OVERCOMING CULTURAL OBSTACLES TO E- GOVERNMENT

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Abstract: The World-Wide Web is one of the most important technological changes since the invention of the telephone. It has changed the way that organizations and people interact, and will continue to effect government's operations and relationships. Therefore, e-government initiatives have rapidly shown amazing potential for transforming the internal activities of all kinds of organisations and dramatically altering the relationships between organisations and those who use them. However, despite some visible benefits of e-government, different institutions and societal groups have different, often negative, cultural responses to it. This paper reviews and categorises the cultural obstacles to e-government.

Mary Douglas suggests that there are four cultural 'myths' which underpin institutional or group responses to certain environments. Her categorisation of four cultural myths can be adapted to to describe different cultural attitudes to the new technological environment facilitated bye-government; namely, technology benign, technology ephemeral, technology perverse/tolerant and technology capricious attitudes; as many government organisations have developed a negative attitude to the new technologies, underpinned by the four myths named above. The paper identifies a number of oth "supply-side" and "demand-side" obstacles to the development of e-government, be it derived from organisational cultures (underpinned by 'negative myths' of technology), organisational values (which also foster distinctive approaches to technology), lack of organisational demand and channel rivalry.

On the other hand, not all obstacles to the development of e-government come from within government organisations. In society at large there is inevitably a resistance to using the e-government facilities. Like organisational responses to e-government, individual and group responses to the new technological environment may be underpinned by the cultural myths defined above. The paper, therefore, also deals with cultural obstacles to citizen use of e-government. Within this framework, two more cultural obstacles derived from "demand-side": A need to see a clear benefit from electronic service delivery and the possible transaction costs that can result from such a change. The paper ends up with some propositions developed for overcoming the identified cultural obstacles to e-government initiatives.

Keynotes: E-Government, Cultural Obstacles

INTRODUCTION

E-government is about making the full range of government activities, such as internal processes and the development of policy and services to citizens, available electronically. In recent years, electronic interactions have rapidly shown astonishing potential for transforming the internal activities of all kinds of organisations and dramatically altering the relationships between organisations and those who use them (Cohen and Eimicke, 2002). However, the potential of web-based technologies are taking much longer to be realised in public organisations than expected. For instance, in some European countries there is evidence to suggest that e-government lags behind other sectors (especially e-commerce) in terms of usage and reaping the potential benefits of ICTs in terms of cost savings, efficiency and service quality improvements. The reasons of this fact are of vital importance for e-government applications. Therefore, one must explore why it is, what the obstacles to the development of e-government are, whether they come from within government organisations themselves or from society, and whether they are ingrained in organisational structures and societal interactions or they can be overcome.

Previous research drew attention to various constraints and blocks on e-government developments. For instance, OECD (2003) identified four external barriers to e-government (legislative and regulatory; budgetary; technological change; and digital divides) together with internal obstacles that may be tackled on a more local level (e.g. organizational change; leadership; central coordination; and monitoring and evaluation). Likewise, the Public Online Services and User Orientation study summarised the supply and demand barriers to e-

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government in each EU member state (e.g. a sceptical attitude among citizens towards online transactions in the Netherlands has been identified as a demand side barrier and, on the supply side, the reluctance of government agencies to give up their autonomy to co-operate across departments). Further, a pan-European face-to-face survey of 150 high-level administration officials ranked barriers to e-government in the following order of importance: security and confidentiality; lack of access among citizens; high set-up costs; lack of co-operation among administration departments; and lack of political will and drive (Eynon and Margetts, 2007). This paper tries to move beyond earlier research by providing a categorization of cultural barriers to progress in e-government and proposing some solutions to overcome them.

1. FOUR CULTURAL MYTHS ABOUT E-GOVERNMENT

The tools of e-government - particularly web-based technologies - have created a new technological environment for both citizens and governments. Different institutions and societal groups - with different organisational cultures - will have different cultural responses to the possibilities that these new technologies provide. As Hood (1998: 199) puts it, 'a cultural theory analysis suggests that any given technological change can lend itself to very divergent visions of social modernisation'.

