

# Towards morally defensible e-government interactions with citizens

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This paper looks at citizen-facing e-government. It considers how the non-discretionary nature of the citizen's relationship with government makes citizen-facing e-government different from business-consumer e-commerce. Combined with the moral basis of the state, the paper argues that there is an obligation for the state to set an example, which should affect the design of citizen-facing e-government, with design-for-all being an appropriate philosophy. Other consequences should include a preference for open standards and a wariness of unintentional endorsement of commercial products. E-government should also offer a good level of data protection and security, and has a role in educating citizens in matters of computer security. Advantages and disadvantages that may come from e-government adoption are considered, including a number of ways in which cost savings and increases in convenience may be achieved. There are brief discussions of questions of distribution of the benefits of e-government adoption and of the relationship of e-government to e-democracy.

Keywords: Electronic government, government to citizen, non-discretionary, design, obligations

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## SCOPE

While it would be interesting to write a paper about internal transactions within and between governmental bodies, or government interactions with business, that is not the subject matter of this paper. Some similar considerations apply, but there are relevant differences too. We believe it is in the sphere of interactions with citizens that the most distinctive issues arise with e-government. Businesses have dealings with those same people, but while there are some significant similarities between citizen-facing e-government and business-consumer e-commerce (Beynon-Davies, 2005, p5), there are also substantial differences. The business-consumer relationship is usually different from the government-citizen relationship (Beynon-Davies, 2005, p19) in that the typical business-consumer relationship is discretionary in a way that typical government-citizen relationships cannot be.

## IMPLICATIONS OF SCOPE

What is appropriate for government may be different from what is appropriate in a commercial setting - this comes about not just because of the compulsory nature of the relationship with the state, but also because of the different moral basis.

Because we are setting the boundary of the scope of our consideration at the boundary of government-citizen relationships, we need to look at that boundary in a little more detail. A complication comes with distinguishing between government-citizen relationships, and business-consumer relationships (Kearsey & Varey, 1998, p.53). E-government is quite different from e-commerce in a number of ways (Carter & Belanger, 2004, pp.1-3), yet at different times and in different places, the same activity can be undertaken by the state, or by business. Thus when electricity is supplied by the state, is it part of the government-

citizen relationship? When services more usually seen as core activities of the state, such as tax collection, are contracted-out to business, does the relationship to ordinary citizens become a business-consumer relationship? A further complication arises when considering private non-governmental organisations (that are not businesses), and quasi non-governmental organisations: where does the state end and private organisations begin (Greve, Flinders & Van Thiel, 1999)? The key question, it appears, in deciding the boundary for analysis here, is whether the relationship is discretionary – can the individual citizen realistically avoid entering into that relationship? Thus in situations where electricity use is uncommon, it does not form a central part of the government-citizen relationship, even if electricity supply is a government monopoly. On the other hand, where citizens have no other technologies to survive, any monopolistic electricity supply business may have a relationship with the individual more akin to a government-citizen relationship than a normal business-consumer relationship (presuming the individual is unable to move to somewhere where such a situation no longer applies). Two elements thus appear crucial: can the citizen/consumer avoid entering into such a relationship altogether without substantial disadvantage (or effective exclusion from society), and can the citizen/consumer, in entering the relationship, choose who to deal with (Kennedy, 2000, p.4)? If the answer to both is no, it is most likely that the relationship is suitable for analysis as a government-citizen relationship, and that is what provides the central area of analysis here. If the answer to either is yes, even if the service is provided by the government, it may not fit government-citizen analysis so well, unless it is linked to non-discretionary elements (perhaps by data transfer).

The different moral basis between business and the state is relevant – the moral basis of the state is to serve citizens (e.g. Walzer, 1977, p. 54) present and future<sup>1</sup> (and in some cases, or following some arguments, god). The moral basis of business necessarily has an additional requirement to serve the shareholders (e.g. Kearsley & Varey, 1998, p.53).<sup>2</sup> This means that business has a responsibility to shareholders that will sometimes limit what it can do to benefit the other stakeholders (such as customers, the general public and the environment). This difference is amplified because in many states the government and legislators routinely claim a moral basis for newsworthy actions, whereas it is relatively rare for business people to gain the same amount of news coverage when they claim a moral basis for their actions.

