separation into public structures so as to allow multiple different forms of provision to be developed and to create (more) competition among potential providers. Increasing internal use was made of competition processes to allocate resources (in place of hierarchical decision making). The “core” areas of state administration and public provision were shrunk, and suppliers were diversified.
- *Incentivization*—Shifting away from involving managers and staffs and rewarding performance in terms of a diffuse public service or professional ethos, and moving instead toward a greater emphasis on pecuniary-based, specific performance incentives. In the public sector this shift implied a movement “down grid and down group,” in Douglas’s cultural theory terms (Dunleavy and Hood 1993). Its impact has been particularly marked for professional groups (Kirkpatrick, Ackroyd, and Walker 2004).

Underpinning each of these three overarching ideas there has been a prolific second tier of NPM-badged or NPM-incorporated ideas, a whole string of specific inventions and extensions of policy technologies that have continuously expanded the NPM wave and kept it moving and changing configuration. Changes at this level were mostly driven in the first instance by the application of economic, business, and public choice ideas to pragmatic problems in public sector provision. But they were only implemented in practice as they were successfully adapted (or managerially and legally “domesticated”) to seem feasible in a public context. Yet a key part of the appeal of these second-level changes has also been that they fit into a wider reform movement and gain intellectual coherence from their link with the higher-order ideas above. Table 1 shows a summary of how these second-order changes have nested within and articulated the three top-level NPM themes. The third column shows a summary assessment of the current status of each of these detailed NPM components in erstwhile leading-edge countries. For space reasons we focus only on broadly characterizing the state-of-play for NPM’s top-level themes.

The disaggregation components clearly show the highest levels of reversals or roll-back among the three. Indeed we argue below that the element of DEG that most directly contradicts its NPM predecessor (rather than developing at a tangent to it) is the reintegration of government into more coherent public sector or government-wide processes. In the United Kingdom the “Next Steps” agencification program, once expected to include five-sixths of the central civil service, in fact stabilized at somewhat over half the total, and its claimed improvements in services provision have been closely questioned (James 2003; Talbot 2004). New Zealand’s pioneering NPM structural changes have left a country of 3.5 million people with over three hundred separate central agencies and forty tiny ministries,

**Table 1**  
The Key Components of New Public Management and Their Current Status (in “Leading-Edge” Countries)

| Theme                                  | Component   | Current Status |
|--|---|----------------|
| Disaggregation                         | Purchaser-provider separation                             | X              |
|  | Agencification  | X              |
|  | Decoupling policy systems                                 | X              |
|  | Growth of quasi-government agencies                       | X              |
|  | Separation out of micro-local agencies                    | X              |
|  | Chunking up privatized industries                         | X              |
|  | Corporatization and strong single organization management | X              |
|  | De-professionalization                                    | X              |
|  | Competition by comparison                                 | ~              |
|  | Improved performance measurement                          | √              |
| Competition                            | League tables of agency performance                       | √              |
|  | Quasi-markets   | X              |
|  | Voucher schemes   | X              |
|  | Outsourcing   | ~              |
|  | Compulsory market testing                                 | ~              |
|  | Intragovernment contracting                               | ~              |
|  | Public/private sectoral polarization                      | ~              |
|  | Product market liberalization                             | ~              |
|  | Deregulation  | ~              |
|  | Consumer-tagged financing                                 | √              |
| Incentivization                        | User control  | √              |
|  | Respecifying property rights                              | X              |
|  | Light touch regulation                                    | X              |
|  | Capital market involvement in projects                    | X              |
|  | Privatizing asset ownership                               | ~              |
|  | Anti-rent-seeking measures                                | ~              |
|  | De-privileging professions                                | ~              |
|  | Performance-related pay                                   | ~              |
|  | PFI (private finance initiative)                          | ~              |
|  | Public-private partnerships                               | ~              |
| Unified rate of return and discounting | √   |                |
| Development of charging technologies   | √   |                |
| Valuing public sector equity           | √   |                |
| Mandatory efficiency dividends         | √   |                |

*Note:* X = Trend has been wholly or partly reversed. In some cases the change has been linked to policy mistakes or disasters and has been rolled back. ~ = Trend has substantially stalled. Even advocates no longer expect it to engender significant improvements in government effectiveness. √ = Trend is still spreading, and its usefulness has not been seriously questioned.

in addition to local and health service authorities. Since New Zealand was lauded by Alan Schick (1996), this luxuriant administrative fragmentation has in fact proved ineffective in helping the country make the most of its economic prospects. By 2000 New Zealand languished with the second-lowest level of gross domestic product (GDP) per head among the OECD (Organisation for Economic Co-operation and Development) countries, although from 1999 a new Labour government embarked on more successful non-NPM policies. Unsurprisingly, combating the vertical siloing of agencies came to be identified by the country’s State Services Commission as a key priority for change (Bhatta 2003). The

fragmentation of quasi-government agencies in the United Kingdom has similarly raised issues of duplicating costly separate management hierarchies for very similar functions. Little wonder then that a 2004 OECD paper cautions against agencification: "Creating new organisations is a blunt instrument best used to build important new capacities, rather than as a stimulus for management improvement. The proliferation of more or less autonomous arm's-length public bodies makes collective action difficult" (OECD 2004, 4).

Decoupling policy systems and developing strong corporate managements in agencies have clearly been seen in the United Kingdom as problematic, engendering management attitudes obsessed with intermediate organizational objectives rather than service delivery or effectiveness. Pushing independent institutions and the chunking-up of privatized industry regulation and ownership spectacularly came to grief in the United Kingdom with the effective bankruptcy of Railtrack and continuing controversy over rail governance arrangements (House of Commons Transport Select Committee 2004). Micro-local agencies (MLAs) first took off and then survived in the U.K. health and education sectors (Pollitt, Birchall, and Pearson 1998). But both hospitals and schools were subsequently considerably restructured to foster a more integrated "community" focus, with relatively high levels of continued central direction. Customer-seeking MLAs in the United Kingdom, the Netherlands, and Scandinavia have also stimulated some continuing use of league tables and improved performance measurement, which are the main ongoing legacies of the NPM disaggregation theme (Kickert 2000).