Anthropologist Mary Douglas claims that there are four cultural 'myths' which underpin institutional or group responses to certain environments. These myths 'provide the foundation for the essential "unity in diversity" of human experience (Thompson et al, 1990: 25). Margetts and Dunleavy (2002) adapt the four myths – originally applied to eco-systems - to sum up different cultural attitudes to the new technological environment facilitated by web-based technologies.

The first myth is technology benign, which assumes that technology is forgiving: “no matter what knocks we deliver the ball will always return to the bottom of the basin” (Margetts and Dunleavy, 2002). This myth encourages and justifies trial and error, in that the managing institution can have a laissez-faire attitude (Thompson et al, 1990: 27). The second myth is technology ephemeral**,** which is the opposite of Technology Benign Approach. It assumes that, technology is not a forgiving place and the least shake may trigger its complete collapse. One consequence of this myth is that the managing institution must treat technology with great care. In other words, “this myth is justification for those who would resist technological innovations (particularly large scale interrelated systems) and use technology only in modest, decentralised ways” (Margetts and Dunleavy, 2002).

The third myth is technology perverse/tolerant, which assumes that “technology is forgiving of most events but is vulnerable to an occasional knocking of the ball over the rim of the 'saucer' shape shown in the diagram” (Margetts and Dunleavy, 2002). Two major policies occur in the line of this myth: the managing institution must regulate against unusual occurrences, and it should greatly depends upon technological experts. The fourth and last myth is technology capricious, which, in contrast to all the other three, is a random world - where the ball may slide to anywhere. “Institutions with this view of technology do not really manage or learn: they just cope with unpredictable events, suffering the by-products of continual technological innovation” (Margetts and Dunleavy, 2002).

2. ORGANISATIONAL RESPONSES TO E-GOVERNMENT

Public organisations are different from other types of organisation in a number of ways. Although the differences have been blurred to some extent as a result of New Public Management reforms (Hood, 1991), differences still exist particularly in terms of size, public visibility, accountability, the lack of a 'bottom line' in terms of threat of bankruptcy, separation of policy and administration and the monopoly of some functions. We might

expect that these characteristics could lead to distinctive obstacles to the 'supply' of e-government. Public organisations are more likely to have developed a negative attitude to information and communication technologies, underpinned by the technology ephemeral, technology capricious or technology perverse myths mentioned above. It would not be over-pessimistic to argue that there are a number of 'supply-side' obstacles to the development of e-government that are particularly applicable to public organisations for the reason explained above.

First barrier is about what the Learned Helplessness Theory (Seligman, 1975) stresses; the history of government information technology leads to a poor IT culture for most public organisations, arising from previous bad experiences with IT projects or procurements. Such a culture can mean that organisations approach e-government in a 'fatalist' way, underpinned by the technology capricious myth defined above. Previous experience of ICT projects that ran over budget, brought few cost savings or even failed to work altogether can lead to reluctance to invest in web-based technologies (AFFIRM, 2002; Eynon, 2007; Bekkers and Zouridis, 2005). Such a background is unlikely to foster an environment in which managers explore possibilities for innovation via web-based technologies. (Margetts and Dunleavy, 2002) claims that, this barrier is quite ironic, as "web-based technologies tend to be cheaper and easier to develop than earlier technologies and lend themselves to a 'build and learn' technique quite distinct from the high-risk, big project approach most commonly applied to earlier information and communication technologies".

Second scenario deals with an environment where there is an over-confidence in IT staff, partly because the staff outside IT department do not want to have their careers tainted through association with any more disasters, as a response to previous bad experience with IT. Such a response is more likely underpinned by the technology perverse myth, and will tend to result in almost complete reliance on technical experts to deal with the problems presented by technology. The danger which will probably arise in this case is that IT department will dominate initiation and development of e-government. However, traditional IT departments will likely be the worst unit to lead electronic service initiatives – as they have a large amount of intellectual capital invested in earlier technologies and may be resistant to the potential of e-government technologies to render their existing expertise and training obsolete. Dominance of the IT department can result in the kind of techniques used for earlier technologies being applied inappropriately to web technologies, for example, an attitude that e-government should be delayed until some future 'big bang' release of the organisation's entire IT infrastructure, which is deemed to necessitate the postponing of low-cost developments of the institutional web site and learning about customers' behaviour until very high-cost IT investments have been made (Bekkers, Homburg and Smeekes, 2005).