The nature of the government-citizen relationship also suggests that there is a greater need for

accountability than there is with a normal business-consumer relationship. People are often vulnerable to government decisions, in a way they are not to many commercial decisions. This arises both because of the salience in the citizen's life, and because even businesses in a monopolistic position virtually never truly have 100% of the market. The need for accountability means that there is an even greater need for decisions to be challengeable than there is with business. This implies that there is a need for records of decision making, both automated and human.

A further element that makes e-government different from e-commerce is the relevance of political pressure in e-government. There is a danger of over-ambitious targets being set for political reasons (Irani et al, 2005, p.72). The pressure to meet these targets may result in a number of further problems: most obviously resulting in inadequate testing, but also an increased likelihood of systems failure, and the full range of consequences thereof. Some may question whether this really makes e-government different from e-commerce: after all there are plenty of examples in business of senior management exerting excessive pressure to complete computer systems within timescales that are unrealistic. The differences are firstly that the likely consequences for business are financial (either directly or through compensation), and secondly that business managers are (in general) more likely to be restrained by the likely consequences of systems failure than politicians. This is partly because in business there is more of a culture assessing financial risks, whereas among ministers, what matters is more likely to be political risks, which can rarely be quantified in the same rational way as financial risks (Irani et al, 2005, p.72). Further, in government ministers are quite often able to cover-up failures in a way that is rarely possible to the same extent in similar-sized businesses (in some regimes covering-up may be by completely hiding the evidence of failure from the media, while in others it may be by releasing news about a failure simultaneous with other news that will attract even greater attention). There may also be laws in place to prevent the payment of compensation to citizens for government failures (for example for many years, until recently, there was 'Crown Immunity' in the United Kingdom).

## WHY E-GOVERNMENT?

A key argument for e-government is that it offers increased convenience (see e.g. Heeks, 2002). For those who use e-government services, there are potential advantages, notably (but not exclusively) in

terms of access to textual, pictorial and even multimedia information outside of office hours. Advocates also point to the potential for cost savings: some tasks that previously were laborious can be automated (for example some processing of forms submitted), while others can be re-located away from expensive city-centre offices. Together these suggest that there are good arguments in favour of e-government (at least to weigh against any disadvantages).

The cost savings associated with e-government can arise in a number of ways. One key way is through citizens accessing self-service information. Where information is provided face-to-face, by post or by telephone, each interaction inevitably takes the time of a civil servant (Whitson & Davis, 2001, p83), and there are costs associated with paying and providing office space for that civil servant. By contrast the costs with electronic provision arise at set-up, and the extra cost for each user is very close to zero. Thus if a significant number of those who would previously have requested information can be directed to self-service electronically provided information, cost savings can be achieved (Whitson & Davis, 2001, p87). There may also be related savings for government on the printing costs of information leaflets (although it is worth noting that in some cases it is just that the cost has been externalised, and passed on to, for example, the citizen or their employer or community groups acting on behalf of citizens).

There is a problem with this, however, since as Coleman (2005) points out, "information cannot be demand driven". Thus for some relevant types of information, until you know the piece of information, you cannot know whether you want it. At one level this implies that the full range of information ought to be made available: thus in order to realise the cost savings, a huge amount of information must be put online, giving a very substantial initial cost. Amongst what ought to be made available will be obscure sources that it may be nobody ever actually refers to, and which thus would have cost very little to store before e-government. It is certainly possible that the initial cost of making information available online may be so great that cost savings become impossible. This oversimplifies the issue of the relationship between information needs and information demand. Simply making information available online still leaves it demand-driven, since citizens still need to click on a link or choose an option (or similar) to receive the information. Thus, for example, people only want to know the detail of what a law says if it is relevant to their situation, but unless they have someone guiding them, they do not know which of the vast number of laws might be relevant to their situation, and (as so often is the case) they certainly can-

not examine all of the possible ones, since this would result in information overload. Therefore, there is also a need for morally defensible e-government interactions with citizens to make available human (as well as automated) guidance about where to find relevant information.