The competition components have generally proved less reversible. But one main rollback (also linked to disaggregation) affected the concept of quasi-markets, which was decisively scrapped in the late 1990s in the United Kingdom's National Health Service. The logistical and cognitive requirements of pricing 15,000 different hospital procedures proved to have stimulated a considerable growth of back-office administrators to the detriment of frontline staff numbers and patient treatment. In the Italian National Health Service, quasi-market mechanisms introduced in the late 1990s are also being phased out in favor of direct government controls, partly responding to increased fiscal pressures that the NPM system worsened and could not control (Anessi-Pessina, Cantù, and Jommi 2004). Schemes for vouchers have also been little implemented, and one U.K. pioneer (the Individual Learning Account) was quickly scrapped after falling prey to very high levels of provider fraud (National Audit Office [NAO] 2002b). Most elements of the competition theme have seemed stalled rather than reversed in recent years, but it seems problematic to argue that they have thereby been any more successful. Some changes, such as the almost complete outsourcing of government IT functions to private sector systems integrator firms in Australia, the United Kingdom, and New Zealand, are effectively irreversible. As performance problems in U.K. government IT mushroomed in the late 1990s, the inadequacy of simply dumping public sector systems that had not been reengineered onto private contractors has triggered major changes toward a proactive government procurement style, which forms a key part of DEG. Marketization of government services is still extending in some sectors in some advanced industrial countries. But few serious voices now believe that this is or should be anything more than a pragmatic response to immediate problems or opportunities for improvement. The large-scale cost reductions and quality enhancements of the planning and management functions anticipated by privatization enthusiasts in the 1980s and 1990s are no longer anticipated. Almost the only genuinely growing component of the competition theme has been consumer-tagged financing, so that public sector budget flows follow consumers instead of flowing in as-of-right fashion to governmental

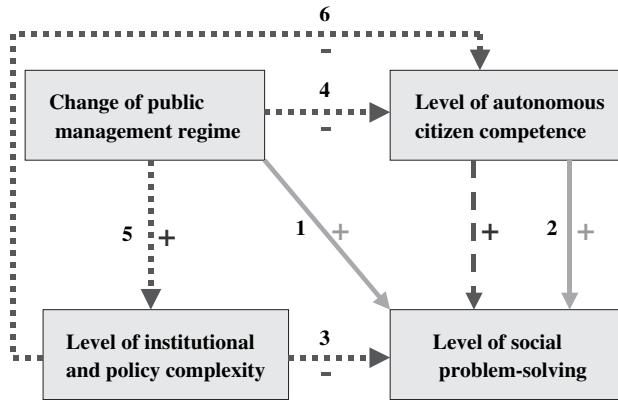
providers. User control of facilities allowing “exit” options (Hirschman 1970) has become established in schools systems in the United Kingdom (Pollitt, Birchall, and Pearson 1998, chap. 6) and some Scandinavian countries, but generally in a more politically regulated, close cooperation framework than was anticipated by enthusiasts in the early 1990s.

The incentivization components show the highest proportion of still developing NPM trends. Yet some of the items here are relatively detailed rationalization changes with relevance for digital-era public management, as well as to NPM narrowly conceived. The unification of rates of return and discount rates, resource accounting, the valuation of public sector equity, and even mandatory efficiency dividends for public sector organizations all fit into this category. Critics also argue, however, that under NPM a flawed but still working and powerful public sector ethos was broken up by the piecemeal implementation of pecuniary and performance-based systems, with inherently lesser capacity to adequately cover the range of processes and problems here. Perverse incentives may also arise in highly measured performance systems (de Bruijn 2002, chap. 2). Once the coherence of PPA modes of handling these organizational issues was eroded and could not easily be rebuilt (especially at a single-agency level), public sector managers often have had little choice but to continue looking for new forms of incentivization mechanisms to supplement their dwindling apparatus of control.

Increased pay differentiation inside public agencies is evident in the United States, United Kingdom, and Australia. But expectations that performance-related pay would significantly improve the performance of agency staffs have been greatly down-rated. This approach claimed to produce streamlined and focused, businesslike public organizations. But empirical research in Sweden suggests that there “NPM creates heterogeneous, conflicting and fluid organizational identities, rather than the uniform and stable business identity it is supposed to” (Skålén 2004, 251). And some significant aspects of the incentivization theme, such as focusing on increasing private sector involvement in public sector provision, have either been reversed or proved far more consistently controversial than anticipated by their exponents (Savas 1987, 2000).

Capital market involvement has proceeded furthest in the United Kingdom, yet it also created new risks of catastrophic failure and potential losses of refinancing gains, which agencies took many years to cope with successfully. The progress of the U.K. Private Finance Initiative (PFI) projects in construction has been disputed, with critics citing repeated underscaling and rising service charges for hospital projects (Pollock 2004), but defenders pointing to better timeliness and cost control in the build phase of PFI construction projects (NAO 2003b). A recent study commissioned by an accountancy professional body of “design, build, finance, and operate” (DBFO) road schemes concluded, “In just three years [of service payments] the Highways Agency paid £618 million, more than the initial capital cost of £590 million . . . . This means that the remaining payments on the 30-year contracts (worth about £6 billion) are for risk transfer, operation and maintenance” (Edwards, Shaoul, Stafford, and Arblaster 2004). (Normally, annual roads maintenance costs should be a small fraction of their initial capital costs.) In late 2003, after more than a decade of experimentation, the U.K. Treasury banned PFI and public-private partnership deals altogether for government IT schemes, reflecting a checkered history of ineffective risk-transfer to contractors and high scrap rates for IT projects. Few PFI advocates now anticipate large-scale cost savings compared with (well-run) conventional procurements, and criticisms continue that the British government is already overpaying for PFI projects on a heroic scale.

**Figure 1**  
Mapping the Direct and By-Product Effects of Changes in Public Management Regimes



Standing back from the more detailed picture, we can examine the reasons for the stabilization and wearing thin of the NPM innovation wave, and perhaps also the reasons for NPM’s restricted impact in other countries outside the core cases. Figure 1 shows that any new regime or style in public management is at first chiefly assessed in terms of its direct effect on achieving an improved level of social problem-solving, shown as flow 1. For any sustained program of innovation, such as NPM, this effect must be positive in some respect and some degree—for if it were not so, if the change had no positive impacts on social welfare at all, the policy-sifting and selection process in advanced liberal democracies might be expected to knock the change out of contention or to severely delay its implementation (Becker 1985).

In addition, there are several possible reasons why even initiatives with relatively tenuous claims to improve social welfare net of the transaction costs of the change may nonetheless have some positive impacts. For public choice theorists, even a stochastic process of policy change might be valuable in disrupting sclerotic tendencies inside the public sector and (temporarily) improving agencies’ responsiveness. Some sociological observers suggest that much policy regime change has a chiefly symbolic significance, providing a stimulus for organizations to conform to “modern” or normatively endorsed influences (Meyer and Scott 1978). In the public sector similar processes plus high levels of political direction imply that many agencies will extensively adopt changes, even where they are “inauthentic” for those agencies (for instance, because changes are applied in a standardized way across all state organizations). Party alternation in government can also produce a somewhat cyclical pattern of public sector governance changes, one that first emphasizing one set of priorities and then a rival one. Where this kind of zigzag guidance pattern develops, a new policy regime may have some corrective rebalancing effects for an initial period.

However, with any public sector management reform agenda, it is normal for initially hyped changes, in which high hopes and political capital are invested, to prove more patchy in securing substantial improvements than anticipated. The aging of a reform program also automatically thrusts the problems it has ameliorated into history, leaving its own flaws and shortcomings as the natural focus of political and administrative concerns.



