

Incentivization of e-government

to accompany NAO report

Transforming the performance of HM Customs and Excise through Electronic Service Delivery

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1. Introduction

- 1.1 e-government – the use of electronic channels for interaction between government and citizens, businesses or other governmental organisations - means nothing unless it is used. So a key challenge for government agencies developing on-line services is to incentivize citizens and businesses to use them. Attention on e-government has hitherto focused on the supply side of e-government, such as the availability and usability of on-line services, rather than actual take-up of such services by citizens and businesses. In contrast, this article focuses on ways in which government agencies might incentivize citizens and businesses and drive up demand for e-government.
- 1.2 To incentivize customers to use an on-line service, a government agency needs to consider the full range of **resources** at its disposal. Government after all possesses some resources that other organisations lack (such as legitimate authority) but lacks other tools which private sector organisations might use to incentivize customers to move on-line. For example, government bodies are constrained by the need to account for public money which may restrict the extent to which they can use money to provide financial incentives. And government bodies do not in general operate in a competitive environment and cannot attain the kind of financial benefits that ‘first-mover’ advantage may bring to private sector companies. This article demarcates four resources of government that might be used to incentivize the use of electronic transactions:
- **Money:** introducing direct financial incentives or payment flexibility;
 - **Legitimate authority:** compelling customers to use on-line channels;
 - **Time:** packaging up on-line services, thereby saving users time through reduced transaction costs;

- **Information and expertise:** providing enhanced information and expert advice through web site content and intelligent applications.
- 1.3 This resource framework is intended to be exhaustive, identifying all the resources at the disposal of government bodies. It can be applied across government. But within the framework, different incentivization strategies and different combinations of resources will work for different government bodies with different functions. In this article we tackle a particularly challenging case study – e-taxation of businesses. We might expect departments that give money away to find it easier to incentivize customers to use their services on-line, while revenue agencies have to encourage citizens and businesses to adopt new ways of giving money to the government, a less popular activity. Taxation is rarely seen, either by government bodies or by those interacting with government, as a service. We focus here on a government-business transaction, the collection of VAT by HM Customs and Excise. The task of incentivizing businesses to interact with government electronically provides distinct challenges from that of incentivizing citizens.
- 1.4 Customs are committed to achieving 50 per cent take up of electronic VAT returns by 2006 – yet current take up of on-line VAT returns using a pilot system runs at 0.02 per cent. Of the 1.7 million VAT registered businesses with which Customs deal, the 1.3 million Small and Medium Enterprises (SMEs) with less than £600,000 turnover are considered a particular challenge. Customs consider that they ‘don’t have strong cards to play’ in incentivizing traders to use electronic services, in contrast to businesses and other UK departments. This study aims to strengthen their cards by identifying strategies for increasing take-up that might be used or have been used successfully elsewhere, and investigating how they might be applied to Customs’ VAT business. By identifying exhaustively the possibilities for incentivization, it should also have more general applicability for business-facing agencies across governments both in the UK and overseas.
- 1.5 There is little current research focussed explicitly on incentivizing businesses to use on-line government services. Research carried out on e-government across countries includes a range of consultancy reports produced by private sector consultancies keen to capture a share of government business. The results of this research are more readily available than that carried out by companies keen to guard commercially useful information, such as banks. But in general this research tends to focus on the availability – rather than take-up - of electronic services, partly because availability is

so much easy to measure using a non-obtrusive survey. And there are no comparative studies of what strategies individual governments have used to incentivize take-up. A book chronicling the progress of e-government in the US sponsored by Price-Waterhouse Coopers and the IBM Endowment (Abramson et al, eds. 2001, 2003) devotes various chapters to e-service delivery, but focuses entirely on web site design and usability rather than actual usage. There are several reports which rank countries according to their e-government offerings and identify examples of good practice in e-government, including taxation (see Accenture, 2001, 2002, 2003; Booz and Allen, 2002; Taylor Nelson Sofres, 2002, Cap Gemini Ernst and Young, 2003) but any of these which do cover take-up (such as Taylor Nelson Sofres, 2002) tend to do so for citizens rather than businesses. Even the most recent of such studies (Graafland-Essers and Etteedgui, 2003) which explicitly aimed at focusing on the demand-side of e-government in Europe and the US and included a survey of businesses across seven European countries, relied largely on surveys of business IT managers who could only give incomplete answers to questions about usage by their business divisions (the most useful are quoted below). The European Commission provides some figures on the percentage of Internet users visiting e-government sites across Europe in its regular Eurobarometer survey and has commissioned studies from Cap Gemini Ernst and Young (Commission of the European Communities, 2002a) which develop a list of indicators and a methodology for benchmarking e-government across Europe and provide regularly updated benchmarking data on the eEurope web site (www.europa.eu.int/eeurope). The data covers a common list of 20 basic public services, eight of which are for businesses including declaration and notification of VAT (Commission of the European Communities, 2001). This data also lacks take-up figures, although the Commission has now identified this lack as a key weakness of its benchmarking and will collect these figures in 2004 (Commission of the European Communities, 2002b).

- 1.6** Evidence that can be gleaned from these studies suggests that UK government departments in general have been less successful at incentivizing either citizens or businesses to use e-government, compared with the US, Canada, Australia and countries across Europe. Taylor Nelson Sofres assessment of the level of government on-line use by citizens in 2002 showed the UK at 13 per cent, way behind Canada at 48 per cent, Australia at 46 per cent, the USA at 43 per cent and the Netherlands at 41 per cent (*Brand Strategy*, 2nd January 2003). In 2001/2 in the UK, 6.5 per cent of the 5 million tax returns were completed by individuals on line, compared with an equivalent figure of 25 per cent in Australia. In the UK, the attitude towards e-

government by citizens and businesses is among the lowest of countries across Europe and the US (Graafland-Essers and Etedgui, 2003) and overall usage of government web sites lags behind the European average (*Eurobarometer*, June 2002). Other evidence suggests that in the UK business-facing departments in particular have been hitherto unsuccessful in developing the type of business-facing services that businesses might use. As far as availability goes, eEurope has found that across Europe government to business application score significantly higher than government to citizen applications and have grown faster. But in the UK usage of various services including on-line VAT was lower than in Greece, Spain, France, Italy and Finland (Graafland-Essers and Etedgui, 2003) as was the percentage of businesses not yet using but preferring e-government solutions for VAT declarations (less than half the EU average).