There may be other 'customer service'-type elements that can be automated, for example, the provision of information on the progress in processing a form (or lack thereof). More radical are the situations where (some elements of) the processing of forms themselves can be automated, with citizens filling some forms online (Tan & Pan, 2003, p.273-4), or in complex cases filling some elements online, and other elements on paper. As well as the direct savings, in many cases the automated processing allows for easier and greater integration with other governmental computer systems. One impact is a reduction in the need for data entry clerks, giving a direct cost saving (Beynon-Davies, 2005, p.16). A second is opening the way for increased data sharing between governmental departments, giving rise to the possibility of more up-to-date and accurate information being used (Beynon-Davies & Williams, 2003, p.146), which can lead to indirect cost savings, as, for example, needs are more accurately identified.

E-government certainly has the potential to offer cost savings, but they must actually be realised, and that is not easy, since e-government projects are expensive. A further concern is that cost savings may be at the expense of reduced service levels for some: for example, if city-centre personal enquiry offices are closed, some of those who used those offices may be inconvenienced by having to seek the information in another way, or another place that they find less convenient.

As already mentioned increases in convenience can be achieved by e-government through enabling access to textual, pictorial and multimedia information outside of office hours (Beynon-Davies, 2005, p5), with the additional benefit that e-government can obviate the need to travel to an office or wait for documents to arrive through the post. Automating 'customer service'-type elements may result in increases in convenience, making 'customer service' available without the lengthy waits in queues that may be required for face-to-face or person-to-person telephone enquiries. Where there is automated processing as part of e-government, there may be further gains in convenience, as it may be possible for changes in circumstances to take effect immediately. In addition, some of the convenience of personalised content that is possible with retail websites may be transferable to e-government websites (Beynon-Davies, 2005, p16). These gains in convenience may

be very substantial, and may be sufficient on their own to justify the introduction of e-government, even if not accompanied by cost savings.

The extent to which increased convenience (for some) should be weighed against disadvantages (including reductions of convenience for others) in considerations depends on the relationship between the distribution of such increases in convenience in the population and the underlying moral stance. Simple cost-benefit analyses will judge increases in convenience equally, no matter whose convenience is increased. More philosophically sophisticated analyses will place greater weight on improving the situation of the disadvantaged, perhaps to the extent that increases in convenience for the advantaged will not themselves count positively, unless they can be harnessed to produce beneficial effects for others (as in a Rawlsian-style maximin analysis, see White, 2006, pp4-5). Given the way citizens are vulnerable to government decisions, it certainly appears that government must aim for the increases in convenience to be widespread, and not restricted to those who have home PCs to recent specifications, who will to a large extent be an advantaged section of the population.

There is a complication with respect to at least one type of disadvantaged citizen. E-government may be promoted on the basis that it offers an easy route to providing access to services for many disabled people, but the situation often is different from the situation with respect to non-disabled citizens. There is a danger that e-government provision may be seen as an excuse for not making adequate provision for face-to-face contact between disabled citizens and officials. By contrast, for non-disabled citizens, e-government normally builds on a situation where face-to-face access to government services has been adequate. Thus there is a concern that e-government may inhibit the provision of adequate face-to-face services for disabled people. The concern is particularly acute when disabled people have a low income – an experience so common in country after country that “poverty should be seen as one expression of the institutional discrimination disabled people face” (Beresford, 1996 p553, p557). Whenever e-government delivery is built on at-home or in-workplace use of information and communications technologies (ICTs), disabled people are likely to be disproportionately excluded from e-government unless there is particular provision to overcome that exclusion. There are parallels here with e-government provision for other excluded groups. For example, e-government is seen as a way of providing women with access to government services in Saudi Arabia (Al-Shehry et al 2006, p 18), but other considerations, such as the likelihood of adequate non-electronic

provision, mean a conclusion about the desirability of e-government provision as a means to overcome exclusion may vary from situation to situation.

