Centre for Technology Policy Research

UK PUBLIC SECTOR IT

EXECUTIVE SUMMARY

This Memo, from the independent Centre for Technology Policy Research (CTPR), provides a summary overview of some of the key issues relating to the current UK public sector information technology (IT) marketplace.

Our findings in this Memo include:

- total UK public sector IT-related expenditure remains difficult to determine, but likely to be running in excess of the total reported figure for 2007/08 of £13.65bn. Indeed, there are estimates that the current annual figure could be as high as £21bn, some 55% higher than the official reported figure

- UK public sector IT spend, as a percentage of GDP, appears higher than most advanced industrial countries, running at between 29% higher than average to as much as 123% higher than average. Yet the performance achieved by the UK's public sector IT expenditure is lower than average

- to put the scale of the UK public sector's IT expenditure into perspective, at the higher end of estimates it is over twice the size in terms of its percentage of GDP than the entire UK agriculture, forestry and fishing industries combined

- the UK is regarded as a world leader in ineffective IT schemes for government, with a large number of scrapped projects over the last decade combined with significant complete or partial write-offs of investments. Only some 30% of UK public sector IT projects succeed

- public sector productivity, as measured by the Office for National Statistics, has declined despite high levels of IT expenditure over the last decade. This has taken place against the backdrop of an increase in private sector productivity during the same period

- despite this large annual IT expenditure, the government is spending only between 1.0% to 1.5% of the overall public sector IT budget to deliver public services and related information online

- UK public sector IT accounting practices remain inconsistent and varied, making those figures that do exist difficult to rely upon. Consequently, there can be no certainty at present that public sector IT expenditure represents value for money
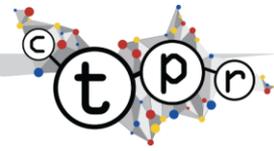
- as recently as 2005, even departments such as the Cabinet Office lacked accounting systems able to track and report upon their IT-related expenditure. It is not entirely clear whether adequate accounting systems and methods are now operating across the public sector and what level of business intelligence and analytics are now in use as part of routine operational management and planning

- with very limited exceptions, there appears to be no accountability or liability either within the IT industry, or the civil service, when public sector projects fail to deliver the required outcomes

- the practice of largescale outsourcing of IT functions, combined with the lack of mechanisms to ensure a competitive market, has favoured the prominence of a limited number of larger IT companies in the UK. It is unlikely to be coincidence that the greater the concentration of power of the IT industry the less effective the performance of UK public sector IT has become

- there is a lack of clear ownership of UK public sector IT strategy, with evidence of contradictory and fragmentary initiatives across numerous government agencies and departments

IT is important not simply because of its large calls upon public expenditure, but also because it has the potential to become a core part of the policymaking process in the re-design and improvement of the UK's public services. To make it truly effective in doing so however, it is useful to have an understanding of the current strengths and failures of the operation of the IT marketplace in the public sector.

The current UK IT public sector marketplace is, as this Memo illustrates (as of October 2009) sub-optimal. Changes are required both to the operational efficiency and productivity of current IT expenditure in the public sector, as well as to better position it as an effective agent in the design, operation and delivery of twenty-first century public services. This will require changes in the governance of IT, particularly with relation to the interplay of strategy and policymaking.
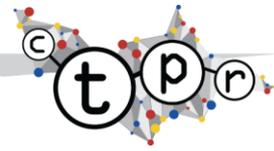
The current system is not working particularly well for anyone – be they Ministers, civil servants, the IT industry, businesses or indeed public sector
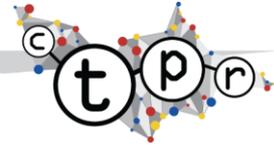
employees and citizens. Successful remediation will require changes in both the IT industry's approach to the public sector, and in the public sector's understanding of the capabilities and role of IT in the reform, renewal and improved performance of the UK's public services.
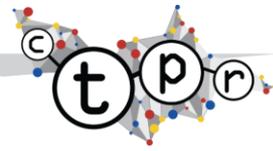
The design and operation of a modern state, and its economic and social policy options, are now inextricably interlinked with modern IT's capabilities and the IT marketplace, from multi-national traditional service providers to small and medium businesses and open source software players. Policymakers need to better understand the options now available to them, and evolve a more effective and efficient model for harnessing the use of IT in the successful delivery of a twenty-first century digital state.