Third, the technology perverse myth can also lead to a different organisational response - again the organisation places complete reliance on experts but this time on a contractual relationship with a private sector computer services provider (Margetts and Dunleavy, 2002). This is particularly likely in Turkish public organisations, most of which have a strong relationship with at least one major supplier. These relationships or partnerships shape the context within which departments try to develop e-government. For example, departmental personnel can be unaccustomed to instigating technology-based innovations themselves and they may not know what is possible in terms of electronic services. If the contractor is the dominant party in the relationship, then it can be difficult for the government organisation to demand Internet-ready equipment without incurring huge additional costs. Contracts, particularly large ones, can take years to negotiate by which time the requirements specified in the contract are already out of date (Remmen, 2006). Technological constraints like not being able to access the Internet from the office can in turn shape the culture of the

department with respect to e-government, web-based solutions are less likely to occur to senior managers if the Internet is almost entirely absent from their working life (Fountain, 2001). In addition, there are few incentives for companies to provide up-to-the-minute equipment when it is not requested, particularly in the case of the large global providers undertaking much of the systems integration and development work for the government, as these companies have been slow to develop web-based skills.

Fourth, perceptions of client group are also important (Fei, Zhong-ying and Tao, 2007). If staff in an organisation subscribe to the technology ephemeral myth described above, they are likely to view possible e-government developments with extreme suspicion, believing that technology-induced change will be minimal, that benefits at best will be modest and that the safest response is to ignore it. They will be inclined to believe that for example 'our clients don't have access to the Internet' and therefore will be unlikely to think of the Web site when planning how to communicate with them. Likewise, if organisations are not accustomed to value customer contact per se, and in general government organisations do not, then they are unlikely to appreciate the new possibilities for developing government-citizen relationships that web-based technologies provide. In general, government organisations tend to have a rather fatalistic approach to thinking about what their citizens want, partly because they do not think it is possible to find out (Eynon, 2007). In contrast, private sector companies greatly value the potential of the Internet to provide them with information about what electronic services their customers will and will not use, as the alternative has always been to spend large amounts on advertising, the benefits of which are hard to assess and take a long time to materialise. Changes to web-based services however, can be assessed almost immediately via easily obtainable usage statistics and the e-mail responses of customers (Dessewffy and Ret, 2004).

Fifth, lack of organisational demand (Dessewffy and Ret, 2004) can also constitute a supply side cultural barrier to e-government development, both intra-and inter-organisational (OECD, 2003). In some public organisations, web development has been hampered by the fact that staff themselves do not have Internet access and cannot see their own web sites while at work. Bureaucrats in some countries, for instance those countries with higher societal rates of Internet penetration, might find such a situation unthinkable. Likewise, inter-organisational rivalry can also bring demand that fosters innovation (Lord, 2000; Remmen, 2006).

Sixth, 'channel rivalry' has been a problem for private sector companies seeking to introduce Web and Internet models of selling and organisation - and it is an especially important potential barrier for government. The key cause of channel rivalry is that people and organisations who make a good living out of doing things one way will be understandably reluctant to imperil their livelihoods (Margetts and Dunleavy, 2002). Further, in some circumstances their resistance may be able to slow down radically or even stop altogether the development of new Internet-based business models (Bekkers and Zouridis, 1999).