It was mentioned above that cost-savings may result from increased data-sharing within government. It is important to note that such increased data-sharing may have disadvantages too. One of these is that inaccurate data may spread further and faster through the system, resulting in more problems than if its flow and spread was restricted (see Fairweather & Rogerson, 2001, pp.231-232 for a medical parallel). A second may be a loss of legitimate privacy for the citizen: it may be, for example, that part of government needs to know that a citizen is disabled, and even what medical condition underlying any impairment might be, but that data should not be shared across the whole of government and accessible to tens of thousands of civil servants who have no need to know it. Even if particular protections can be built in against this sort of invasion of privacy, and any other that can be identified in advance, data-sharing may result in other types of invasion of privacy that have not been identified in advance. A third disadvantage may arise when false inferences are made from data-mining the shared data (Birrner, 2005, p.72). A fourth disadvantage is that in sharing data several copies might exist some of which might be modified but others might not. This will result in different versions of the “current” information existing which may well lead to citizens being treated differently based on which version is used. These various disadvantages of increased data-sharing need to be weighed against the benefits of e-government already mentioned, wherever data-sharing is part of e-government.

## DUTIES IN E-GOVERNMENT

Once minimum standards have been met, it is appropriate for business to balance its obligations to the general public with obligations to shareholders, meaning that on occasions a reasonable interpretation for an observer to take is that the business has not followed best practice in some activity because (although it has maintained a good standard), the costs of following the very best practice have been eschewed in the interest of shareholder value. The nearest equivalent balance for government is to balance one obligation to the general public with another. While in principle this may justify some cost savings by departures from best practice, even without the question of moral example, the balance will place a greater burden on government to follow best practice than falls on business.

The question of moral example is particularly relevant because of the combination of the moral basis of

government, and the frequency of moral claims by government and legislators. This is amplified because government claims to have a rightfully monopolistic position in a way that businesses very rarely attempt (and even less frequently carry off). Thus it is reasonable for others to look towards government for a moral lead.<sup>3</sup>

The overall effect is that government has a general duty to provide a moral example. This impacts on e-government in three ways: there is a duty to set a positive example, and secondly a duty to avoid bad practice. Thirdly there must be an obligation to avoid doing things that could be wrongly (but reasonably) interpreted as setting an example that others should follow. There is virtually no scope for moral neutrality, so those involved in making decisions in e-government need to be constantly aware of the impact of the example they are setting.<sup>4</sup>

The obligations to provide a moral example, and to avoid doing things that could be wrongly interpreted as setting an example, together suggest that those implementing e-government should be wary of implicit endorsement of commercial products (and wary of vendor lock-in, see Simon, 2005, p.229). A simple example can be found in the case of wishing to provide access to a document. Currently many are provided in Microsoft Word or Adobe Portable Document Format (pdf). In very many cases an HTML document will be the best way to provide access (and those who doubt the adequacy may like to look at the HTML versions of documents that some search engines automatically generate). Where a document is provided with the intention that citizens can edit it in a word processor, the non-proprietary Rich Text Format will almost always be adequate (and will not cause difficulties to the very high proportion of users who will wish to use Microsoft Word as their word-processing program). If no adequate non-proprietary alternative to offering a document in pdf can be found, links should be provided to non-commercial readers. It is, of course, possible that government will intentionally endorse a commercial product. The circumstances under which this should be done may need careful consideration – but we will treat that as a matter for another paper.

Government, like other holders of data about individuals, has an obligation to provide a good level of data protection and security (Just, 2003, p1). For government this obligation is intensified by the fact that government sets a moral example. Thus, it is not enough for systems to be appropriately secure. Rather, they should also follow good practice and, crucially, explain to users why it is good practice. This is because government has a general duty to promote the welfare of its citizens that does not go away while it is carrying out other tasks.

The security requirement on citizen-facing e-government may differ from e-commerce in that there are fewer opportunities for direct financial gain than in many attacks on e-commerce, but there are still very substantial assets that need to be protected. The list of such assets would be prohibitively long, but one obvious type of asset that e-government needs to protect from attack are permits of various sorts (which are especially valuable when they would have been denied). Substantial security measures are thus appropriate. Governments also hold vast quantities of personal data (much of which could be valuable to criminals). A fair proportion of the security can, and should, be invisible to the citizen, and should mean that the days of successful intrusion to government websites is a thing of the past (e.g. Evers, 2001). However, on current technologies, more citizen involvement is needed in ensuring privacy and security of data in transit, by checking that certificates are relevant, valid, and not revoked, for example. This is the type of situation where it is not enough for a good level of security to be offered: citizens need information, to be empowered to enable them to usefully check site certificates on other (commercial) websites (which too often blandly, but verbosely, say 'you can trust us' without explaining how they can be distinguished from criminals who also say 'you can trust us').