This Memo provides insight into contributory evidence together with a series of recommendations intended to provide greater consistency of accounting related to public sector IT-related expenditure and a more effective approach to ensuring that IT investment helps both improve overall public sector productivity and the quality of our public services.

CONTENTS

ANNUAL IT EXPENDITURE

Governments typically spend around 1% to 1.5% of gross domestic product (GDP) on public sector information technology (IT)[1]. Expenditure at this level is significant enough to become a contributory and influential factor on a country's economic activity and potential success.

According to the *Operational Efficiency Programme*[2] undertaken by Dr Martin Read (a former chief executive of LogicaCMG, who led a Treasury review into the costs of IT and back-office administration), UK public sector IT spend is around 4.6% of total public sector spending. With some 42% of current UK GDP being public sector expenditure, this implies that some 1.93% of UK GDP spend is on public sector IT, rising to 2.23% based on Dr Read's higher projections.

These estimates suggest that UK public sector IT spend, as a percentage of GDP, is higher than most advanced industrial countries, running at between 29% higher than average to as much as 123% higher than average. In 2004, some estimates "*suggested that the UK was undertaking up to a quarter of all IT capital spending in the government sector*" across the whole European Union[3]. The public sector also accounts for some 55% of UK spending in the IT sector[4].

To put this level of public sector IT expenditure into perspective, the entire UK agriculture, forestry and fishing industries only represent approximately 1% of the UK economy[5].

Yet the performance of the UK's public sector IT expenditure is, as this paper shows, lower than average. Indeed, one of the government's own CIOs is reported as having stated that only 30% of the government's technology-based projects succeed ("*Only a third of government IT projects succeed, says CIO*", Computer Weekly, 21 May 2007). The Office of Government Commerce (OGC)
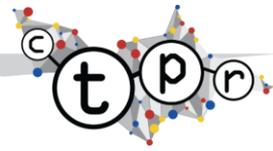
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[1] Dunleavy, P., Margetts, H., Bastow, S., Tinkler, J. *Digital Era Governance*. Oxford University Press, 2008
[2] Operational Efficiency Programme: back office operations and IT, May 2009. HMT. http://www.hm-treasury.gov.uk/vfm_operational_efficiency.htm (p44, para 4.5)
[3] Dunleavy, P., Margetts, H., Bastow, S., Tinkler, J. *Digital Era Governance*. Oxford University Press, 2008 (p94)
[4] Comptroller and Auditor General's Report, Improving IT Procurement (HC 877, Session 2003-04), para 3.71. http://www.nao.org.uk/idoc.ashx?docId=6d57ed46-48b8-4419-ae6e-dafe081cc43b&version=-1
[5] Preliminary estimate of Gross Domestic Product briefing note: 2008 Q4, http://www.statistics.gov.uk/pdfdir/gdpbrief0109.pdf

system of "gateway reviews" is intended to help ensure that projects are more systematically assessed. However, the Public Accounts Committee has called for these reviews to become more effective by being openly published [6]. The Committee believes that OGC should adopt the same levels of openness on IT projects and programmes as seen in the USA.

> *"Performance monitoring is likely to be most effective where there is transparency around the results. Gateway reviews are an important tool, but could be made more effective at encouraging learning and innovation.*

> *"This Committee has previously argued for increased transparency in respect of the Gateway reviews. The reviews will be more effective if they are published and their conclusions shared across government, in keeping with the spirit of the United States Government's ExpectMore.gov website.*

> *OGC should also analyse systematically the available data from previously completed reviews, in order to identify systemic lessons which should be shared more widely."*

OGC however has declined, so far at least, to introduce such transparency.