Translated into a public sector context, the most radical way of picturing the channel rivalry problem is to see ministers and government as akin to the manufacturers of policy, trying to make connections to citizens or enterprises. The existing mediating channels for policy delivery are then the government departments and agencies with an established position in that policy sector (Margetts and Dunleavy, 2002). Government can ask these established intermediaries to create new Internet-based channels. But how likely is it then that they will have either the interest/incentives to respond or the organisational capabilities for doing so? Of course, while it is perfectly legitimate and understandable for people operating in private sector intermediary bodies to defend their livelihoods as best they can, officials in public service bodies are supposed to respond faithfully to policy imperatives decided by ministers or political decision-makers.

Public officials normally react adversely to any suggestion that they are not full-heartedly implementing all aspects of government policy. But we do not need to posit conscious opposition (sabotage) by public officials to envisage a possible channel rivalry problem in asking a non-e-administration to become an e-agency - only a degree of lack of positive enthusiasm allied with a very natural tendency for people to not want to do themselves out of a job and not want to embark on courses of action that are unfamiliar and seem potentially threatening in some aspects. For the channel rivalry problem in government to become so severe that progress on e-government slows to a crawl it may only be necessary for officials to show a degree of reluctance and lack of initiative. Key symptoms of this kind of reaction could be one or more of the following (Margetts and Dunleavy, 2002):

- a general reluctance to experiment with e-based methods of delivery, until and unless the agency is conspicuously 'lagging' behind other agencies;
- a tendency to find reasons for inaction and for exaggerated risk-averse behaviour on Internet or Web issues;
- an unwillingness to divert resources from established ways of doing things to developing Internet communications or transactions;
- a tendency to regard putting services on the Internet as something that must be added on to all the activities that the agency does already;
- a related attitude that any progress on e-government demands the commitment of tagged additional resources by the government or by higher-tier agencies, without which nothing can be done;
- an attitude that no e-government innovation at all can be responsibly entered into until the clearest possible financial case for it can be made, including a high rate of return, but without making any effort to map the consequences of not developing Web or Internet-based interactions, to cost the risk of growing obsolescence in the agency's IT infrastructure, or methods of working, or to see that a reluctance to develop e-government can lead to a cumulative lag in the agency's progress;
- a chronic refusal to calculate the marginal costs of dealing with clients via office visits, or via letters and correspondence, or via phone calls and call centres, compared with the marginal costs of Internet or Web-based interactions. This stance is usually justified by the claim that since these other modes of interaction are required by law or are already established they cannot be reduced or run down in any way in favour of Web- or Internet-based interactions - that is, an insistence that there are no opportunities for displacing high marginal cost interactions into low marginal cost interactions;
- an insistence that because of some unique feature of the agency's business its methods of working can become seriously out of line with those used in other agencies or related areas of the private sector; and
- a belief that methods of working in electronic services delivery will soon 'settle down', allowing laggard agencies to catch up with the current leaders in a once-and-for-all and low cost way or that e-government is a 'fashion' that will soon pass, usually buttressed by claims that the 'dot.bomb' experience shows a lack of public demand for Internet interactions.

3. THE ORGANISATIONAL VALUES THAT HINDER E-GOVERNMENT DEVELOPMENT

In addition to organisational cultures underpinned by alternative myths about technology, organisational values may work against the development of electronic services. It has been

suggested that public organisations have distinctive administrative values (Hood, 1991), which have moved throughout the 1980s and 1990s to what Hood calls 'sigma' type values of economy and parsimony, where the priority is the matching of resources to narrowly defined tasks. However, despite the fact that many public organisations have changed over the last twenty years because of 'New Public Management', it is still possible in most public organisations to discern the values of formality, uniformity, hierarchy and robustness. These values all make it more likely that an organisation will develop a technology perverse approach, trying to regulate against unusual occurrences. All are threatened by, and can work against, e-government developments.