But often more important in the down-rating of reform hopes is a realization that looking only at the direct, intended impacts of policy changes can lead decision makers to pay insufficient attention to less welcome “by-product” or indirect effects. These problems are often represented in rationalist accounts as unusual, one-off, unexpected, or incapable of prior prediction, an approach that Hood and Peters (2004) broadly apply to NPM’s entering an alleged “age of paradox.”

By contrast, we share Scott’s (1998) view there is every reason to suppose that these often-neglected side implications of major initiatives that are running via civil society are absolutely inherent, even in societies with the most extensive state sectors. Figure 1 shows that autonomous citizen capabilities for coping with societal problems can powerfully define the final level of success achieved, indicated by the positive flow 2. In addition, figure 1 shows that the level of institutional and policy complexity will always have a considerable negative influence on the level of social problem-solving, flow 3. The impact of much recent public choice literature has been to cast doubt on the previous neoclassical economics assumption of a perfect administrative agent and to emphasize the inherent transaction and transition costs (in terms of shirking, shaping, or rent-seeking) in opting for public sector policy solutions, even with relatively vigorous intragovernmental “markets” (Breton 1999; Horn 1996; Kraan 1996).

Turning to the implementation of new public management, the accumulation of difficulties with its solutions can be traced to the fact that NPM changes themselves had powerful adverse impacts on citizens’ autonomous capacities, shown as flow 4 in figure 1, and on the level of institutional and policy complexity, shown as flow 5. Even small effects that reduce citizens’ competencies can have dramatic multiplier effects. Yet there is every reason to suppose that new policy regimes will normally reduce citizen competencies, especially in their early days. New policy and administrative concepts and terminologies are introduced, often at variance with established public understandings; and new agencies, procedures, methods of operating, and systems for allocating scarce public benefits appear, jarring with people’s previous expectations. NPM proclaimed a strong customer orientation, and there is evidence of some significant improvements in agencies’ modes of operating on detailed issues like handling complaints (as in the 1990s “citizens charter” initiatives in the United Kingdom). Some substantial sections of the public also took advantage of enhanced choice opportunities (as in switching among alternative suppliers in privatized industries). Yet these changes came with a downside: “Modernised governments are more responsive to groups of citizens. But there is a cost in capacity for collective action, when the public service is differentiated and fragmented” (OECD 2004, 4).

Moreover, because NPM was internally a very complex movement, with many management-strengthening elements, more autonomous managements could often construe what customers wanted in their own way. In a key study of Texas local governments’ use of contracting, O’Toole and Meier (2004) found a negative association with the end-quality of services delivered. Some NPM-oriented managements even persuaded themselves that their own business objectives were what consumers also wanted, in the same way that some analysts could write seriously of “marketing as increased accountability to customers” (Moore 1995, 186). Sometimes bizarre results could follow, as in the 1999 collapse of the U.K. Passport Agency, where management efforts to introduce new IT, shaving £1 off a £27 passport fee, precipitated a disaster. In a few months 35,000 mailbags of unopened mail accumulated, more than 1 million phone calls went unanswered, and

virtual agency paralysis ensued for a time (NAO 1999b). The resultant political row made clear that the reliability of the service is actually a quality far more important to passport holders than a small cost reduction. (Rebuilding the agency's systems has subsequently pushed the price of a U.K. passport up to £48, an increase of over 75 percent in five years, with virtually no adverse political fallout. Current U.K. government plans envisage a charge of £93 for a passport and identity card by 2007.) And critics argued that, in the NPM heyday, cost-cutting by contractors often meant quality-shading on areas vital for consumers, as with U.S. airport security before the 9/11 massacre (Moss and Eaton 2001; Moynihan and Roberts 2002) or with the growth of hospital-acquired infections in U.K. hospitals, partly because outsourced cleaning contracts led to dirtier wards. Consumers may care a great deal about this kind of quality-shading, but they confront severe collective action problems in communicating this to management unless evidence of problems emerges forcefully. NPM's dictums of strong managerial action, rapid service changes, and the substitution of political controls by business processes hence all contributed to somewhat reducing citizens' autonomous problem-solving capabilities, a negative influence (flow 4), consequently lowering flow 3's positive contribution to create a net negative effect.

New policy regimes also tend to increase institutional and policy complexity. The transaction costs of changes are concentrated in the early years, when the new arrangements are by definition not routinized and administrative actors are required to undertake exceptional levels of policy learning. Policy succession is also rarely complete, so that the new regime tends to overlay preexisting arrangements and procedures. The characteristic pattern of development in modern technological systems is also toward further specialization of subsystems. As a result, the direct ameliorative effects of new initiatives on social problem-solving are generally offset to some extent by countervailing increases in problem complexity. This development is adverse because policy complexity is one of the key inhibitors on effective social problem-solving, magnifying information demands, boosting the number of clearance points needed for progressing solutions, and creating in particular increased coordination problems. Note that coordination difficulties are not necessarily premised on direct conflicts of interest between actors. Problems of synchronization, design fit, assignment, and realization, problems with innovation attributes, can recur even in situations where all actors accept a common interest in achieving shared goals (Milgrom and Roberts 1992, 90).

NPM's focus on disaggregation and competition automatically increased the numbers of administrative units and created more complex and dynamic interrelationships among them, compared with previous PPA systems. Moynihan and Roberts (2002, 141) offer a startling example of a complex design map of the highly agencified U.S. homeland security area before the Department of Homeland Security reorganization and the subsequent December 2004 George W. Bush reform to create an overall intelligence coordinator. Some NPM reforms touted specifically as increasing transparency have ended up instead creating bizarre new layers of impenetrability, as with accruals accounting. Barton (2004, 281) shows that the literally fantastic financial statements for the Australian Defence Forces make it "appear to be the most profitable enterprise in the nation," whose "profits and dividends far exceed those of . . . the largest private corporations," a status achieved with "negligible direct government investment in military equipment as they have been largely funded from accumulated surpluses accruing over many years. How can this be, given that the Department is almost entirely dependent upon an annual budget appropriation for its defence services?" (Little wonder, then, that although a few NPM

countries led the way to accruals budgeting, many OECD countries remain content with older cash-based systems.) Similarly, layering new incentivization initiatives on top of, but in partial conflict with, public interest ethos devices (such as lifelong career paths for civil servants) created more complex systems than had existed heretofore. Hence, again NPM boosted policy complexity and impaired to some degree social problem-solving—a positive (flow 5 in figure 1) plus a negative (flow 3), creating a net negative impact on the dependent variable.

In addition, increased policy complexity has negative effects on levels of citizen competence, shown as flow 6 in figure 1. The more difficult it is for citizens to understand internal state arrangements and to operate appropriate access points to represent their interests politically and administratively, the more their autonomous capabilities to solve policy problems may be eroded. This loop may operate in particularly forceful ways in some areas, as suggested in Illich's (1977) controversial general argument that the industrialization, professionalization, and technicalization of social life all have fast and dramatic effects in eroding autonomous citizen competencies to cope with their own problems, which the formalized systems of provision cannot actually match by providing replacement solutions. If this loop is present, then again a negative (flow 6) plus a positive (flow 3) yields a net negative effect on social problem-solving. There is good evidence from New Zealand and the United Kingdom especially that NPM changes that created additional complexity eroded citizens' problem-solving capacities, notwithstanding the commitment to improving customer service that was supposed to be fundamental to the NPM movement.