For the past three years, the UK's CIO Council has included overall public sector IT-related expenditure figures in its annual reports [7]. The most recent figures exclude those parts of the public sector who are not members of the CIO Council and specifically do not include, for example, Scotland, Wales or Government Communications Headquarters (GCHQ). Earlier reports did include both Scotland and Wales.

The Chief Information Officers' (CIO) Council, in its Transformational Government Annual Report 2008, identified total expenditure for 2007/08 of £13,650 million on central government public sector IT. The breakdown of this is shown in Figure 1.

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[6] House of Commons Public Accounts Committee Learning and Innovation in Government. Forty–third Report of Session 2008–09. 8 July 2009.
http://www.publications.parliament.uk/pa/cm200809/cmselect/cmpubacc/562/562.pdf.
[7] http://www.cabinetoffice.gov.uk/cio/transformational_government.aspx

IT-related expenditure (in millions)

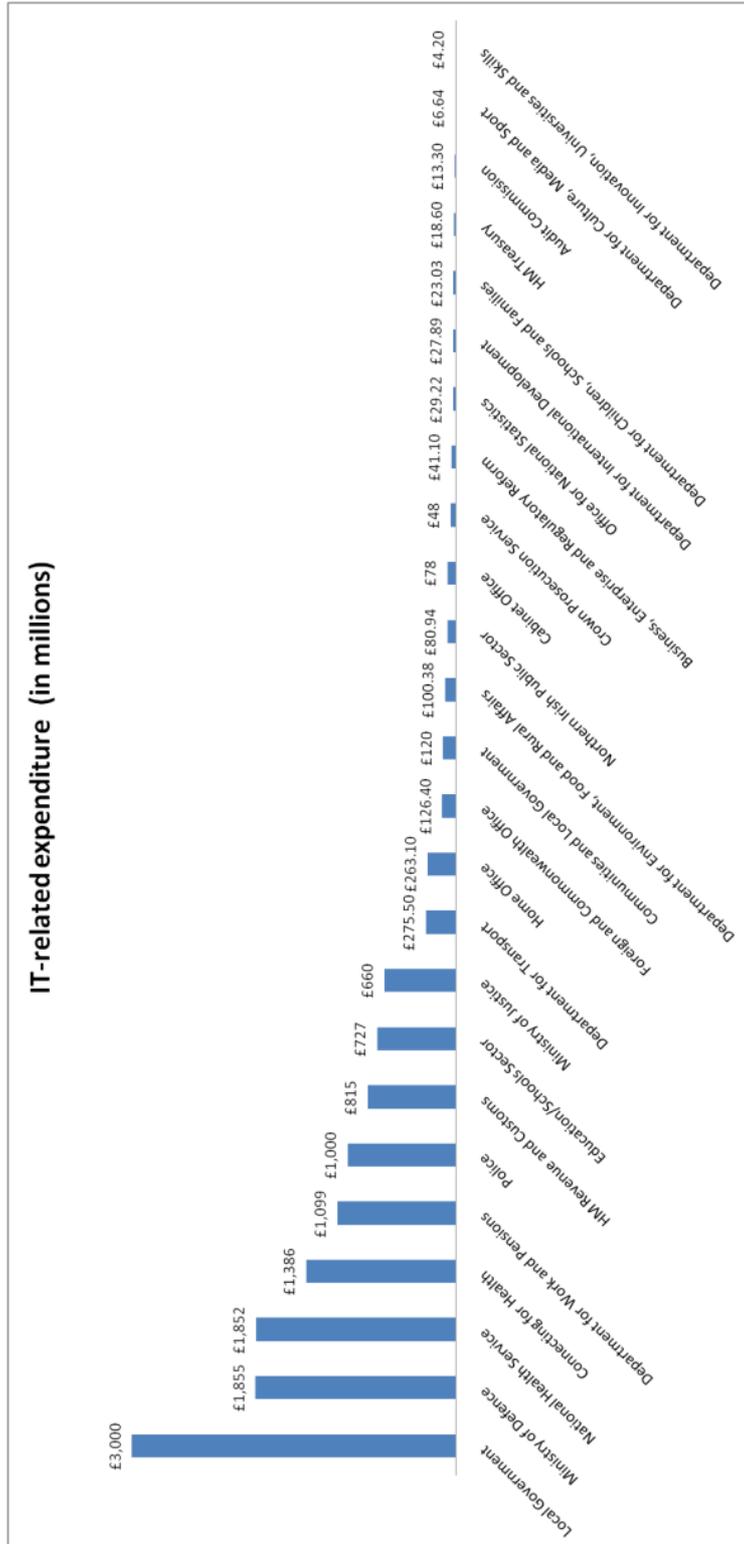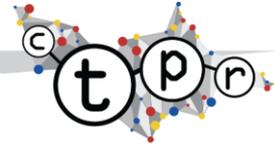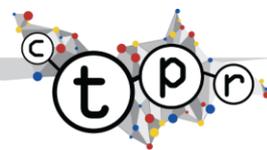| Department	Expenditure
Local Government	£3,000
Ministry of Defence	£1,855
National Health Service	£1,852
Connecting for Health	£1,386
Department for Work and Pensions	£1,099
Police	£1,000
HM Revenue and Customs	£815
Education/Schools Sector	£727
Ministry of Justice	£660
Department for Transport	£275.50
Home Office	£263.10
Foreign and Commonwealth Office	£126.40
Communities and Local Government	£120
Department for Environment, Food and Rural Affairs	£100.38
Northern Irish Public Sector	£80.94
Cabinet Office	£78
Crown Prosecution Service	£48
Business, Enterprise and Regulatory Reform	£41.10
Office for National Statistics	£29.22
Department for International Development	£27.89
Department for Children, Schools and Families	£23.03
HM Treasury	£18.60
Audit Commission	£13.30
Department for Culture, Media and Sport	£6.64
Department for Innovation, Universities and Skills	£4.20