First, with respect to formality, widespread use of e-mail in particular challenges formal notions of how government correspondence should be dealt with - seeming to fall somewhere between a telephone call and a letter, but at the same time blurring the distinction between the two. Many public organisations try to treat e-mails as letters, for example by filing all e-mails on paper. There is in any case a widespread sense that for certain matters, communication by e-mail is inappropriate, using e-mail to dismiss a colleague would be considered insensitive (Spears et al, 2000), and this is a particular problem for public organisations, which tend to see its use for many activities inappropriate. And the informality of e-mail addresses creates another problem, it seems unlikely that government officials will become comfortable with the idea that an e-mail address is 'official' enough to be appropriate for government communications. However, if e-mail addresses are not seen as official, moves towards proactive service delivery will be almost impossible to implement. Formality as an administrative value can also lead to lack of willingness to 'have a go' – an attitude to which the 'build and learn' nature of web-based technologies is best suited.

Uniformity is a second administrative value which hinders e-government development. Differential levels of Internet penetration across different societal groups and the multi-channel approach essential to developing web channels challenge uniformity - the perceived need to communicate with all citizens in the same way. A more flexible approach, which recognises that an initiative that would not work with the elderly might work for students, for example, maximises the potential of web initiatives. Information on the Internet can be more easily individually targeted and personalised than other mass media (Spears et al, 2000: 15). The increasingly sophisticated segmentation, targeting and customisation to which web-based strategies are best suited work against uniformity.

Third, hierarchy is the most traditional of cultural values of government bureaucracy, its defining feature. In particular, intranets and the sharing of information throughout organisations can challenge hierarchies, and can only really benefit an organisation that develops a more networked approach; IT is distinguished by its network character. A hierarchical approach can lead to a very centralised kind of web development - often underpinned by the technology perverse myth as defined above - which works against using existing initiatives outside the control of the government organisation, for example, those already developed by private sector organisations. A hierarchical culture can also be particularly threatened by - and develop strategies of resistance against – the more advanced use of web-based technologies by some pressure groups - disabled groups, for example, see the Internet as a major tool for challenging policy-makers Remmen, 2006). Hierarchical approaches can also work against one of the key benefits to be derived from e-government - its contribution towards 'joined-up' government (Cohen and Eimicke, 2002). In particular, one-stop shops where citizens receive a variety of government services have been advocated since the 1970s, to overcome the disadvantage to both citizens and government of data being held in several places at once and citizens having to deal with several departments (Bekkers and Zouridis, 1999).

Fourth, 'robustness' is another traditional defining characteristic of public organisations. The dangers to government sites from electronic hackers pose a particular barrier to government's image of itself as 'robust'. There is a perception within government that transactions with government must be particularly secure - making the introduction of e-government more technically difficult and expensive than it might otherwise have been (Seifert and McLoughlin, 2007; Lord, 2007). Hence governments all over the world tackle the design and development of a public key infrastructure which will guarantee secure transactions between organisations and individuals. The initiatives like Government Secure Intranet (GSI) in UK can fail to recognise those government transactions that just do not need a level of security higher than non-public transactions; for example, what is the likelihood that individuals or businesses will make tax returns on another's behalf? The perceived need for government to have impenetrable security can struggle against the group dimension to hacking culture whereby kudos is gained by breaking into protected institutions (Spears et al, 2000) with the potential for a spiralling effect as hackers become increasingly innovative (Sharma and Palvia, 2004).

4. INDIVIDUAL AND GROUP RESPONSES TO E-GOVERNMENT

Not all obstacles to the development of e-government come from within government organisations. In society at large there is inevitably a resistance to using the Internet in general and government offerings on the Internet in particular. What some commentators have identified as a 'triple A' vision of the Internet - affordability, access and anonymity (Spears et al, 2000) - is not affordable enough, accessible enough or anonymous enough for everyone. Here, we can identify five cultural obstacles to citizen use of e-government that can develop within society. Like organisational responses to e-government, individual and group responses to the new technological environment may be underpinned by the cultural myths of technology capricious, technology perverse, technology benign and technology ephemeral. The choice of myth is shaped by the type of relationship that citizens have with a given government organisation or by previous experiences with technological innovation (Seligman, 1975). This section goes on to identify two further cultural obstacles that derive from citizens' rational response to being asked to change their behaviour, namely; a need to see a clear benefit in terms of time, money or increase in quality, from electronic service delivery; and the possible transaction costs that can result from such a change.