Given the frequency of insider attacks, with perhaps 70% of attacks coming from insiders (Schneider, 1999, p.112), government systems are likely to incur extensive security abuse by civil servants. There, thus, should be an identification of which data is relatively sensitive, and for that data clearly defined limits of access for each type of authorized person. Systems should provide security alarms linked to all functions that involve an element of browsing, copying or reporting of sensitive data (cf Fairweather & Rogerson, 2001, p.231). Additionally, for all data there should be records of when data has been accessed by those within the civil service who are outside the normal range of users for that data.

In this respect, it is worth remembering that surveillance is a possible consequence of data-sharing within government: in this context surveillance can be thought of as the piecing together of disparate elements of data about an individual to gain an overall picture that is greater than the individual would choose to disclose. It may be that there are occasions when the surveillance reveals fraud or other wrongdoing, and there may be other occasions when it is even used to benefit the citizen (Dornan & Hudson, 2003, p.478), but even when it is used with the intention to benefit the citizen, it is not clear that such a

paternalistic invasion of privacy will be justified (Adam, 2005, pp.7-8). The system described by Just (2003, pp.2-3) should, in principle, enable the citizen to control the extent of data-sharing.

One of the greatest duties on e-government providers is to ensure good design. In the context of e-government this should be interpreted as design-for-all (Saxena, 2005, p.503). Government has a duty to all its citizens, not just those who are well-educated, but also those who have difficulty reading. Indeed, there should be an attempt to minimise the amount of content that is unsuitable for independent access by people with cognitive impairments. As part of this, materials should be written in plain language (with short words and short sentences),<sup>5</sup> and there should be meaningful illustrations. Destounis et al. (2004) point out that designing to enable access by people with cognitive impairments can lead to a universal interface which is easy for all to use. Voice and animation should be considered as additional forms of communication.

A key element in good design-for-all is that display settings for font sizes and colour contrast (Edwards, 1995, p.38) should be taken from extant settings on the computer (cf Fairweather & Rogerson, 2005b, p374).<sup>6</sup> The practice of designing websites that override or nullify these user preferences remains regrettably and unjustifiably common.<sup>7</sup> Another practice that remains regrettably common is a features-first design approach: Merrill and Feldman (2004) are correct to indicate, rather, that the primary driver in design must be genuine user needs.<sup>8</sup> Where interaction is involved Meyers (2004, p.14) argues, helpfully, that the most important design principle is to “make interfaces easy to use correctly and hard to use incorrectly”. There also needs to be feedback that attempts to reassure that use of system will have the intended effect (or feedback that it will not) (Preece et al., 2002, pp.20–21) and mechanisms to correct errors.

It is unreasonable for e-government systems to insist on citizens providing a numeric identifier unless one is needed for security – government needs to remember that the different relationship it has to citizens makes practices that might be tolerably acceptable in business use unacceptable in e-government. There is a need for systems to accept gracefully that citizens do not always know (accurately) data that might be used to identify them (such as postal/zip codes), rather than always refusing to accept the data input if it is incomplete or inconsistent, even in circumstances when security is not an issue.

There is, however, a factor that may inhibit the rate of adoption of good practice, the need for consistency, which requires a coordinated approach to changes to adopt new good practices.

For all those who run websites for service providers, their particular website is all-important. It is hard for them to remember that their website is only a very small and infrequent part of the life of their user. Government as a whole may have an aim that the total e-government offering will be more significant and frequently used, even if all the individual elements of that offering are less significant and frequently used. The consequence of this is that there should be a strong presumption in favour of consistency (Just, 2003, p6) between the different government units: citizens may have dealings with various departments and agencies of central government, and different sets of sub-national administration/government where they live and where they work/study. These sets of sub-national administration/government may come in a number of tiers (for example in parts of England there are parishes within districts, which are themselves within counties, which are part of regions). The learning curve for citizens is made much more manageable if there is a high level of consistency between the designs of the various systems.