Figure 1: CIO COUNCIL EXPENDITURE 2007/08 [Source: CIO Council]

The same breakdown is shown in tabular format in Table 1.

| Department	IT-related expenditure (in millions)
Local Government	£3,000
Ministry of Defence	£1,855
National Health Service	£1,852
Connecting for Health	£1,386
Department for Work and Pensions	£1,099
Police	£1,000
HM Revenue and Customs	£815
Education/Schools Sector	£727
Ministry of Justice	£660
Department for Transport	£275.5
Home Office	£263.095
Foreign and Commonwealth Office	£126.4
Communities and Local Government	£120
Department for Environment, Food and Rural Affairs	£100.376
Northern Irish Public Sector	£80.944
Cabinet Office	£78
Crown Prosecution Service	£48
Business, Enterprise and Regulatory Reform	£41.1
Office for National Statistics	£29.221
Department for International Development	£27.89
Department for Children, Schools and Families	£23.033
HM Treasury	£18.6
Audit Commission	£13.3
Department for Culture, Media and Sport	£6.641
Department for Innovation, Universities and Skills	£4.2

TABLE 1: CIO COUNCIL EXPENDITURE 2007/08 [SOURCE: CIO COUNCIL]

RECENT IT BUDGET GROWTH

From the last three years of published CIO reports, overall public sector IT expenditure has risen from £12.414bn in 2005/2006 to £13.65bn in 2007/2008. These figures do not include all public sector IT expenditure, but only those identified by the CIO Council and its members.

CIO Council Expenditure (in millions)	Year	Percentage Growth
£12,414	2005/2006	-
£13,234	2006/2007	6.6%
£13,650	2007/2008	3.1%

TABLE 2: CIO COUNCIL EXPENDITURE 2005-2008 [SOURCE: CIO COUNCIL ANNUAL REPORTS]
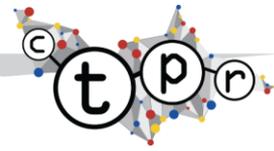
RELIABILITY OF IT-RELATED EXPENDITURE FIGURES

Obtaining precise IT-related public sector expenditure figures remains problematic. Accounts are not regularly published in any detail, sometimes on grounds of "*commercial confidentiality*" and equally as often because the information would be "*available only at disproportionate cost*".