We can sum up figure 1 in slightly more formal terms:

$$\dot{A}S = f(\dot{A}R, \dot{A}O, \dot{A}X), \quad [1]$$

where  $\dot{A}$  stands for "change in," S denotes social problem-solving, R the level of direct policy regime change, O the level of citizen competence in the issue area, and X the level of institutional and policy complexity. Holding all other contextual factors except the regime change equal, and assigning lowercase letters to serve as parameter labels, we get:

$$\dot{A}S = aR - oR - x_1R - x_2R, \quad [2]$$

which says that the change in social problem-solving is the sum of the direct effect of the regime switch (whose efficacy is given by  $a$  and magnitude by R) minus the mediated side effects operating through reduced citizen competence ( $o$ ) and increased policy complexity directly ( $x_1$ ) and indirectly ( $x_2$ ).

Finally, figure 1 adds some important feedback loops from the level of social problem-solving achieved to other variables. With NPM, as with any other change in public management regimes, successful problem-solving increases citizen competencies and tends to reduce policy complexity, as issues become more benign and tractable. Worsening levels of ability to cope with problems can spiral into vicious circles or even crises, eroding citizens' confidence in their abilities to handle life issues and greatly boosting difficulties in achieving institutional and policy coordination. We could easily incorporate feedback effects lagged by one relevant period in the equations above.

Note that in itself figure 1 leaves moot the overall impact of NPM. In this case (as always) there were displaced side effects of these two primary kinds, and typically these side effects (and any interaction effects) to some extent offset any direct welfare gains achieved. But these propositions are consistent with NPM's having a wide range of overall

net effects. A strong and direct impact of NPM on social problem-solving might easily dwarf the mediated side effects. But on the other hand, a less impressive positive main effect might not be enough to stop overall social welfare from being eroded. Our contention here is only that these two kinds of adverse by-product effects of NPM have contributed strongly to its waning momentum and to the stalling of its impetus, briefly reviewed in table 1.

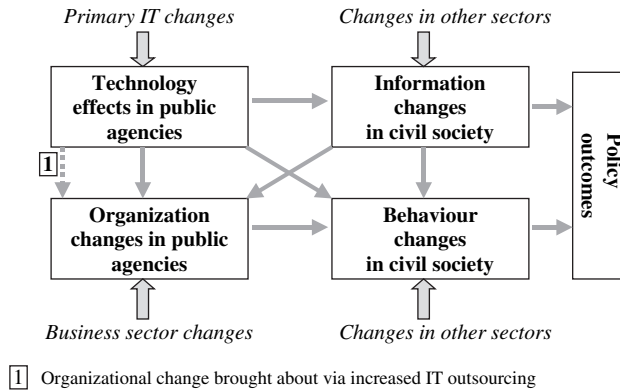
### **THE EMERGENCE OF DIGITAL-ERA GOVERNANCE**

As with any management regime succession, some elements of the post-NPM period's style of public management are set by what went before, both in terms of continuities for elements that have worked better or still have development potential and in terms of reversing what worked less well and reemphasizing priorities that NPM tended to neglect. However, we want to make a more ambitious argument here—that the unifying and distinguishing features of the current development of public sector organizational and managerial change mainly revolve around information technology changes and alterations in information systems. Of course, IT systems have been important elements in shaping changes in public administration for several decades now, with the first wave's automated data processes abolishing many thousands of clerical positions and subsequent waves producing smaller but recurrent savings and more significant alterations in administrative decision processes (Margetts 1998). Yet the waves of IT change that occurred before the late 1990s had very limited transformative impacts. Office automation processes were extensively adapted to and fitted in with the preexisting organizational culture of public sector agencies. Once functions were routinized to the point of being handled automatically, organizational cultures tended to downgrade their importance for managerial performance. Agencies became highly dependent on their IT infrastructures, but this did not shape their modes of operating as much as might have been expected. For instance, in the United Kingdom (but not the Netherlands) it was commonplace for ministers or senior officials to change policies and then commission bolt-on alterations of IT systems to fit in with the new decisions after the fact.

What is different in the current period is the growth of the Internet, e-mail, and the Web and the generalization of IT systems from only affecting back-office processes to conditioning in important ways the whole terms of relations between government agencies and civil society. Internet growth has had especially important implications in political and administrative change in areas far beyond leading-edge advanced industrial countries (Franda 2002). By digital-era governance we signify a whole complex of changes, which have IT and information-handling changes at their center, but which spread much more widely and take place in many more dimensions simultaneously than was the case with previous IT influences. And, we would argue for the first time, it now makes sense to characterize the broad sweep of current public management regime change in terms that refer to new information-handling potentialities, which make feasible a transition to fully digital modes of operating for many government sector agencies. The advent of the digital era is now the most general, pervasive, and structurally distinctive influence on how governance arrangements are changing in advanced industrial states.

A wide range of processes are involved in the shift to DEG changes' primacy, and figure 2 shows that we are suggesting a technological coloration of these processes but not any simple technological determination of them. The feeding through of technological

**Figure 2**  
The Centrality of Information Technology (IT) Changes in Contemporary Public Management Change



changes in government in itself has no direct effects on policy outcomes in the figure. Instead, IT changes work through indirectly in several different ways. The first are organizational and organizational culture changes inside the government sector.

Digital-era changes have already triggered numerous significant shifts: a large-scale switchover to e-mail in internal and external communications; the rising salience of Web sites and intranets in organizational information networks (Goldsmith and Eggers 2004a; West 2005); the development of electronic services for different client groups; the growth of electronic procurement systems; a fundamental transition from paper-based to electronic record-keeping; and so on. A tipping point in many organizations' development toward digital agency status is when they move over from files and documentation recognizably the same as those in Weber's day, where the authoritative version of policy is recorded on paper, to holding the authoritative version electronically (usually on an intranet) and simply printing off paper copies as needed. This transition reflects the ineradicability of serious "version control" problems in any mixed paper/electronic systems. Full digital agency status is potentially achievable by many government agencies in advanced states, especially at the central or federal government tier and in regulatory areas, but of course less so for delivery agencies. In former NPM countries there is an influential additional pathway for organizational change, the impact of large-scale contractor involvement in delivering IT-related administration processes on the organizational arrangements and cultures of the agencies they supply, denoted as flow 1 in figure 2.