- 1.7 Research carried out by or for the private sector on e-commerce and by economists on the internet-based economy (see Coyle and Quah, 2002 for an extensive range of indicators characterising the 'New Economy' or Mann et al, 2000 for a review of Internet pricing) suggests that it is not the UK business sector *per se* that is resisting on-line interactions or producing the disappointing usage figures for on-line government interactions. In an Economist Intelligence Unit ranking based on the 'e-readiness of business environment for conduciveness to Internet-based opportunities', the UK came third out of 60 countries in both 2001 and 2002 (Economist Intelligence Unit, 2002). For leading companies in many sectors, 60 per cent to 100 per cent of B2B transactions can be expected to move on-line by 2003 (Bowles, 2000) and Forrester Research estimates that by 2006, almost 40 per cent of all B2B commerce will be transacted on-line (*Business Week*, 12th April, 1999). Over 26 per cent of UK businesses allowed on-line ordering by 2000, higher than Sweden, Italy, Japan and France and not far behind the US and Canada (in Germany, where it is thought that restrictive retailing laws have helped to make business-to-consumer Internet use more attractive, this figure is 40 per cent). Around 13 per cent of UK businesses allowed on-line payment by 2000, again more than most European countries except for Germany (DTI study quoted in Coyle and Quah, 2002: 40-42). The same study found that the UK compared well to many other countries in business-to-business transactions on-line, although lagging behind the USA and Scandinavia. More than two-fifths of British businesses order on-line, a third track orders and more than a quarter make payments to suppliers on-line (Coyle and Quah, 2002: 40). By 2001, around 58 per cent of businesses had a corporate intranet, on a par with the US and Canada (Coyle and

Quah, 2002: 42). All these figures augur well for the possibility of incentivizing businesses to use on-line government services.

On-line Banking

- 1.8 The most useful of business experience of on-line services comes from the banking sector. Of all the products available in the 'New Economy', on-line financial services can be expected to grow particularly rapidly: 'These services are inherently weightless, and the fact that they are so much cheaper and easier to deliver on-line offers providers with enormous scope for cost-cutting and productivity gains' (Coyle and Quah, 2002: 35). By February 2002, there were over 6.5 million users of on-line banking services in the UK. In the US, Canada, Australia and many European countries penetration is much higher. Finland, for example, was an early leader, being the first county in the world to offer telephone banking in 1982, banking via mobile phone in 1992 and Internet banking in 1996. By 2003 only 10 to 15 per cent of all banking transactions in Finland are done over the counter (www.valt.helsinki.fi, 31st July 2003). UK banks were relatively late to enter the on-line banking market, but growth since 1997-98 when Royal Bank of Scotland, Nationwide and Barclays started to offer on-line services has been rapid. By 2005, Datamonitor forecasts that 5.8 million customers in the UK will use the Internet as the primary point of contact with their bank, rising from 1 million in 2000 (Datamonitor, 2000). Of the market leaders, by 2002 20 per cent of Barclays' transactions were conducted on-line, with 3.9 million users. In its first 12 months in operation the on-line bank Egg enjoyed first mover advantage and accumulated 550,000 customers (Datamonitor, 2000).

- 1.9 Business banking is also moving on-line, having started later but showing rapid growth. Penetration of on-line banking in the SME sector is increasing daily and is predicted to rise to 21 per cent across Europe by 2005 (*European Banker*, 9th May 2003). In the US, Canada, Australia and other non-European countries this figure is much higher and the European average masks some rapid developments in individual countries. In the UK by 2003, 95 per cent of Barclay's business customers with a turnover of over 10 million are on-line, around 65 per cent of those with turnover between 1/2 and 10 million and 45-50 per cent of those with a turnover of under 1/2 million. Due to slower growth rates in internet penetration among SMEs, they were late to be converted to on-line banking, with banks considering them 'difficult to deal with and costly to reach' but banks themselves have now started to target this sector and 'fierce competition has arisen as both retail and corporate banking solution providers battle for market share.' (*European Banker*, 9th May 2003). Of those UK

banks that were late to target this market, HSBC now have 110,000 Internet banking customers of their 588,000 business customers – that is, nearly 20 per cent of business customers are using a service that was only introduced in January 2002. They tackle start-ups explicitly, recognising that mature businesses present more of a challenge and aim to have all SME customers that are on-line using their on-line banking service as soon as possible.

- 1.10 For two key reasons, we targeted the UK banking sector for this research, as well as drawing out the most useful evidence from e-government and e-commerce research. First, on-line banking seems to be the key to on-line payments to government agencies. In the early days of e-government, many government departments (including Customs) and local authorities assumed that they must develop on-line payment systems themselves in order to allow their customers to pay on-line. But now that Internet banking is becoming increasingly widespread and the range of payees that may be created has greatly expanded, it is questionable whether any government body really needs to develop its own payment system. There are examples of government agencies which have successfully done so – the easiest way to pay the congestion charge in London, for example, is via a secure payment system on the Internet and thousands of citizens do so. But it is no longer the only option.
- 1.11 Second, the success of on-line banking and banks' business models which extend across the whole SME sector means that banks themselves are being successful in incentivizing this market. As one interviewee put it 'You never see banks advertising internet banking – they don't need to. People expect it'. To some extent, government agencies such as Customs are in the position that major banks were in the mid-1990s. Banks' research in this area tends to be unpublished, as this is now a highly competitive market and such research is considered to provide the vital key to increasing market share. For this reason, we spoke to e-commerce directors in the major banks directly, as well as some representatives of the market research community in this area, to collect the evidence presented here.
- 1.12 Discussions with the on-line banking community identified clear trends in business use of on-line transactions. All the major banks are aiming at more or less universal penetration of their customer base with on-line banking, and these rates are growing in line with growing penetration rates among SMEs. One e-commerce director likened current preferences among businesses for cheque-based payments to consumers' continuation of cheque use versus Switch and debit cards up to the mid 1990s. By

2003, individuals' use of cheques in shops which take debit cards (which is most) is increasingly rare. Most banks consider that business banking will follow a similar path and are deliberately migrating their business customers away from cheques. It is possible to imagine a scenario in the near future, where many businesses use on-line methods for all financial transactions with all their customers and suppliers and retain a company chequebook only for the purpose of paying government agencies – at which point banks themselves would start to question the viability of keeping paper-based payment channels open. The distinctiveness of the public sector environment is used by some officials to argue that it is not essential for departments to develop on-line services: all major banks, airlines, and other businesses that have made a financial commitment to e-commerce have to count the cost of not entering the field while their competitors do and this incentive is lacking for government. But the scenario outlined above could make it equally inescapable for departments like Customs to develop on-line services. Such a strategy will require leadership and determination. All the major banks interviewed cited leadership from the top as a major reason why their e-commerce departments had been established and their on-line services developed, a 'go do' instruction from the most senior levels of the company.