First, the most obvious cultural barrier to e-government arising from individual or group response is the problem of social exclusion caused by the problem of unequal access to the Internet per se. Even while Internet penetration continues to rise across all social groups, the 'digital divide' between those with Internet access and those without seems to be widening. Some have argued that an e-elite (Castells, 1996) is emerging as well as an e-underclass which replicate those of non-Internet society (Dessewffy and Rét, 2004). The e-underclass is likely to subscribe to the technology capricious or technology ephemeral myth - believing either that e-government initiatives will make no difference to them, or that they will have some kind of damaging effect. Until Internet radio becomes a substantive part of government's offering on the web, literacy will remain a bar to e-government just as to earlier transactions with government. And there is evidence that on the web, previously marginal groups may continue to be marginalised when they are connected (Spears et al, 2000). All these characteristics of the Internet society have the potential to work against e-government - particularly as those groups with whom government organisations deal are often the most likely to be excluded.

Second, e-government initiatives have to be capable of domestication. Social psychological research into how people accept technological innovations shows that innovations that cannot be domesticated into personal, everyday routines, are unlikely to be used (Spears et al., 2000).

E-mail, described by many commentators as 'the killer application' is a good example of a technology that has been domesticated and is being used on a widespread basis. In contrast, although many households contain PCs with a wide range of applications, in the majority of households most of these applications remain unused - and have not been domesticated (Margetts, 1999; Fountain, 2001). Many innovations just do not have this domestication potential, developments that use a 'life-event' approach are examples almost by definition. This potential barrier may be a rational response to previous technological innovations which after initial hype did not emerge as widespread or important, thereby promoting a technology ephemeral approach.

Third, citizens' existing relationship with government organisations will obviously affect their approach to e-government services offered by that organisation (Sharma and Palvia, 2004). If they have a low expectancy of a public organisation, then they will not look for that organisation on the Internet and will continue to use traditional methods to deal with it. Low expectations can be further lowered by early, bad web sites with very limited functionality, fuelling, as above, a technology ephemeral myth that the phenomenon will die away, which make it even less likely that citizens will look for such services on the web in the future. Likewise, if citizens do not trust government organisations in general, they are less likely to want to transfer information to government electronically and less likely to believe information that the government transmits electronically (AFFIRM, 2002). Where individuals are accustomed to a conflictual, inflexible relationship with a government organisation on paper, they are likely to expect that an electronic version of the organisation will be the same and are likely to be less willing to divulge information electronically than they would be to their bank, for example.

Fourth, seriousness is another characteristic that can pose a problem to web development. In some cultural contexts there is an automatic association of the Internet and web-based technologies with fun or enjoyment. However, as can be expected, belief in seriousness, rather than fun, runs straight through virtually all Turkish public organisations' approach to the Web. Government sites are conservatively designed, use bureaucratic language and contain no incentives other than strict functionality for users to explore the site.

Fifth, imbalances between government and societal use of the Internet mean that sometimes government initiatives will not touch currents of interest and involvement - that a culture will develop that is exclusionary to government. Social associations and society in general particularly in countries where Internet penetration is high, seem to have been more likely than government organisations to subscribe to the technology benign myth and have been more imaginative in their use of web-based technologies which in turn have had a more transformative effect, leaving less room for government to develop initiatives itself - as niche markets for citizen interest are already covered. Examples of government exclusion may arise when government organisations initiate a 'chat room' or discussion about issues and find that while their usage levels are low - electronic debates on issues elsewhere may be more vibrant. For example, if world leaders were to initiate an international electronic debate on climate change, they might find themselves excluded from debates occurring in the NGO environment.

Sixth, there must be clear citizen benefits for what is being offered electronically, citizens have to need or want it and see clear benefits for using electronic media rather than more traditional means of communication or transacting. Public organisations are keen to interpret low usage figures as sign of low demand for electronic services, but they are more likely to signify a badly designed website or lack of demand for the given service in particular.