Contemporary IT technology changes also operate via shifts in societal information-handling norms and patterns, as modes of informing consumers and involving them with corporations change across leading-edge sectors. Particularly influential for government have been the disintermediation changes affecting the most cognate or similar private sector service industries, such as banking, insurance, comparator specialists, travel firms, and even electronic merchandisers. Similarly, the business-to-business interactions in fields like procurement spill over directly into what civil society actors expect of government. As consumers' and corporations' behaviors in the private sector change, so there are direct demands for government information and transaction practices to shift in parallel ways. The lags involved here are considerable, of the order of half a decade, but there are strong similarities in the patterns of diffusion of innovations. Figure 2 shows that changes

in information systems and alterations in citizen behaviors, partly shaped by government IT and organizational changes, are the key pathways by which alterations in policy outcomes are accomplished.

At every point in figure 2 the impact of DEG influences is also externally conditioned. The key influences on primary IT changes are commercial, the demands from the business sector for new capabilities and then the oligopolistic (or in software near-monopolistic) supply-side responses. The major external influences on state organizational changes remain business managerialism, although a different vintage from the now-dated NPM influences, with many current effects also shaped strongly by digital-era influences. Societal information systems are integrally linked, and civil society behavioral changes reflect much more general contextual shifts.

In more specific terms, the impact of digital-era governance practices can be considered under three main themes. The first theme is partly a reaction against NPM's emerging problems and partly reflects digital-era opportunities. But the other two themes are essentially at a tangent to NPM practices—not convergent with them but quite different in orientation. These top-level themes are:

- *Reintegration*—The key opportunities for exploiting digital-era technology opportunities lie in putting back together many of the elements that NPM separated out into discrete corporate hierarchies, offloading onto citizens and other civil society actors the burden of integrating public services into usable packages. Reintegration approaches are not simple reruns of the old centralization phases of centralization/decentralization cycles. Nor are they just variations on an unchanging menu of administrative possibilities stretching back to cameralist times, as the more despairing of contemporary commentators sometimes seem to suggest (Hood 1998; Hood and Jackson 1991). Rather, they represent an anti-thetical (and partly synthesizing) response to the NPM thesis.
- *Needs-based holism*—In contrast to the narrow, joined-up-governance changes included in the reintegration theme, holistic reforms seek to simplify and change the entire relationship between agencies and their clients. The task of creating larger and more encompassing administrative blocs is linked with “end to end” reengineering of processes, stripping out unnecessary steps, compliance costs, checks, and forms. It also stresses the development of a more “agile” government that can respond speedily and flexibly to changes in the social environment.
- *Digitization changes*, broadly construed—To realize contemporary productivity gains from IT and related organizational changes requires a far more fundamental take-up of the opportunities opened up by a transition to fully digital operations. Instead of electronic channels being seen as supplementary to conventional administrative and business processes, they become genuinely transformative, moving toward a situation where the agency “becomes its Web site,” as a senior official in the Australian Tax Office described this process to us.

We fill out this broad-brush picture by saying a few words about the underlying components in each of the three themes, shown in table 2. A comparison with table 1 also points up the extent of DEG's differences from NPM.

There are eight main reintegration components in table 2, all of which stress gathering back together the disparate functions and clusters of expertise that under NPM were

**Table 2**  
The Key Components of Digital-Era Governance

| Theme                  | Component  |
|------------------------|--|
| Reintegration          | Rollback of agencification                                     |
|                        | Joined-up governance (JUG)                                     |
|                        | Re-governmentalization   |
|                        | Reinstating central processes                                  |
|                        | Radically squeezing production costs                           |
|                        | Reengineering back-office functions                            |
|                        | Procurement concentration and specialization                   |
|                        | Network simplification   |
| Needs-Based Holism     | Client-based or needs-based reorganization                     |
|                        | One-stop provision   |
|                        | Interactive and “ask once” information-seeking                 |
|                        | Data warehousing   |
|                        | End-to-end service reengineering                               |
|                        | Agile government processes                                     |
| Digitization Processes | Electronic service delivery                                    |
|                        | New forms of automated processes—zero touch technologies (ZTT) |
|                        | Radical disintermediation                                      |
|                        | Active channel streaming                                       |
|                        | Facilitating isocratic administration and co-production        |
|                        | Moving toward open-book government                             |

fragmented into single-function agencies and spread across complex interorganizational networks.

The rollback of agencification has been achieved in the United Kingdom via mergers, re-assimilations of agencies into cohesive departmental groups, culls of quasi-governmental agencies, and the reimposition of cooperative, community-based structures on MLAs that were previously encouraged to be unrestrictedly competitive, all prominent features of Labour policies from 2001 onward.

Joined-up governance (JUG) has been a central element of reintegration in the United Kingdom under the Tony Blair government, and its main lineaments and problems have been well described already (6 2004; 6, Leat, Seltzer, and Stoker 2002; Policy and Innovation Unit 2000; Pollitt 2003). We focus narrowly here on major departmental amalgamations at central or federal levels—such as the creation of the Department of Homeland Security in the United States, a response to the previous deficiencies of agency fragmentation highlighted by the 9/11 terrorist massacre (Wise 2002); the merging of employment service and welfare benefits operations in the United Kingdom’s Department for Work and Pensions; and the integration of the Inland Revenue and HM Customs and Excise into a single U.K. national tax agency. These seemingly conventional (outwardly almost 1970s era) changes in fact have a novel character chiefly because of the IT convergences involved in them. For instance, the planned U.K. tax agencies’ merger rests on an extensive IT integration program.

Re-governmentalization involves the reabsorption into the public sector of activities that had previously been outsourced to the private sector. The biggest example so far has been the transfer of some 28,000 airport security staff from private contractors in the United States to the federal civil service, required by the Senate as the only sure corrective

to the problems highlighted by the 9/11 terrorist attacks, where the suicide hijackers passed through privatized airport security systems (see Moynihan and Roberts 2002). The de facto re-nationalization of Railtrack's infrastructure provision functions in the U.K. railways after the company went bankrupt in the summer of 2000 is the second leading example. The government first replaced Railtrack with a government-owned, not-for-profit infrastructure company, Network Rail, which answered to a Strategic Rail Authority (SRA). But then in 2004 the government abolished the SRA, made Network Rail more explicitly a public agency, and imposed direct Department of Transport control on it (House of Commons Transport Select Committee 2004).

Reestablishing central processes has been important in the lagged appreciation that NPM's fragmenting changes have duplicated multiple hierarchies, each accomplishing over and over some very similar generic functions, such as nonstandard procurement, recruitment and human relations, or e-government operations. Varied initiatives have begun reimposing order on the erstwhile anarchy of competing separate initiatives from the NPM era, especially in the IT area with the Canadian and U.S. Federal Enterprise Architecture Programs (FEAP). In the United Kingdom, centralized "e-change" programs have been extensively funded. However, these large-country initiatives lag years behind effective government-wide programs launched by small countries like Singapore and Finland, which were often more resistant to NPM influences in the past and hence retained stronger central processes from the outset.