- 1.13 This report assumes therefore that government agencies – particularly those receiving payments and dealing with businesses such as Customs - have no option but to employ a range of strategies geared at increasing take-up of on-line services. To increase take-up of electronic VAT returns and other electronic services, Customs clearly have to incentivize traders to conduct their VAT affairs on-line. Customs have commissioned various research in this area (outlined in phase 1 of this study) which has produced useful insights and some tentative recommendations. But to really tackle incentivization and drive up take-up, it is clear that Customs will need to take forward a range of strategies in a highly proactive way. We develop here an analytical framework that departments like Customs might use to ensure that all possibilities are being maximised. Such a framework needs to consider the full range of **resources** at their disposal, that might be used to incentivize use of electronic services. There are a number of methods from the field of public policy analysis that layout the 'resources' that governments – and therefore their constituent departments – possess by virtue of being government (see for example, Hood, 1983; Rhodes, 1988; Dowding, 1994; Margetts, 1999; Salamon, 2001). These typologies have similar characteristics and overlap on the resources they use (Rhodes, Dowding and Hood, for example, all use money and legitimate authority) and we combine these typologies to demarcate four

resources of government that might be used to incentivize businesses to undertake electronic transactions:

- **Money**, by introducing direct financial incentives or payment flexibility;
- **Legitimate authority** by compelling customers or significant segments of customers to use on-line channels;
- **Time** by packaging up services to reduce transaction costs for customers, freeing up businesses' organisational resources for other activities;
- **Information and expertise** by providing 'value added' to on-line transactions using drastically improved web site content, intelligent applications and allowing customers to e-mail queries.

1.14 These resources are intended to be exhaustive; that is, government does not have other resources at their disposal. Some studies of e-government and e-commerce do suggest the use of other resources, such as making on-line services more pleasurable to use than traditional methods. For example, market research suggests that one incentive for on-line shopping is the subsequent pleasure of having a parcel delivered. But such resources are less likely to be available to government, particularly business-facing departments. For example, research commissioned by Customs (outlined in Phase 1) included the recommendation that Customs should capitalise on 'feelings of modernity and co-operation by those who choose to participate' in on-line services and should reinforce notions of electronic dealings as an 'inevitable' 'way forward', prevalent among many members of the business community. It is our view, however, that social pressure of this kind is not a resource at the disposal of government agencies and that this would be a less viable route for incentivization in the case of Customs.

1.15 In the following four sections we trawl each of the resources outlined above to identify the positive incentives that government agencies such as Customs might consider to drive take-up rates of e-taxation, based on the generic resources identified above.

2 Using Money: Financial Incentivization

2.1 One option is clearly to introduce financial incentives (that is, **money**) for filing taxes on-line. The first UK Internet bank, Egg, worked on the principal that 'if you offer enough interest rate benefits, you will get customers' and all major banks have used financial incentives for customers to switch to some electronic services. Comparisons with banks must be made with caution, but regardless of what positive incentives are

used, it is clear from all available research that an electronic service must not have negative financial incentives i.e. unless it is offering major savings of other resources, it must be free. When UK government research (Conjoint, 2003) asked accountants about their likelihood of using a potential on-line business portal (www.business.gov) if they had to pay, only 24 per cent said that they would use it if they had to pay £5 a month, as opposed to 57 per cent if it were free.

- 2.2 There are various types of financial incentivization. First, there is the possibility of one-off rewards for each payment made. The Inland Revenue for example are introducing a cash incentive to encourage small employers with fewer than 50 employees to file their end-of-year returns electronically, payable over a five-year period starting with the 2004/5 return. The Customs' pilot VAT project offered traders a £50 incentive to return their VAT forms on-line, but this was virtually cancelled out by the £50 that traders had to spend on a digital certificate to use it and it was difficult for traders to actually claim the £50 rebate. It could in any case be more difficult for Customs to use one-off financial incentives sufficient to encourage on-going use of on-line services (or 'stickiness' as it is called in e-commerce), as the incentive would have to be paid four times a year. Of course, VAT traders using on-line banking to pay VAT on-line are already likely to be rewarded by their bank, as charges for electronic payments are often less than cheque payments, but this reward is not likely to be significant for payments made only four times a year.
- 2.3 So it seems that one-off incentives will have to be supplemented by some kind of payment flexibility for on-line returns – by allowing on-line payers to pay later, and possibly also extending return deadlines (thereby delaying the kick-in of financial penalties for late returns) for those who file on-line. In addition, those traders entitled to VAT refunds might be prioritised for early payment if they file on-line. Traders can already shorten their wait for a repayment by providing their bank account details so that they can be repaid directly, rather than waiting for Customs to raise a payable order.
- 2.4 On-line banking services offer a wide range of examples of how financial incentives have been used to encourage customers to use on-line services. For business banking, in contrast to personal banking, it is common for customers to pay bank charges – but these are generally cheaper for on-line accounts. HSBC for example charge 35 pence for payments over the Internet in contrast to payments by cheques which cost 60 pence. Banks recognise the cost benefit to them of an electronic

communication (such as an electronic payment) over a cheque payment or telephone call and reward customers who use them accordingly. A final type of financial incentive is a negative one for those who continue to use paper processes. In Finland, for example, a world leader in e-banking, banks have introduced a surcharge for cheques and other traditional banking services (www.valt.helsinki.fi), one result being that 32 per cent of all Finnish bill payments are now made on-line.

- 2.5 Various overseas governments have long used incentives of all these types for electronic transactions. Such a strategy might even be viewed as essential to transparency of administrative costs, as once investment in development has been returned, it is clearly cheaper to process electronic payments than cheques. The US Internal Revenue Service found even in 1988 that the cost of processing an electronically filed return was only three US cents, whereas the costs of a paper return was US 72.5 cents (CCH Tax Focus, 1988). In the US the waiting period for getting a tax refund via electronic medium has been reduced to an average of two weeks, compared to four to six weeks for a paper tax return. In Australia a return will be processed and assessed within two weeks if lodged electronically. From the start of on-line filing in Australia, tax practitioners were granted one extra month on their lodgement period as an incentive to adopt e-filing (James and Wallschutzky, 1993). In the Netherlands, taxpayers are guaranteed earlier refunds if they file on-line. In Denmark, rewards are given for SMEs for filing on-line, set in inverse proportion to the size of company – that is, 15 Kroner (about £1.50) for the larger monthly payers, 25 Kroner for quarterly payers and 50 Kroner for less frequent payers (response to NAO, 2003). Incentives like these do not cause major problems for Treasury departments (in Denmark, the rewards total less than 0.001 per cent of VAT paid) and seem to have played a role in the far higher levels of electronic filing by both citizens and businesses in these countries; for example, in Denmark take-up of the on-line VAT service was 29 per cent in 2002 and has been doubling every year since it was introduced in 1998. Customs suggest that the efficiency of the paper-based system in the UK and the speed with which repayments are currently made could make the design of similar incentives for electronic filing in the UK more difficult, but it seems that where they can be introduced they have an effect.
- 2.6 These examples from the banking sector and overseas governments suggest that no one type of incentive will work alone. In any case, for Customs, the poor reputation of the one-off payment strategy when used during the EVR pilot would work against their utility and a late payment facility should be introduced as well. [The Inland Revenue](#)

have already introduced a similar option for individuals completing tax forms. Those who are entitled to have their tax collected through their tax code have until 30th December if they send it online, whereas for those filing on paper the deadline is 30th September. VAT Traders are currently allowed one late filing or payment every rolling 12 months without incurring a surcharge, part of the legislative policy for the surcharge. Research suggests that a payment extension of three weeks for on-line returns and payments could act as a positive incentive. Such an offer could be limited to companies of turnover less than £100,000, to avoid substantial loss of revenue through large businesses taking up such an option and to avoid opposition from the Federation of Small Businesses, otherwise likely to claim (according to one interviewee) that such preferential treatment for on-line businesses would lead to a 'two tier England'.