Dr Read, during his review into the costs of IT and back-office administration, commented at the time on overall IT expenditure:

> *"We are not measuring like for like. It is a pretty messy science but our best estimate is that it is a spend of about £16bn a year. And it could be low as £13bn and as high as £21bn."* (Quoted, for example, in [Computer Weekly](#))

In each of the past three years in which the CIO Council has published summary figures in their annual report, special notes have been included containing the caveat:

> *"The notes also serve to outline the variance in accounting practices in relation to IT expenditure across the public sector."*

As the House of Commons Public Accounts Committee has reported, with regard to the lack of consistency in public sector's management, accounting and provision of websites:

> *"The Cabinet Office has tried to improve knowledge on the costs of websites in departments and agencies, but it has proved difficult because websites are funded and accounted for differently across government. Some organisations fund websites through communications budgets, some through IT budgets, and others from policy budgets. In some cases, website provision is included with other IT services in a larger contract, making it harder to disaggregate website[s] from other IT service-related costs."*[8]

As a further illustration of the nature of the problem, in February 2009 Hansard records the following request being made of the Cabinet office:

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[8] House of Commons Public Accounts Committee, Sixteenth Report, Session 2007-08, 31 March 2008
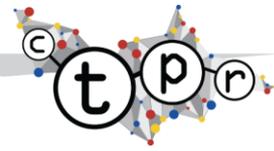
"... what the initial estimated (a) cost and (b) delivery date was of each ICT project initiated by the Cabinet Office in each year since 1997; what the (i) outturn cost and (ii) completion date was of each such project subsequently completed; which contractors were hired for each project; and how much has been paid to each contractor in respect of each project to date."[9]

The reply given, by then Minister for Digital Engagement, Tom Watson MP, contained the following table.

Project	Start year	Estimated cost (£ million)	Estimated delivery date	Outturn cost (£ million)	Outturn delivery date	Main contractor
Flex transformation	2007	3.16	July 2008	Not yet complete	Not yet complete	Fujitsu
HR/Finance/Procurement Shared Services	2007	8.3	May 2009	Not yet complete	Not yet complete	DWP
Government Gateway, Release 2.2	2007	2.53	April 2008	2.53	May 2008	Atos Origin
Government Gateway, Release 2.3	2008	1.2	July 2008	1.2	July 2008	Atos Origin
Government Gateway, business continuity	2007	2.7	April 2008	2.7	April 2008	Atos Origin
Government Gateway Strategic Support	2006	4.3	April 2008	4.3	April 2008	Atos Origin
ISAAC	2005	2.9	June 2007	2.9	July 2007	Hedra
e-RM	2005	3.7	March 2008	3.7	March 2008	Meridio HP Services

TABLE 3: MAJOR IT PROJECTS IN THE CABINET OFFICE [SOURCE: HANSARD]

In providing his response, Mr Watson also commented:

"We have only included major projects in our response whose value exceeds £1 million. There are many other smaller lower cost projects, for example, to cover software development, hardware updates, infrastructure changes, but to collect all the requisite data would be at disproportionate cost ... Prior to 2005, the information requested is not readily available from the Department's accounting systems. Also payment to individual contractors is not readily available from the Department's

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9 http://www.publications.parliament.uk/pa/cm200809/cmhansrd/cm090223/text/90223w0085.htm
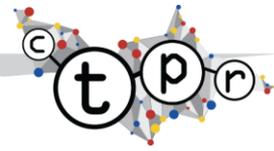
accounting systems. This information is therefore available only at disproportionate cost."[10]

Given mandatory EU requirements regarding the need to monitor and account for the aggregation of the value of contracts and services over their lifetime, it is unclear why the government remains unable to provide figures relating to payments to individual contractors. The same system that ensures UK legal compliance could also be used to produce appropriate figures for responses to Parliamentary Questions.