Radically squeezing process costs emerged as a subtheme of the Bush administration's FEAP efforts, but it acquired much greater political prominence in the United Kingdom in 2004 when both the Labour government and the main opposition parties outlined plans for quantum reductions of at least 80,000 civil servants (out of a total of 530,000) over a five-year period (see Gershon 2004). The big reductions are concentrated in high IT-use departments, with 30,000 staff targeted in the Department for Work and Pensions and 15,000 from the merging of two national tax agencies. A longer-term civil service internal analysis foresaw saving 150,000 jobs, cutting civil service numbers by a quarter. Most of these changes would be achieved by the next three elements, with the aim of shifting resources to "frontline" staff.

Reengineering back-office functions partly aims to realize the productivity improvements offered by newer IT, by consolidating "legacy" labyrinths of discrete mainframe facilities and associated administrative units, which grew up piecemeal in the 1970s and 1980s and which were never simplified in the 1990s. In the NPM countries where IT system messes were merely outsourced but not modernized or redesigned, this potential is considerable. The other part of this program involves the redesign of back-office functions, a development facilitated by the system integrator corporations' concern to streamline the demands upon them, which in most cases has proved to mean persuading government agencies to scrap historic processes devoid of current rationale. Business process systematization may be undertaken either by agencies directly or by outsourced contractors on their behalf, as in the growing moves toward either single agency-level IT contracts with a single systems-integrator firm or with a cooperative multifirm team, often replacing myriads of cross-cutting contracts for discrete systems and processes. Yet the past rhetoric of NPM now has such a life of its own that even clear-cut reintegration moves like this are often strangely represented as somehow a further diffusion of power from agencies into "networked governance" arrangements (Goldsmith and Eggers 2004b).



Procurement concentration and specialization have progressed considerably in the United States, both as a result of changes in the National Performance Review period (Margetts 1997) and in IT especially with the growth of Government Wide Acquisition Contracts (GWACs), which accounted for 39 percent of American public sector civil IT procurement by 2003. But in the NPM core countries these ideas were neglected. In New Zealand the government outsourced its key competencies in contracts-drafting to private sector lawyers and consultants, as chief executives on short-term contracts themselves covered their positions against risks, more concerned with ensuring process-proofing and a clear audit trail than with contracting innovatively. In the United Kingdom the NPM era produced a considerable duplication of procurement functions across departments and agencies. A 2004 efficiency review conducted for the Treasury concluded that £20 billion of cost savings could be made within four years from a range of measures, including a shift to smarter procurement, carried out by a few major procurement centers instead of independently by 270 departments and agencies at the national level (Gershon 2004). The high rate of change involved in the NPM search for new ways of involving private capital in public services also meant that many government organizations made serial decentralized mistakes in running first privatizations, next PFI processes, and then public-private partnerships (PPPs). By 2002, when the PFI process was supposed to be mature, the U.K. National Audit Office found that still only one in six agencies had provision to share in refinancing gains with their PFI contractors (NAO 2002d).

Network simplification involves a recognition that the characteristic problem of modern bureaucracy is not budget-maximizing officials trying to expand their budgets and turfs. Instead, the bureau-shaping model (Dunleavy 1991) implies that a growing problem will be officials setting up boutique-bureaucracies, which will create complex top tiers of regulatory or guidance agencies for highly articulated networks of public agencies and quasi- or nongovernmental bodies (see Hood, James, and Scott 2000; James 2000). The multiway fragmentation of the U.K. rail industry provides one of the most exaggerated NPM outcomes here; at one time in the late 1990s three separate regulators covered rail infrastructure investment, rail safety, and the licensing of train companies. Streamlining regulatory overviews and simplifying underlying networks can stop the creation of multiple management teams in highly balkanized policy areas, each of which partly make more work for others to handle.

There are six main components of needs-based holism, all of them going far beyond the conventional bounds of joined-up governance processes, discussed above. Needs-based holism involves a thoroughgoing attempt to prioritize away from the NPM stress on business process management and toward a genuinely citizen-based, services-based or needs-based foundation of organization (see 6, Leat, Seltzer, and Stoker 2002). Its implications run throughout the public sector networks involved—dictating new macrostructures, new fine-grain reorganizations, reevaluations of processes and fundamental changes of management styles and information systems, and new modes of responding agilely to emerging problems. New integrating political authority structures are key stimuli for holistic change because “history suggests that substantial improvements in public services stem from broader forces in society—from political movements and community action” (Hambleton 2004, 2).

Client-based or function-based reorganization revives the now very old-fashioned practice (dating back to the Haldane Report [1918] and Luther Gulick [1937]) of reintegrating agencies around a single client group, instead of the NPM focus on discrete

business processes. A good example is the Pensions Service inside the United Kingdom's Department for Work and Pensions, which pulls together all benefits for old people in a distinct administration. Alternatively, a macrofunctional or macroprogram rationale has proved key in the United States's new Department of Homeland Security, which pulls together some twenty-two federal agencies that previously operated separately for decades under successive public management regimes.

One-stop provision takes various forms, including one-stop shops (where multiple administrative services are provided by the same co-located staff), one-stop windows (where only the customer interface is integrated), and Web-integrated services (where the customer transparency and cross-services integration is primarily electronic). The impulse here is for government agencies to proactively mesh provision across erstwhile separate fiefdoms, so as to resolve "lead agency" and duplication problems and to reduce the high cognitive burdens and compliance costs placed on citizens or businesses in the NPM heyday. Key examples have been the pulling together of previously separated employment and benefits services for working-age people in the United Kingdom, again in a new kind of client-focused agency, Jobcentre Plus, following a pattern initiated much earlier by the pioneering Australian Centrelink agency (Halligan 2004; Select Committee on Work and Pensions 2002).

Interactive and "ask once" information-seeking is the equivalent strategy to one-stop provision. Hood (1983) stressed that government agencies need "detector" mechanisms as much as they do "effectors," so that how public agencies do information-seeking has as much importance as how they do delivery. Interactive mechanisms (such as using call centers and phone forms or online e-services rather than paper-based forms) automatically facilitate agency staff and systems' taking a more holistic view of people's needs and preferences. "Ask once" methods involve a commitment by government to reusing already collected information, rather than recursively gathering the same information many times, as happened under NPM's fragmented and super-siloed administrative systems.

Data warehousing sounds simple, but in the context of most national-level taxation, social security, immigration, or security/intelligence systems in the largest countries, it is both a long way off and has radical implications. The normal administrative situation has been that different bits of information are held on separate, often mutually incompatible systems, where data matches are either difficult to do at all or have to be triggered by specific search requests. Instead, data warehousing makes case-by-case data available across multiple benefits, taxes, or security fields in a proactive way that can allow government agencies to anticipate citizens' needs or the key risks to policy. And using feasible algorithms, agencies can then proactively try to match their services to meet citizens' needs or risks.