- 2.7 Such incentives can be shaped for specific customer 'segments'. Research into e-commerce constantly emphasises the potential of the Internet to improve segmentation. As the director of Dell Computer's e-commerce put it, 'The Internet has turbocharged our ability to understand our customers' (Dewan, Jing and Seidmann, 2000:1). While companies use this characteristic of the Internet to reduce the costs of collecting buyer preference information and managing multiple prices to allow cost efficient custom product design (Dewan, Jing and Seidmann, 2000), government agencies might use it to minimise the cost to government of financial incentives, targeting them on customer segments where they will be most effective in increasing take-up. E-taxation facilities should be advertised from on-line banking sites: after all, those businesses already using on-line banking services are far and away the most likely to be interested in filing tax on-line. And any financial incentives should be made particularly attractive for start-up customers. HSBC, for example, give new business customers a year of free banking, but 18 months if customers take Internet or telephone banking. By 2003, 60 per cent of start-ups who bank with HSBC adopt this option. Once on-line returns and payments are embedded in business processes, companies are unlikely to change their filing method – in contrast to mature companies, where organisational learning and infrastructure will have been invested in traditional methods. Customs do have a plan to target new registrants - there are 200,000 new VAT registrations every year which if steered towards electronic services, would come to represent quite a big chunk of the VAT paying community. But Customs consider they cannot target all of the 200,000, so are planning to target just one group – sole proprietors. The evidence suggests that Customs should rethink this strategy and offer financial incentives for all new registrants, as HSBC do.

3 *Incentivization through Authority: Compulsion*

- 3.1 Another possibility for incentivization is the use of unconditional incentives; that is, by using the resource (unique to government) of **legitimate authority**. Compulsion is a contentious issue in e-government, as it is considered illegitimate to mandate citizens to use electronic services, particularly given the well documented 'digital divide' between young and old, rich and poor in terms of Internet penetration. However, for businesses and in particular their intermediaries, such a strategy is more viable. Compulsion of tax consultants or accountants to use on-line channels is unlikely to raise democratic sensibilities. And the idea of compulsion, even for citizens, has started to receive some attention. A recent report on e-government by the Work Foundation (Crabtree and Curthoys, 2003: 36) made a tentative 'Case for Compulsion' for certain categories of users, citing reductions in administrative costs as an important factor: 'If you have internet access at home and are computer literate, why should the state subsidise you to use a more expensive, more time-consuming paper-based tax return system?'. It was this part of the report alone that aroused press interest (*Financial Times*, 16th July 2003; *Guardian*, 17th July 2003).
- 3.2 Only government can compel users to switch channels, but there are examples of private sector companies dealing only with customers who use on-line channels. The airline Easy jet when it first started only allowed e-booking and the on-line bank Egg only operates on-line, thereby compelling customers to use electronic services. The company General Motors will only use suppliers that use its e-procurement system and tenders are published exclusively at the electronic market place (Covisint.com). However, the customers of all these companies have an exit option which the customers of government agencies – particularly revenue agencies - do not, so these examples must be used with caution.
- 3.3 Banks can and do however make certain functions on-line compulsory, once they have converted customers to on-line banking. So Barclays for example have made it compulsory for 40,000 business customers to shift their PAYE system on-line and have phased out the paper-based version. During a two-year transition period, the second year of which involved intensive marketing, businesses were directly addressed by telephone, where customer representatives explained the advantages of the on-line service and that paper based services would be phased out by a certain

date. Now all customers are using the electronic service bar a few using an outsourced FAX-based system; none use post or cheque. Barclays lost only six customers during the process, while customer satisfaction rose.

- 3.4 Other examples of compulsion come from other government departments, in the UK or other countries, which also possess legitimate authority. [The Inland Revenue are making electronic filing of the employers' end of year return compulsory with penalties for non-compliance; starting with the 2004/05 return for employers with 250 or more staff; the 2005/06 return for those with 50 or more but fewer than 250 and the 2009/10 return for those with fewer than 50 employees. The introduction of these measures followed the recommendations made in the Review of Payroll Services \(Carter, 2001\).](#) A key example from overseas is Australia, where the Australian Taxation Office (ATO) has introduced a company register that interoperated with all federal, state and local agencies that serve and regulate the business community – the Australian Business Register – and has used it to become a global pioneer in the application of new technology to collect and file taxes. The register was built on the introduction of an Australian business number as a unique identifier for all companies, partnerships, sole traders and other business entities. Businesses were compelled to obtain an Australian Business Number by 31st May 2000 – they cannot claim back Goods and Services Tax (GST, the Australian equivalent of VAT) without it and if they don't have an ABN, other businesses will not be able to claim their tax credits for supplies and 'may choose to do business with a supplier who is registered' (the Australian tax office web site warns at www.taxreform.ato.gov.au) Four million Australian businesses now have one number recognised by all of government. The compulsory element of the relatively new Goods and Services Tax is aimed at tax accountants, who must obtain a business number and file some elements of taxation on-line (95 per cent of Australian accountants now file on-line). In Italy, all 130,000 authorised tax intermediaries file electronically.
- 3.5 We recommend that compulsion be considered as part of a government department's e-strategy, possibly using a phased approach depending upon the size of business, as the Inland Revenue have segmented employers. We also suggest that business-facing departments like Customs consider compulsion for accountancy firms and tax consultants. Customs' own 2002 business needs survey (McCallum and Layton 2002a) found that in 18 per cent of businesses, an accountant does all VAT work or completes VAT returns on behalf of the business and that new businesses are significantly more likely to have their accountant do all the work.