DIFFERENCES IN ACCOUNTING PRACTICES

As noted in the annual CIO Council Reports, accounting practices vary across the public sector, complicating the task of understanding the total IT spend and accounting for its precise disposition and contribution to the performance and operation of public services.

Amongst the differences highlighted in the notes included with their annual reports[11] are:

- *"This includes all expenditure incurred by the Commission during the year on ICT and information management (which includes records management and library services). It excludes capital expenditure but includes depreciation."*
- *"This includes capital and resource ICT spend for the central Department's own business purposes, together with amounts that are transferred to local authorities and others for targeted ICT-related purposes."*
- *"This includes the monthly service charge together with an estimated amount for additional investment."*
- *"This amount covers further restructuring of the Department's IT functions."*

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[10] http://www.publications.parliament.uk/pa/cm200809/cmhansrd/cm090223/text/90223w0085.htm, Departmental ICT
[11] Notes derived from "CIO Council expenditure 2007/08, Part 2" (http://www.cabinetoffice.gov.uk/media/207652/tg08_part2.pdf)
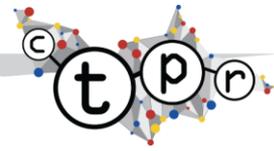
- *"The increase of over £35m in spend for 2007/08 is due to an additional £18.5m to carry out essential encryption and data security improvements"*

- *"DWP has benefited during the year from revised contracts with its main suppliers that facilitate the procurement of standard services and the charging for resources on a consumption basis."*

- *"This covers central IT spend only, and does not include devolved spend to posts or directorates."*

- *"This figure relates to annual IT and communication expenditure, including capital, revenue, cost of capital and depreciation charges"*

- *"Overall IT spend has recovered from last year's fall but is still below the record spending of 2005 (£3,300m). Staff costs account for 43% of overall spending, a reduction of 5% on last year. Software (14%) has continued to outstrip hardware (11%) as the second major area of spending. Data and voice communication expenditure (10%) looks set to overtake hardware if the current trend is maintained. Consultancy fees remain at the same point as in 2006: 2.5% of budget."*

- *"This figure includes capital, revenue, cost of capital charges and depreciation."*

- *"It incorporates IT staff costs and other resource and capital expenditure on IT, but it excludes NDPBs, depreciation and cost of capital."*

- *"...includes actual IT capital and revenue expenditure, including capital charges"*

- *"The 2007/08 figure includes all expenditure by the IT department plus IT-related expenditure controlled by projects and programmes. It excludes capital charges."*

Looking at the above, discrepancies include:

- some departments including IT capital spend, others not including it
- uncertainty about how depreciation is handled or reported
- incomplete reporting due to some delegation to other bodies whose figures are apparently not monitored or reported
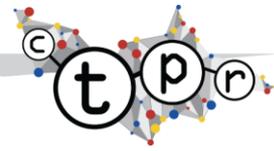
- no accepted reporting practices around how IT expenditure relates to the required capabilities of public sector departments and the role of IT in the design, operation and delivery of public services
- no simple method of drilling into the summary figures behind the CIO Council Reports in order to analyse in greater detail the underlying IT-related expenditure of the UK public sector and its contribution to the design, operation and delivery of UK public services
- without effective and consistent accounting systems it is unclear how the various government departments can ensure they are in compliance with eg EU legal requirements on the value of aggregated services and contracts

Given the currently acknowledged inconsistencies in accounting, a formal, expedited timescale for the adoption of consistent accounting practices, and their public reporting and availability, is required across the public sector for IT-related expenditure[12].