End-to-end service reengineering draws on these innovations to look for radically different service-provision models. Under previous public management regimes, agencies often had perverse incentives to differentiate their services and processes. Despite moving the administrative furniture around a great deal, NPM reformers were actually very reluctant to undertake more fundamental questioning of administrative processes because of the focus on short-term managerialist savings. Indeed, in the fragmented New Zealand system, reengineering would pose impossible demands—for instance, requiring agency chiefs to envisage their own organization's amalgamation or to contemplate a change program extending far beyond their own short term of office. The key stimuli for taking a broader view have been all the processes above, plus the migration of key government information systems to the Web, which dramatizes and makes public the interconnectedness of provision.

An end-to-end approach ensures that project teams focus through the whole process without artificially demarcating their analysis at existing agency boundaries. A common aim now, even within single agencies, is to radically cut the length of government forms (see NAO 2003c). One Canadian social security official recounted to us how a task force that was asked to reduce a thirty-page state pension claim form by half found that it could actually go much further. By pulling together information from existing IT systems that was previously held separately, the task force could in fact replace the form completely with a welcome letter and a statement of entitlement.

Agile government processes focus on achieving speed with flexibility and responsiveness, in the process making government decision making competitive with best practice in the business sector (Dunleavy, Yared, and Bastow 2003). Two recent examples illustrate the power of the agile government case. The first is the field of international aviation security, where the standard planning assumption for more than thirty years, from the 1970s to the fall of 2001, was that potential airplane hijackers or bombers wanted to safeguard their own lives. So hijackers were resisted by closing down escape options by banning countries that were taking in hijacked planes, and bombers were countered by matching all bags on planes to passengers. Suicide bombings and attacks were increasingly common in other contexts (such as civil conflicts in Sri Lanka) for up to five years before the 9/11 massacre. But the cultural assumptions underlying international aircraft security practices were not updated, so that the previous system collapsed in September 2001 under a determined assault by nineteen, barely armed suicide hijackers.

The second example concerns the performance of the generally admired French public health care system, during a two-week Mediterranean-style heat wave affecting all of France during July and August 2003. With constant temperatures of over forty degrees centigrade, many old and chronically sick people became severely distressed at the same time as summer holidays left hospitals poorly staffed while relatives were away. National monitoring of the crisis failed to work; professions and trade union calls for action were dismissed as alarmist at the end of the first week, and no recalls of staff were issued until too late. French hospitals have few air-conditioned wards, so cooling off elderly or sick people was hard, and an estimated 10,000 to 14,000 additional deaths were charted in the heat wave period.

In both of these cases, heavily invested and well-staffed policy systems handling perfectly foreseeable problems failed because of inflexibilities and slow response times, which reflected cultural barriers to reorienting policy systems' inertial courses so as to cope effectively with a changed environment. By contrast, a stress on agility comes out of the private sector IT world, where the problems of companies' becoming constrained by past investments and losing flexibility to carry out tasks in a different manner within a useful time frame have been longer appreciated. The agile government concept denies the commonly held PPA view that government agencies operate in environments that are stable over the long term, with incubated solutions and a premium on achieving agreement among diverse stakeholders (Polsby 1984). Picked up first in the defense sphere, agile government focuses on achieving a public management and decision-making system that is capable of quickly reconfiguring to changing needs and responding to a volatile or turbulent external environment. As the U.S. Navy secretary said in October 2002: "We need an organization that is very adaptive, that is very agile and is quick. Instead of having cycles that take years, we need cycles that take months ... because the threat changes" (Dunleavy, Yared, and Bastow 2003, 3).

The third theme, digitization changes, is the most closely connected to the impacts of Web, Internet, and e-mail on public agencies, and the component changes set out here are often partially captured under the “e-government” label (on which see West 2005). Yet simple or direct technological impacts are often overhyped, with surprising levels of credence given to IT or e-government utopias that are produced by IT corporations or industry interest groups (Atkinson and Leigh 2003). In fact, the chief impacts of digitization processes are achieved via organizational and cultural changes inside the government sector plus behavioral shifts by civil society actors outside—changes in which technology shifts play relatively small if critical roles (Margetts and Dunleavy 2002).

Electronic services delivery (ESD) covers the substantial potential for most paper-based administrative processes to be converted to e-government processes (OECD 2003, 2005; Singapore Government 2000). Many post-NPM governments have adopted relatively ambitious programs and targets, as with the United Kingdom’s pledge to put 100 percent of central and local government services online by the end of 2005, backed by a £1 billion investment (NAO 1999a, 2002c). In fact, citizens’ take-up of e-services here has lagged considerably behind expectations, but once initiated it has still shown rapid growth, as in the U.K. income tax area (NAO 2000, 2002a). With U.S. household Internet access approaching 70 percent, and even relative laggard countries like the United Kingdom reaching 51 percent access, the business rationale and customer impetus for better ESD in government keeps strengthening (West 2005, chaps. 3 and 7).

Centralized, state-directed IT procurement covers initiatives, such as the £13 billion program inaugurated by the U.K. government in 2001 to remedy poor use of IT in the National Health Service (NHS), which by 2004 saw the specification of service-wide systems and contracts taken up by individual NHS trusts and agencies. Here the clarification and eventual imposition of a central network concept and design by a remarkably strong contracts team (operating in the public sector but largely recruited from the private sector) proved to be a vital in overcoming more than a decade and a half of paralysis under previous NPM arrangements.

New forms of automated processes encompass in particular the “zero touch technology” (ZTT) approach, pioneered in the private sector by companies like Cisco (Lucas 2002). In ZTT the ideal is that no human intervention is needed in a sale or administrative operation. There are huge areas of potential application in well-designed and modern public agency operations. For instance, the surveillance and control system for the London congestion charge is an almost ZTT process. Once the entry of a particular car has been paid for, its number plate is automatically counted as valid in the monitoring machinery, or turned up as an apparent exception if not paid for, with the vast majority of cases not requiring staff attention. In 2004 the United Kingdom’s national transport department outlined a plan for universal road charging based on satellite tracking of all vehicles.

Radical disintermediation denotes the potential for Web-based processes (including equivalent digital TV or mobile phone links) to allow citizens, businesses, and other civil society actors to connect directly to state systems, without passing through the previously universal gatekeepers in the form of civil service or agency personnel. Of course, Web-based or other automated systems in practice need substantial backup and help-desk systems. But the most innovative quality of disintermediation changes is that civil society actors who know their own situations very well are able to autonomously sift and select what they may receive from government. Disintermediation is essentially accomplished only when citizens or consumers of public services change their behaviors in line with

facilitating shifts by government agencies and officials. The potential for mismatches here is considerable, and there has inevitably been a learning curve in which some options are not actually offered in a usable form by the bureaucracy or where viable options offered to citizens are taken up only partially or slowly.

When genuine innovations are allowed to happen, however, the changes can be considerable. For example, transport authorities in London in 1998 decided to install charging technology in underground rail stations and buses for using a smart card (called “Oystercard”), which allowed users to put credit on their card and then pay for any form of mass-transit journey by swiping the card past an automatic reader. At first, the 350,000 existing holders of paper season tickets were switched to the electronic card, but then card users grew in four years to more than 2.2 million, with large cost savings in ticketing staff, big reductions in peak-hour queuing times, and increased use of mass transit by passengers, for whom the ticket-acquisition phase no longer featured in their journeys. Adding a Web-based card-issuing service and the ability to “top-up” cards’ credit online completed the disintermediation picture for customers.