4 Incentivization through Saving Time: Reducing Transaction Costs

- 4.1 Another incentive for traders to use electronic services is the possibility of saving organisational time in filing returns, freeing up 'organisational capacity' for other activities. Even in B2B on-line markets, a reduction in transaction costs is the reason most commonly cited by purchasing managers for buying on-line (Mann et al, 2000: 2), beating even 'lower price'. In countries where electronic income tax returns have been successfully introduced, electronic filing is definitely considered to save time. In the United States, the success of the Electronic Tax Administration developed as part of the Internal Revenue Service since 1986 have been judged a success in terms of being faster, more convenient for customers and saving money per transaction (Cohen and Eimicke, 2000). For the banks, time saving is a major selling point; Barclays, for example, consider that 'time and convenience' is a headline incentive for business banking and have a catchphrase to target such services at SMEs, headed 'Giving small business customers back their weekends'. Customs own research (McCallum Layton, 2002a and b; Conjoint, 2003) found that by far the greatest reason respondents cited for potential use of government services would be if they were to be quicker/would save time.
- 4.2 A distinctive challenge for UK Customs however, is that the VAT return is a simple form that is relatively easy to complete, with only 8 pieces of information and there is less possibility to save businesses time. Indeed, McCallum Layton (2002a) found that 89 per cent of respondents who carry out some of their own VAT work found filling in VAT returns either very or fairly easy. Therefore Customs' first challenge is that electronic completion is made at least as easy than filing a paper return. Any replacement electronic service must be extremely robust. If payments and forms are both submitted on-line, there will clearly be a surge of transactions around the time of the end of a VAT payment period. Already evidence collected for the NAO study *Government on the Web II* shows how Customs web site experiences peaks and troughs in usage – and the systems load implied by even more emphasised peaks in demand concentrated in a couple of days could threaten system reliability.
- 4.3 An issue that has hitherto threatened to make electronic filing more difficult than on paper is authentication, which has to achieve a balance between being trusted and secure but not difficult to use. [Customs already have work to do in overcoming a](#)

negative reputation for authentication in electronic filing, caused by the difficult-to-use digital certificate method used in their EVR pilot. Banks have worked hard at the authentication problem, also a potential negative incentive to their on-line banking business. In general, most of the banks entered the on-line market with dial-up services which were secured by operating across a separate network, but these are gradually being phased out in favour of web-based services which are secured by digital certificates (downloaded relatively easily on-line) or 'smart card' readers. HSBC customers download a digital certificate for free during the sign-up for on-line banking. The certificate is downloaded to the customer's machine and is used to authenticate that machine for on-line services. This system appears relatively cheap. A drawback is that the digital certificate is thereafter located in the machine and is therefore lost if the machine is lost or stolen, but can be easily replaced. HSBC are moving towards a smart card reader which will overcome the problem of the physical location of the certificate. Likewise, Natwest, part of Royal Bank of Scotland, use a PKI smart card which is authenticated by a physical reader linked up to whichever computer terminals are used for on-line banking services. Officials from both these banks thought that their solutions could be adopted relatively easily by government departments. The Office of e-Envoy is involved in on-going discussions with the banks regarding the possibility of government departments riding on the back of the banks' authentication; that is, a business would be authenticated for use of government sites, such as Customs, by an on-line banking site. However, this solution looks less likely to be viable – all the officials we spoke to considered that their organisations would be unwilling to take on the liability for when mistakes occurs. As one official put it, 'we are happy with our business model to tackle our own fraud – but not anyone else's'.

- 4.4 Assuming that these issues are resolved and that on-line filing is as easy as on paper, one service which must be aligned with the strategy for on-line returns is the question of payments. UK Customs in particular currently receive a remarkably high majority of payments by cheque; as noted in Phase 1 of this study, around 95 per cent of VAT traders currently pay their VAT by cheque and only 1 per cent via on-line banking. If revenue agencies hope to embed on-line filing into business processes by making it quick and easy for those businesses that are on-line, inability to make payments on-line could act as a potential disincentive, as the two processes become technically further apart, introducing new transaction costs. Customs claim that there are several issues to be resolved with the banks and BAC regarding the payment of VAT on-line through an Internet bank account. In order for Customs to be able to match a payment with a VAT return and to direct the money to the correct bank and

trader account, traders must be able to select the correct Departmental bank account and provide the correct identifiers: for VAT, these are the 9-digit VAT number with 4-digit VAT period. Customs report problems in providing this key information via BACs and current banking services and that so far, a search for an intermediary (such as Girobank, which many councils use for on-line payment of council tax) has been unsuccessful. However, this view seemed to be contradicted by Customs' own 2002 Business Needs Survey, which suggested that 1 per cent of the 1,780 traders surveyed pay their VAT on-line through Internet banking (about 18 traders) and 2 per cent pay Customs via BACS. Furthermore, the banks find this claim puzzling. HSBC business banking service for example, offers HM Customs and Excise as a choice of payee and allows 30 characters to be entered (even the personal banking service offers 18 characters and also offers HMCE as a payee) when a payment is made, more than adequate for a VAT number, and payment period number. It seems therefore that there is no generic barrier to SMEs paying VAT on-line via their bank account. In many other countries – Denmark, Finland and Canada for example – the great majority of businesses have Internet bank accounts and routinely make payments to government departments in this way. Customs might negotiate with the banks to make this option more prominent and should indicate its availability on their own on-line service (the Canadian Customs and Revenue Agency, for example, provides links to the websites of participating financial institutions that allow payment electronically). One bar to electronic payment might be that banks vary according to the maximum payment amounts they will allow in a day. HSBC allows £100,000 a day, which would cover the VAT bill of most SMEs, but Nat West allows only £5,000 a day which could be an inhibitor. But again, negotiation with the banks could overcome this problem. As the top five banks had by 2002 attained more than 90 per cent of the UK on-line business banking market, negotiation over minor issues like these should be relatively simple.

- 4.5 Other strategies for using organisational time-savings as an incentive for on-line VAT services is by packaging up 'value-added' services. One banking official suggested that SMEs were incentivized to use on-line banking services by the fact that SMEs need to access financial information all the time, 'day in day out' and that whatever the charges for electronic access (common among the older 'dial-up' e-banking services), it still saves them money as they used to 'phone up the bank all the time'. For this reason, Royal Bank of Scotland customers typically pay £25 a month for the current dial-up service and still consider themselves to be saving money. VAT returns could

perhaps be presented as part of the on-line banking package – not actually using the authentication service for the reasons outlined above, but with a simple link through to the Customs site as suggested above.

- 4.6 Banks often collaborate with alliance partners and use financial service ‘internet aggregator’ sites to draw customers in to their own services. These can be product aggregators, which focus on a single product line such as mortgages or insurance, finding users the lowest price on the market or ‘best fit’ products. Alternatively, ‘account aggregators’ (such as large banks or third parties) are given access to all customers’ accounts from different financial services providers and provide them with a single consolidated statement. Users can transfer money between accounts and the aggregator can mine customers’ financial information to offer targeted products and services and personalised financial planning. Obviously it would not make sense for a department like Customs to develop such a service themselves. But the equivalent for Customs could be ensuring that VAT services are signposted and linked through from the various web-based services currently offered by private sector companies, with differential strategies for large and small, old and new businesses. A key example for SMEs is the site J4B.co.uk, which offers regionally based information on grants and other information required by start-up businesses. Many SMEs also use the ‘This is your money’ site and the ‘your money’ section of www.ft.com. A key intermediary (who Customs are already talking to) is the accounting package SAGE, which has strong penetration in accounting services, and would have the incentive to develop functionality to offer direct interfaces with VAT services as it would add value to their own package. Customs own research showed that of those businesses that handle at least some of the VAT paperwork themselves about half are using a computerised accounts and/or VAT system and that 40 per cent of these are using SAGE (McCallum Layton, 2002). SAGE already collaborates with the banks and it is possible to upload payments from SAGE to most on-line banking services.
- 4.7 Some overseas governments have introduced special services that package up services for accountants or tax consultants in particular, incentivizing them to use on-line services through organisational time-savings. The Australian government has introduced a tax agent portal, which provides tailored access to information, services, products and client information for intermediaries and an electronic lodgement service, which is a private network facility for the return of tax information. Three-quarters of Australians use an accountant for their taxes and now 95 per cent of returns filed by tax agents come in electronically (*Guardian*, 10th April 2003). In