Seventh, the transaction costs of change, of transition to using an electronic medium, can create a strong initial barrier for citizens to adopt electronic communication with government (Sharma and Pavlia, 2004). For people to change an established way of doing something (such as filing a paper income tax form) and instead to adopt a new technology or channel of communication (such as sending in an electronic tax form) there is a substantial immediate cost, such as the cost of finding relevant information, the time and possibly frustration costs of learning a new way of doing things and the cost of putting right any mistakes produced by unfamiliarity. Studies of human behaviour have repeatedly shown that (Bekkers and Zouridis, 1999) very small, up-front transaction costs like these may stop people from making an investment of time or energy that would pay them back many times over in the slightly longer run. Once electronic services have been introduced and are being used, public organisations also need to look out for possible costs or 'negative incentives' that can result from disparities developing between electronic and non-electronic service delivery, as taxpayers became aware that electronically filed forms were scrutinised more thoroughly than those filed in paper form. Such disparities clearly work against citizen benefits from electronic initiatives and can make citizens more reluctant to enter into electronic transactions.

5. OVERCOMING CULTURAL OBSTACLES

Identification of cultural obstacles is one step towards e-government - the second is, of course, to overcome them. Overcoming obstacles may have to involve tackling the cultural myths at the heart of resistance to e-government - trying, for example, to move away from technology ephemeral and technology capricious attitudes and foster a move towards more positive approaches such as technology benign. Here, it would be possible to bring some suggestions for ways round the cultural obstacles described thus far.

First, incentives for change are important for staff, in order to overcome the channel-rivalry problem. Where non-electronic means of administration are still predominant then it is important to recognise that existing staff can see their whole future as bound up in the continuation of paper-based systems of administration. Older staff and perhaps staff in the most senior positions can especially feel threatened if large-scale changes of work practices are in prospect, perhaps feeling that they are 'too old to change their ways now', and also finding web and internet based models of administration unfamiliar and technically threatening (Margetts and Dunleavy, 2002). Even if staff have assurances of job security or any downsizing in staff taking place through voluntary redundancies or natural wastage, it is important to appreciate that an organisation transitioning towards a 'fully digital' model will not be the same. The systems of control, the hierarchy of management roles, the kinds of people who rise to the top, all these may change quite quickly. This may mean improvements in job satisfaction for many, but such changes have to be carefully presented.

Second, citizen benefits of e-government can be maximised by using incentives to encourage citizen uptake of electronic services. If government can cut costs by delivering services electronically, it must seek to pass on as much of that cost-reduction as feasible to citizens - which in turn may increase take up, and further reduce the cost of government service delivery. To achieve this spiral, government organisations needs not just to look to save money itself but to add incentives that help citizens overcome the considerable change or transition costs of learning how to do something electronically - in the same way that ferry companies, for example, pass on the benefits of customers booking via the website by taking five pounds off the price of a ticket bought on-line, or utility companies have long offered tariff reductions for customers who pay by direct debit. Financial incentives can be offered for citizens to file taxes electronically (Fountain, 2001). Such incentives have to be realistically designed so that they really are incentives - if financial incentives are offset by additional

expenses, such as buying appropriate security measures, then they will obviously not work (Cohen and Eimicke, 2002).

Third, in order to overcome the initial barrier of transaction costs explained above, the introduction of incentives may need to follow private sector business models and practices, recognise explicitly that there are transaction and transition costs and then plan in an active way to overcome them (Margetts and Dunleavy, 2002). For instance, when the banks have introduced new technologies they have run special campaigns in which staff take people through in a personal way how to use the new arrangements, whether ATM machines, or phone/correspondence based accounts without counter service, or Internet banking. Another similar example concerns airlines trying to get passengers to use automatic ticketing and check-in machines in order to cut queuing times and also allow them to cut down on staff costs of manning so many check-in desks. Even though passengers who make the transition will be much better off, people may be very reluctant or unsure whether they can switch and need counselling and active help to do so. So agencies may need to go through a higher cost transition phase in the short term, with more personal interactions with customers by staff or more extended average interactions for a time, in order to be able to reap the longer term advantages of electronic interactions, such as the elimination of keying in of paper forms or reducing loads on call centres by displacing interactions to the web or internet. Once electronic services are underway, agencies need to look out for possible disparities developing between electronic and non-electronic transactions, which can work against incentives. Again, explicit recognition of disparities and even the introduction of matching negative incentives into paper-based transactions may be required (Margetts and Dunleavy, 2002).