Active channel-streaming occurs when governments face up to the extra costs and difficulties of multichannel access, abandoning the common initial position of simply adding electronic service channels to existing capacity. Instead, they move to a strategy of actively managing displacement of service users to electronic channels. There are two main options here: incentivizing people to switch by providing e-services with lower costs or greatly improved functionality (as with the Oystercard above) or legally compelling people or businesses to change over how they transact with government agencies (Margetts and Yared 2003).

Facilitating isocratic administration and co-production is a ponderous label that denotes a shift from agency-centered to citizen-centered (or business-centered or stakeholder-centered) processes, where citizens or businesses substantially run their own interactions with government. Isocracy is self-government, going beyond simple disintermediation. The self-administration concept reflects greater acceptance of the importance of quasi-voluntary and self-directed compliance with government in liberal democracies. The key new role for government’s administrative apparatus is not necessarily directly collecting taxes or enforcing compliance in a detailed way so much as holding the ring and solving the assurance problem for people who are initially predisposed to cooperate but are anxious not to be “suckered” into isolated cooperation when others can defect without penalty. Similarly co-production involves citizens or businesses partly producing outputs with government. For instance, the key “production” work in generating recycling materials that are pre-separated for processing is primarily done by citizens and businesses, leaving a much simpler and cheaper collection and transport task for government to accomplish. In the digital government era, citizens and businesses will increasingly co-produce most individual outputs using electronic processes, leaving agencies to provide only a facilitating framework. A possible downside of this trend may be decreasing governmental nodality as a consequence of the greater segmentation of communication that may accompany the Internet age (Sunstein 2002).

Moving toward open-book government means shifting from “closed files” government on the Weberian pattern to allowing citizens to look at their own medical files and monitor their own treatment or to actively manage their own tax account, exploiting holistic government, data warehousing, and greater self-administration. Creating data protection and freedom of information regimes is also crucial in persuading public opinion to

accept facilitating changes, such as identity cards, long resisted on civil liberties grounds in some large advanced societies. Increasing transparency has been a long-run trend in Western governments, since well before the NPM wave (OECD 2004). DEG processes add a new impetus for a more agile and customer-centered approach, opening up a prospect for citizens or businesses to easily track and self-monitor the processing of their applications or cases. Fully open-book systems are still some way off, but there are reasonable templates of how they might operate in smaller countries such as Sweden, and even models of “open-book” corporations in some parts of the private sector (Martin 1999, chap. 4).

## **CONCLUSIONS**

Socialized as we are into disparaging the idea of technologically determinist processes of social change, most social scientists will be initially skeptical about the transformative potential of the next phase of public administration changes. And it is important to stress that there is nothing automatic about digital-era governance processes being widely adopted or forming a coherent new direction for government. Like any other “over the horizon” projection, our predictions may partly misfire. Like NPM before it, DEG may also attract additional components, which are not anticipated here, that significantly change its character.

Comparing across tables 1 and 2 shows some instances of digital-era governance processes that directly reverse NPM changes and many others which are at a tangent to NPM priorities and orientations. There are some important questions in leading-edge countries about whether managers and political elites, long educated and socialized in NPM approaches, will actually be able to change direction radically enough to fully exploit the potential of DEG reforms (Bastow, Dunleavy, Margetts, and Tinkler 2000). Sets of different scenarios are feasible to the coherent implementation of interrelated policy shifts envisaged above. One alternative “digital NPM” outcome might see DEG changes very selectively adopted only where they least cross-cut existing NPM policies. For example, reintegration changes might be used to cut staffs but not to combat vertical siloing of government agencies via fundamental reengineering or to significantly improve the quality of service to citizens. Another scenario different from our analysis might see administrative and political elites implementing conflicting NPM and DEG directions simultaneously but unself-consciously, cross-cutting each other in counterproductive ways so as to create chiefly a policy mess. A third alternative possibility is that NPM-educated elites may simply be so slow to change public management in DEG directions that state agencies fall further behind the curve of modern rationalization processes. In this case the government sector could progressively residualize as a laggard sector of society and the economy and become less and less central in society’s information networks and progressively more starved of resources in consequence.

Even if DEG-type changes are apparently implemented as envisaged here, there are also many voices that warn of potentially adverse consequences and even policy disasters ahead. Civil liberties groups critique data warehousing without adequate individual privacy rights, especially when such data is linked to ever more intrinsically personal identifiers, such as biometric data and genetic information. At the same time, government agencies’ capabilities may be enhanced by the continuous (real-time) tracking of mobile phones’ or cars’ positions and the use of face-recognition software, along with closed circuit television cameras in urban areas, combined with enormously enhanced massive IT storage and search capabilities. The spread of RFID (remote frequency identification)

chips in perhaps every private sector product could also expand police or government agencies' forensic abilities. The joint impacts of these developments could yet create a universal surveillance apparatus unparalleled in human history, engendering pervasive reductions in privacy without transmuting into any genuinely enhanced service provision for the public at large. Similarly pervasive use of biometrics and RFID chips could easily push ahead corporate product manipulation and standardization capabilities, adding a Web-based/electronic loop to the putative "McDonaldization" of society (Ritzer 1993). DEG changes are also as vulnerable as any previous initiatives to problems of rhetorical self-deception, political hyperactivism, and initiatives for initiatives' sake, as perhaps the United Kingdom's controversies over introducing identity cards demonstrate. Zigzag government policies—broader switches to and from decentralization/centralization or agencification/reintegration—can also be cynically interpreted as inevitable cycles, familiarly echoing previous ebbs and flows of "reforms" that prove in a long-run perspective to be only fads and fashions—the quasi-structuralist view apparently adopted by Hood (1998).

Despite these uncertainties and alternate possibilities, in our view the current period still remains unique. It holds out the promise of a potential transition to a more genuinely integrated, agile, and holistic government, whose organizational operations are visible in detail both to the personnel operating in the fewer, broader public agencies and to citizens and civil society organizations. A certain penumbra of fashions and regressions will almost inevitably surround the swing to DEG strategies in leading-edge countries. But a strong, underlying, upward modernization momentum can still persist and achieve cumulative improvements. The aim of a coherent and self-conscious digital-era governance strategy would not just be to achieve a time-limited or one-off direct stimulus to social problem-solving like earlier management regime changes. It would also encompass opening up government to others and to itself, so as to create a radically less complex institutional and policy landscape, engineered for simplicity and automaticity in routine operations and for agility and responsiveness in service delivery and government's monitoring of the risk environment. Digital-era changes inside the government machine would be closely meshed with and run strictly in parallel with increases in citizens' autonomous capabilities for solving social problems. They would go with the grain of what civil society stakeholders are doing anyway, as the digital era unfolds further. For public managers the trick will be to help make it so.

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