Denmark, Accountant intermediaries have the option to make customers' VAT declarations one by one, or to batch them together in a single file. There is an on-line facility for businesses to grant or withdraw authorisation for an accountant to act as an intermediary, and the VAT business receives an electronic advice from the taxation agency ToldSkat to confirm that the accountant has filed and remitted (response to NAO, 2003). In Italy, the filing of the tax return by tax consultants noted above is just a small part of an overall financial service (*Government Computing*, April 2003).

- 4.8 In dealing with sales tax such as VAT, many overseas governments have the advantage in packaging up taxation services, because the tax is dealt with by the revenue department. In countries where this was not previously the case, there has been a trend over the last ten years toward merging customs and revenues departments: for example, Denmark in 1990, Canada in 1994 and the Netherlands in 1987 (World Bank Group, 2003). All three of these governments have been successful in encouraging businesses to file VAT on-line. Many overseas government portals provide on their front pages an entry points for business which link straight through to a business portal – see for example, the Canadian government at www.gc.gov Australian federal government at www.gov.au and the US federal government at www.firstgov. This last offers (indicated in drop down menus from the business column of the front page of the federal government site) businesses ten options including 'Business Opportunities', 'Business Laws and Regs', Federal Auctions and Sales', 'E-File Your Taxes', 'Wage Reporting', File Patents and Trademarks; and 'much more'. In Australia, a portal called the Business Entry Point, a 'one-stop shop for business where firms can access a range of services and information, both tax and non-tax related (Microsoft, 2002) links users through to the Australian Business Register described above which has been successful in reducing the information collection burden on businesses. For example, information collected by the Australian Tax Office is used to update the register and the Bureau of Statistics uses the register for statistical services, leading the Australian Tax Office to claim proudly that 'we're cutting down the cost and complexity of interaction between business and government'. If a business changes its address, for example, it informs the Business Entry Point and the Australian Business Register pushes the change out to all agencies.

- 4.9 UK business operate at a disadvantage in using this timesaving strategy for incentivization, as the nearest there is to a central UK government portal at

www.ukonline.gov.uk does not provide a gateway tailored for business. Some departments (for example, the Office of the e-Envoy and the Department of Trade and Industry (DTI) have initiated pilot business portals, such as www.ukonlineforbusiness.gov.uk which requires users to register but provides little in the way of services (information is geared at advising small businesses on how to make the best use of information technology) and provides no authentication, so businesses still have to register again if they link through to other sites. Four departments have commissioned research from the consultants OPTA on potential take-up of a business portal at business.gov, but work is still at the exploratory phase and the URL www.business.gov currently takes users to a US business portal for small businesses. Furthermore, it is difficult to discern as yet what the 'value added' of the UK business portal will be, as businesses will not register or be authenticated so the portal will only provide information and links through to departmental sites, rather than providing directly any transactional or account management services, so clearly any substantive aggregation as carried out by the banks will have to be negotiated. The OPTA research (outlined in Phase 1) can identify those businesses with the highest level of regime complexity (that is those that pay VAT, PAYE, Corporation Tax), which will be most likely to use such a portal. Some interviewees suggested that a secure and authenticated broadband network that offered businesses all the services that they are likely to require from government would offer a really positive incentive.

5 Incentivization Using Information and Expertise

- 5.1 Another resource that government possesses is that of **information and expertise**. Government departments have almost unique opportunity to disseminate information to citizens, given their centrality in social and informational networks (Hood, 1984). And clearly the department which collects a given tax is well placed to provide expertise on how to pay that tax most efficiently. Customs' own commissioned research suggested that SMEs would appreciate content, rather than transactions in on-line services. Use of content could act as incentivization if traders become accustomed to using a government web site as a working tool, or become accustomed to communicating with a department electronically (via an email enquiry service, for example). However, the research reported above suggests that Customs have some ground to make up before their content could fulfil such a role. Currently, the Business Needs survey suggests that over three-quarters of newly registered businesses obtain information about VAT from Customs via telephone and only 6 per

cent via Customs' web site (less than the percentage who had done so by mail). Only half of respondents (McCallum and Layton, 2002a) were aware that Customs even had its own web site. But there is clear interest in the information resource: of the 1,583 traders with access to the Internet in the survey, 76 per cent were interested in using the Internet to access information about VAT and 64 per cent were interested in corresponding with Customs by e-mail.

- 5.2 One generic category of information that traders would find useful would be an account history of their dealings with revenue agencies. Most businesses monitor their cash flow very carefully and value greatly the availability of transaction history through on-line banking services. In Denmark, feedback to ToldSkat indicates that users like being able to see their 'e-VAT' history on screen as it builds up. In Ireland, the system for returning vehicle registration tax allows users to view their revenue accounts as a means of managing cash flow to cover their latest registration tax bill (Accenture, 2003: 33). In the UK, details of what traders have paid and what they owe to Customs could well be a valuable information source (such information is not currently available) and would presumably require no higher level of authentication than filing the return itself. However, it may be that Customs' electronic filing solution does not make account history possible, which would mean that this option would have to be discounted.
- 5.3 Other content that revenue agencies could provide is likely to vary by business's information requirements – which are in turn likely to vary by sector. Companies involved in import-export, for example, are going to want to obtain information on exchange rate and import-export regulations on a regular basis and might be encouraged to do so from the Customs' web site. Once they use the web site regularly for this purpose, the transaction costs of filing VAT returns on-line are reduced. Customs are also planning to target information at those companies that buy and sell in Europe; there are around 60,000 VAT registered businesses that buy and sell in Europe and so have to give details of EC sales and purchases will have to submit this information electronically by October. They will try to make these businesses also submit VAT on-line. There are other types of segmentation which might be used to target information strategies on particular businesses, the most important of which is probably those businesses that use Internet banking, via the banking services themselves as identified above, or via 'soft links' from other web services targeted at businesses, rather than developing a particular stream of content themselves.