Fourth, with regard to the question of unequal access to the internet and therefore the possible 'social exclusion' barrier to e-government, central government has to think hard about ways of widening Internet access in general through centrally sponsored local initiatives. A good example for this suggestion can be brought out by Dutch experience (Margetts and Dunleavy, 2002): “In the Netherlands, the Ministry of the Interior sponsored the 'digital playground' initiative, whereby the 30 largest Dutch cities were given government money to set up public Internet cafes. After the first had been created, cities were encouraged to find private sector sponsors to set up further cafes. The project included an initiative to give homeless persons e-mail addresses, so that at least they have some kind of contact point”.

Fifth, seriousness of government web sites might be overcome by lightening the attitude to the Internet within organisations. Many government organisations insist that their employees do not use the Internet for any kind of non-government use, which in the case of some departments can apply to almost all sites (one department, for example, prohibits its employees from using sites connected with travel, leisure, sport, entertainment of any kind and indeed the overwhelming majority of non-government sites). However, creativity can be required to develop web-based solutions to government problems, and it may be that organisations full of staff actively using the Internet may be better placed to think in this way. Such a positive attitude to Internet use by staff might actually encourage a more technology benign attitude and contribute to development of e-government. “To successfully develop internet services, the Internet has to 'embedded' into everything the organisation does” (Margetts and Dunleavy, 2002).

Lastly, in order to overcome the 'government exclusion' barrier, public organisations have to think creatively about increasing their 'nodality' (Margetts and Dunleavy, 2001), the extent to which they are at the centre of social and informational networks. This may actually require a substantive change to thinking about web development, rather than focussing on their own Web site, organisations might have to think in a 'de-centred way' about the extent to which their services are offered on the sites of other organisations. So an environmental agency that

gives advice on sustainable products might need to liaise with a variety of retailers to ensure that their information is presented. Such an approach requires public organisations to tackle the technology perverse myth that has developed internally and to foster a more decentralised approach to technology - rather than leaving it entirely to a centralised band of experts.

In the same way, to make innovations acceptable to citizens, government organisations have to develop ways of understanding how citizens use the Internet, what they use it for, what underpins societal myths about technology - and what innovations could be 'domesticated'. "EasyJet's successful move towards on-line provision involved working out which of the determining factors in customers' choice of flight could be conveyed more efficiently on a screen. This led to realising that many customers are not sure that they want to go - only that they want to go somewhere, for a long weekend or whatever. For the first time, the company worked out that for this type of potential customers, ringing up an airline and saying 'Hello, I want to go somewhere please' felt ridiculous whereas exploring the range of possible destinations on a web site was acceptable" (Margetts and Dunleavy, 2002). This kind of thinking about web development can mean overcoming the obstacles of hierarchy and formality and accepting that a centralised and controlling strategy may not make the most of what the Internet has to offer.

In summary, we may contend that cultural reasons behind (under-) development of e-government have a substantial explanatory power even beyond self-representation. The importance of this claim cannot be overestimated. Firstly, the disclosure of the significance of cultural factors draws attention to the fact that while we tend to emphasize financial reasons as the primary obstacle to the development of e-government, there is, in fact, another kind of explanatory variable, which displays different characteristics. Secondly, if we acknowledge the existence and significance of cultural obstacles, it becomes plain to see that decision-makers, whether they are market or government representatives, need to work out an alternative strategy and tool system and employ these in a complex manner to remove both material and cultural obstacles.

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