## E-DEMOCRACY

There is no doubt that the government-citizen relationship expressed in e-government relates to the democratic government-citizen relationship, and governments see potential in using ICTs to promote democracy (Beynon-Davies, 2005, p5). There are, however, crucial differences between e-government and making the democratic relationship electronic, since voting is not a service provided by government, so much as a process by which citizens give (some degree of) legitimacy to government and (at least in theory) have some opportunity to influence the composition of the government.<sup>9</sup> Another reason for treating voting differently from government services is that the democratic process is far more sensitive to politicisation of control than service provision. While certainly partisan political control of service provision carries dangers (notably that of a permanent minority being given systematically worse provision), partisan control over the voting process can be hostile to democracy, giving the possibility for political interference to affect the policy outcomes for more people, and more substantial extra rewards for the victors.<sup>10</sup> From a development perspective, both applications can be viewed as safety critical systems with e-voting applications being more critical than e-government.

There may, however, be other ways in which e-government and e-democracy can be beneficially related. E-consultation is most fruitfully integrated with the e-government facilities on related topics,

since that is the way the consultation is most likely to naturally come to the awareness of those affected. Certainly there is a danger that e-consultation may be abused, but we suspect the dangers are no greater than with any other form of (off-line) consultation. Equally, consultation may need to be promoted in ways other than on the e-government facilities on the most closely related topics: for example a consultation about speed limits for driving that is only promoted by a link from an e-government facility for payment of penalties incurred from driving faster than speed limits can be expected to get an unduly one-sided response.

E-consultation is in some ways a particular instance of a more general way in which government can use electronic media to promote democracy. Facilitating democratic deliberation (Fairweather & Rogerson, 2005a, pp.164-5) could rightfully be seen as an e-government service. Few organisations other than government have the resources to properly facilitate democratic deliberation, and as with e-consultation, integration with the e-government facilities on related topics most naturally brings the debate and deliberation to the awareness of those affected. Indeed, the truth is that government often has more ability to bring a debate to the attention of people with a variety of perspectives than other organisations: the whole range of citizens has dealings with government after all. Thus an e-discussion (or e-consultation) about speed limits for driving can, and should, be publicised on e-government facilities aimed at cyclists and pedestrians as well those aimed at drivers.

## CONCLUSION

The moral obligations on government that accompany the adoption of citizen-facing e-government are substantial. They arise because the relationship of citizens to government is non-discretionary, government claims a monopolistic position, and because the moral basis of the state is to serve citizens present and future (and in some cases, or following some arguments, god). They are reinforced because combined they lead to a situation where other agents can reasonably expect government to set standards for good practice. An implication of this is that systems should, literally, be exemplary in design and usability, with design-for-all being an appropriate philosophy.

While there are benefits to be gained from the provision of e-government facilities to citizens, governments should be wary of e-government implementations that mainly or exclusively benefit those who are already advantaged, and should be actively seeking ways to ensure the benefits (whether direct, or

through cost savings) spread to the full range of citizens.

## NOTES

1. That is both citizens in the short-term future and citizens in the long-term future (and therefore the environment upon which these citizens in the distant future will depend).
2. This is not to say that this should ever be to the exclusion of responsibility to the public or the environment. A good level of responsibility to the public and the environment should always take precedence over the interests of shareholders, for example.
3. But not reasonable for them to suspend their own moral judgement if it is an issue about which they are capable of making moral judgements. In particular, there is the possibility that government practice falls short of the standard that it should, in theory, meet.
4. In a way that does not apply to those making decisions in e-commerce with quite the same force, even if it should be taken into account in e-commerce.
5. At least in languages like English and other languages with which the authors are familiar.
6. The difference between normal e-government sites and electronic voting being that the latter has exceptionally stringent requirements for anonymity, as well as stringent security requirements.
7. For example both firstgov.gov and direct.gov.uk override colour preferences at the time of writing.
8. It is worth noting here that it is the full range of needs, not expressed needs since, as Coleman (2005) points out, citizens may not be aware what information they need.
9. If figures within a government talk of voting as a 'service' they provide for citizens, it suggests they have misunderstood their proper place in a truly democratic relationship, and could suggest the government is less committed to democratic methods than it claims.
10. For example the results of United States Presidential Elections have been alleged to have been affected by political influence in 2000 in Florida, and in 1960 in Chicago (Evans & Paul, 2004, p.25).

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