- 5.4** There are overseas examples of information provision being used successfully by overseas government to incentivize usage of on-line services: in the US, for example, Access America for Students collaborated with the Internal Revenue Service to make electronic tax filing available to all students, as well as information on the tax rules associated with loans, scholarships and fellowships (Fountain, 2001: 163). In Australia, the Electronic Commerce Interface allows businesses to retrieve and lodge transactions electronically, such as business activity statements. The website run by the Italian Ministry of Finance and Treasury which allows citizens and companies to pay taxes online provides information and expertise on a wide range of issues amounting to a full financial service, including the checking of VAT registration and codes of companies based within the European Union, a range of services to companies that want to fulfil legal requirements for registering their employees and registration of real estate rent contracts (Accenture, 2003).
- 5.5 Other types of information incentivization might include the provision of answers to specific questions or enquiries. Previous research has shown how rarely SMEs contact Customs when preparing VAT returns (or indeed at any other time). However, evidence from internet research suggests that in general, where people have a resistance to making a contact in the first place, they may prefer on-line contact to other types of communication such as telephone. An example is travel services, where people like the fact that they can experiment with alternatives rather than confessing to a travel agent that they don't know exactly when or where they want to go (see Lord, 2000 quoted in Margetts and Dunleavy, 2002). Likewise, evidence from the banking sector suggests that customers (including business customers) prefer to do more 'unpleasant' tasks such as requesting overdrafts in a virtual way, without personal contact. Thus HSBC find themselves under increasing pressure to talk electronically – branches cannot currently accept emails but recognise that a method of doing so will have to be developed. The Danish taxation agency (ToldSkat) is increasingly moving towards two-way communication over the next two years, with greater use of on-line validation of declarations, e-mail communications and on-line communications such as voice-response to the internet (response to NAO questionnaire, 2003); these are being used to encourage use of the electronic facility. Egg even allows payments to be made via email, which less Internet-savvy customers might prefer. These examples suggest that government departments like Customs should consider introducing an e-mail enquiry service as part of an e-strategy.

5.6 Another possibility for incentivization through information is creating an electronic version of a form that 'adds value' to the completion process. For VAT, although the current form is very simple, calculating the figures that are fed into each of the eight boxes is a complex task – to some extent the complexity of calculating VAT has been transferred to the business customer by the simplicity of the form. In particular, the field 'turnover less costs and VAT' (check) within a quarter is a complex one, with customers having to identify which payments and receipts belong to which quarter. Market research suggests that for many people, calculation of the 17.5 per cent VAT and other percentages is a daunting task. One interviewee suggested that an 'intelligent' form that helped with these calculations and gave VAT payers the chance to calculate the consequences of alternative scenarios could act as an incentive for customers to use it. In Australia, an e-tax program introduced in 1997 provides citizens with a software package which allows individuals and some businesses to download an application, prepare a tax return offline (all calculations are done by the application) and lodge the return on-line – a new channel for collecting existing taxation information with no change to back office systems or taxation business processes. The service had 550,000 users by 2002 and has a target of 1 million by 2004 (NOIE, 2003) and uptake is proving higher than expected. Successful insurance web sites offer quote calculators which allow customers to feed in different postcodes for example, or different values of house contents, so that they can play around and find the most reasonable quote. There are always different ways of presenting information and very small businesses in particular might value this facility on the Customs site. Sole traders in fact can use the Australian e-tax program noted above. There can be advantages for the agency too, as the calculations submitted in the form would be more likely to be accurate and less likely to require investigation. And such a strategy could aid in giving businesses the impression of a tax-collection agency like Customs as a 'customer service' organisation which is helping to get it right – rather than acting as a 'police force'. In fact, various technological innovations have been influential in giving banking customers a view of banks as good on customer service, rather than feeling defensive about visiting branches.

5.7 For Customs, both these expertise-based strategies could face a barrier which would need to be tackled. Some interviewees suggested that there is a widespread (and erroneous) view in the business community that the more enquiries (particularly complaints) that businesses make of their VAT, the more likely they are to be investigated: that VAT payers are 'guilty til proven innocent'. Thus customers might be unwilling to email Customs, for fear of an investigation, or fill out an 'intelligent' form,

in case Customs viewed the information and held it as evidence were the final return to contain different information. Therefore, if Customs wish to introduce such a facility they would need to make clear that this was not the case. Insurance companies do not ask entrants to their site to register, to make it clear that obtaining quotes will be treated as anonymous until the point of payment. Certainly an intelligent form of this kind should be capable of being saved and worked on off-line, which would go some way towards reassuring users.

6 Conclusion

- 6.1 We have used an analytical framework based on the generic resources at the disposal of government departments such as Customs. We consider these resources to be exhaustive, in that they represent the only alternatives available and we have discounted resources (such as social pressure) which we do not consider to be available to government departments. We summarise below the possible ways in which Customs might use each of the resources as part of a strategy to drive up demand for on-line VAT services.

Financial Incentivization: using money

- Cash incentives for on-line filing
- Introducing later payments for electronic returns (around three weeks), capped by size of business
- Guaranteeing that refunds will be paid earlier for electronic returns
- Differential benefits for the number of days the payment is late (would avoid peaks in demand)
- Additional payment flexibility for new VAT registrants
- Surcharge for paper returns and cheque payments for large businesses

Compulsion: using legitimate authority

- Compelling large businesses to file on-line, with compulsion for smaller businesses introduced at a later stage
- Compelling some categories of customer to file VAT returns on-line, in particular accountants and tax consultants – especially if a tailor made electronic lodgement service were introduced

Reducing Transaction Costs: using organisational capacity

- Encouraging on-line banking sites to signpost HM Customs as a payee

- Advertising VAT services from on-line banking sites and other sites commonly used by businesses.
- Considering development of a tailored service for accountants and tax intermediaries
- Packaging up on-line VAT services with other government services via a proper UK government business portal (www.business.gov, for example) and reconsidering the registration option
- Partnering with SAGE to offer on-line VAT as part of the SAGE accounting package

Sector Specific Content Provision: using information and expertise

- Tailoring content provision for specific customer segments, such as those buying and selling in Europe
- Providing customers using on-line VAT facility with account history statements, if technically possible
- Offering an e-mail query facility
- Developing an intelligent form that performs VAT calculations, to be completed off-line

Obviously, Customs cannot pursue all these options at the same time. But it is our view that all have been used successfully by either a public or private sector body, that most of them are mutually reinforcing and that they could all usefully be considered as part of an e-strategy to drive up take-up.

- 6.2 A clear finding from research into the banking sector was that banks that have been successful in developing on-line banking services have employed a creative mix of a number of strategies. Banks carefully monitor usage of each on-line service and tailor incentives to drive up usage in specific areas. They realise that shifting business practices on-line can involve significant marketing effort but that such a drive can be cost justified through reduced transaction costs. Importantly, they have not waited for overall systems transformation before introducing on-line banking services. For example, one major bank, previously a building society, offers four on-line products but has not integrated their legacy systems and staff in branches will have 14 windows open when they serve customers.
- 6.3 Evidence from both banks and overseas governments suggests that once a critical mass of users is established, rapid growth is possible. Accenture (2003: 33) suggest that there is a barrier at about the 10 per cent usage level and that once this initial barrier has been breached, dramatic increases are achievable. Therefore, it is worth

investing marketing efforts and targeting resources at specific groups of users, such as new VAT registrations.

- 6.4 Finally, future research strategies of government departments like Customs need to include the type of research carried out by the financial organisations mentioned above. In common with most research carried out by UK government departments, none of the research previously carried out by Customs (reviewed in Phase 1) had involved any stimulus-based research or functionality testing, where actual versions of potential web sites are presented to respondents. As well as usability testing in laboratories, organisations like Egg or the major banks carry out a range of functionality testing rather than asking people in an abstract way whether they might be likely to use a certain on-line service, such as in the Customs annual business needs survey. Typically, functionality testing will involve mocking up web sites and employing a variety of strategies such as letting interviewees 'surf it alone'; discussion of the site in focus groups and finally, allowing individuals to test sites in the home or business environment over longer periods of time.

References

Abramson, M. and Means, G.. (eds. 2001) *E-Government 2001*, the Pricewaterhouse-Coopers Endowment series on Business and Government (Maryland: Rowan and Littlefield).

Abramson, M. and Morin, T. (eds. 2003) *E-Government 2003*, the IBM Endowment for The Business of Government (Maryland: Rowan and Littlefield).

Accenture (2001, 2002) *eGovernment Leadership - Realizing the Vision*

Accenture (2003) *eGovernment Leadership: Engaging the Customer*

Bowles (2000), J. 'eMarketmakers: How Digital Marketplaces are Shaping the Future of B2B Commerce', *Forbes* 166(3) July 24.

Cap Gemini Ernst and Young (2003) *On-line Availability of Public Services: How Does Europe Progress? Web-based Survey on Electronic Public Services*, Cap Gemini Ernst and Young's Overall Report Oct 2001 – Oct 2002 prepared for European Commission, DG Information Society

Cap Gemini Ernst and Young (2002) *Web-based Survey on Electronic Public Services: Results of the second measurement, April 2002*, Cap Gemini Ernst and Young's Summary Report prepared for European Commission, DG Information Society, Europe 2002.

Carter, P. (2001) *Review of Payroll Services* (London: Inland Revenue)

Cohen, S. and Eimicke, W. (2000) 'The Use of the Internet in Government Service Delivery', in M.Abramson and G.Means (eds. 2001) *E-Government 2001*, the Pricewaterhouse-Coopers Endowment series on Business and Government (Maryland: Rowman & Littlefield).

Commission of the European Communities (2002a) *eEurope 2005: An information society for all*, an 'Action Plan', Communication from the Commission to the Council, the European Parliament, the Economic and Social Committee and the Committee of the Regions, 21/22 June 2002.

Commission of the European Communities (2002b) *eEurope 2005: Benchmarking Indicators*, Communication from the Commission to the Council and the European Parliament, 21st November 2002.

Conjoint (2003) *Accountants Topline*, Business.gov Financial Services Research, commissioned by UKOn-line, Opta and DTI, 17th January.

Coyle, D. and Quah, D. (2002) *Getting the Measure of the New Economy* (London: Work Foundation) report to the Isociety programme, May 2002.

Crabtree, J. and Curthoys, N. (2003) *Smart Gov: Renewing Electronic Government for Improved Service Delivery* (London: Work Foundation), report to the Isociety programme, July.

Datamonitor (2000) *Best Practice in UK eBanking 2000: The geek shall inherit the earth?*, Datamonitor best practice report DMFS1266.

Dewan, R. Jing, B., Seidmann, A. (2000) Adoption of Internet-based Product Customization and Pricing Strategies', *Proceedings of the 33rd Hawaii International Conference on System Sciences*.

Dowding, K. (1994) *Power* (Open University Press).

Economist Intelligence Unit (2002), *The 2002 e-readiness rankings*.

Fountain, J. (2001) *Building the Virtual State: Information Technology and Institutional Change* (Washington: Brookings Institution Press).

Graafland-Essers, I. and Etedgui, E. (2003) *Benchmarking e-Government in Europe and the US*, RAND Europe, www.rand.org.uk

Hood, C. (1984) *The Tools of Government* (London: Macmillan).

Kraemer, K. and Dedrick, J. (2001) *Dell Computer: Using E-commerce to Support the Virtual Company*, Working paper, Center for Research on Information Technology and Organizations, University of California, Irvine.

Lai Ming Ling (2002) 'Towards Electronic Filing System', *Akauntan Nasional*, April 2002.

Lord, R. (2000) *The Net Effect: A Survival Guide for Companies in the Internet Era* (London: Random House).

Margetts, H. (1999) 'Computerising the Tools of Government', I. Snellen and W. van de Donk (eds.) *Informatization and Public Administration* (Elsevier).

Margetts, H. and Dunleavy, P. (2002) *Cultural Barriers to e-government*, Academic Article to support National Audit Office report Better Public Services through e-government, HC 704-III, Session 2001-002, 4 April.

Margetts, H. (2003) 'e-government: a revolution in public administration?' in Peters, G. and Pierre, J. (eds.) *Public Administration Handbook* (London: Sage).

McCallum Layton (2002a) *VAT Business Needs Survey 2002*, Market Research Report prepared for HM Customs and Excise, 23rd April

McCallum Layton (2002b) *Meeting EVR Objectives (Traders up to £100,000 turnover) Market Research Report Prepared for HM Customs and Excise, Part 1*, 26th March 2002.

McCallum Layton (2002c) *E-Transacting with HMCE (Phase 2 - Traders £100 - £500k turnover) Market Research Report Prepared for HM Customs and Excise, Part 2*, 19th June 2002.

Mann, M., Zawada, C., Swinford, D and Baker, W. (2000) *Internet Pricing: A Creator of Value - Not a Destroyer* (London: McKinsey Marketing Solutions).

Microsoft (2002), *Australian Taxation Office*, Case Study, Posted on www.microsoft.com on May15 2002

National Audit Office (NAO) (2002) *Government on the Web II* (London: NAO), HC 764, 25th April.

National Office for the Information Economy (NOIE) (2003) *E-government Benefits Agency Case Studies*, at www.govon-line.gov.au/publications/NOIE May 2003.

Rhodes, R. (1988) *Beyond Westminster and Whitehall: the Sub-Central Governments of Britain* (London: Allen and Unwin).

Salamon, L. (2002) *The Tools of Government: A Guide to the New Governance* (Oxford University Press).

Taylor Nelson Sofres (2002) *Government On-line an International Perspective*, November.

World Bank Group (2003) *Supporting Institutional Reforms in Tax and Customs: Integrating Tax and Customs Administrations*, Study prepared by PLS RAMBOLL, Copenhagen and supported by the Danish Governance Trust Fund, January.

Wyld, D. (2001) 'The Auction Model: How the Public Sector Can Leverage the Power of e-Commerce through Dynamic Pricing' in M.Abramson and G.Means (eds. 2001) *E-Government 2001*, the Pricewaterhouse-Coopers Endowment series on Business and Government (Maryland: Rowman & Littlefield).