SUPPLY OF PUBLIC SECTOR UK IT SERVICES

The UK has adopted a model of large-scale outsourcing of its IT-related operations to third party suppliers. These include the large international players such as IBM, EDS (now incorporated into HP), Fujitsu, Atos Origin, CapGemini and others together with multi-national software companies such as Oracle and Microsoft. The practice of outsourcing has favoured the prominence of a limited number of larger IT companies able to take on the risks of multi-year, multi-million (and multi-billion) pound projects. This is despite evidence that shows that "... *the greater the power of the IT industry, the less effective the performance of government IT has been.*"[13]

In 2005, the House of Commons Public Accounts Committee reported that just 11 companies were providing 80% of public sector business in the IT sector[14], although they also reported some indication that more suppliers were beginning

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[12] http://www.hm-treasury.gov.uk/vfm_operational_efficiency.htm.
[13] Dunleavy, P., Margetts, H., Bastow, S., Tinkler, J. *Digital Era Governance*. Oxford University Press, 2008 (p130)
[14] House of Commons Public Accounts Committee, Twenty-Seventh Report, Session 2004-05, 6 April 2005
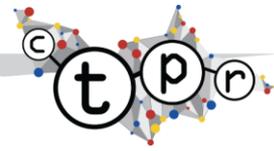
to secure business. The top companies reported as sharing the majority of the public sector's IT contracts includes HP (which incorporates EDS since its acquisition by HP), BT, Fujitsu, Capgemini, IBM, Dell, Capita, Serco, Computacenter, O2, LogicaCMG, Accenture, NTL:Telewest Business, Microsoft, Research Machines, Cable and Wireless, Cisco, CSC and Atos Origin ("*Capgemini and HP gain ground in public sector marketplace*", *The Register*, 3rd May 2007, modified by CTPR in the light of subsequent industry re-organisation). There has been little apparent attempt to use this market concentration to require these large suppliers to deliver stringent levels of reduced costs and process efficiencies, and to help drive innovation in the better design and operation of public services.

One part of government, the former DTI/BERR, now the department for Business, Innovation and Skills (BIS), has outlined policies to increase the number and variety of suppliers to the UK public sector in order to foster innovation and a more competitive marketplace, including setting a target that 30% of contracts should be awarded to small and medium sized businesses. However, the reality is that in practice government has tended towards a preference for a smaller number of larger contracts in order to streamline relationships. The latter approach seems to be based on an assumption that smaller, innovative companies will still be able to secure work by sub-contracting to the larger players.

There is little evidence however that this happens. To the contrary, smaller companies often complain of the complex and expensive processes associated with trying to become involved in public sector contracts.

The lack of a coherent and consistent vision for UK public sector IT policy has done little to help either the innovation agenda, or the UK based small and medium businesses able to add their technical specialisms and competencies to public sector projects. The UK has also been criticised for the low take-up of open source software, which may in part be a by-product of the domination of the market by a relatively small number of large incumbent players. Despite revisions to the UK policy on open source earlier in 2009, intended to encourage the more widespread adoption of open source software in UK public sector procurements, suppliers have indicated that in practice the new policy is little enforced.
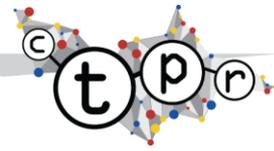
In the same way that better analysis needs to take place of the breakdown of market share by the major IT suppliers, an analysis is also needed of market share within specific areas, such as databases, office application software, web sites, mainframes and customer relationship management. All aspects of the current operation of the public sector IT marketplace need to be better understood to enable appropriate improvements and risk management policies to be put into effect.

Specific analysis of the SME share of the public sector IT spend needs to be broken out from the general SME market share surveys that the Department for Business, Innovation and Skills (BIS) produces. In particular clear auditing of progress, within public sector IT procurement, towards the goal of enabling SMEs to win 30% of public sector business[15] is required.

Under the outsourcing model, projects and programmes have resulted in major IT service providers developing highly bespoke, one-off systems for the UK public sector. Such systems are both expensive to develop and maintain and also provide a tendency towards lock-in since often only the provider who developed them fully understands their complex nature. These systems also tend to become yet more complex and expensive over time, as further legislative and policy changes layer additional bespoke modifications on an already complex base.

Enabling such systems to communicate and exchange information with other bespoke systems is also a complex and costly task and it has been suggested plays well to the vested interests and revenue models of the incumbent players. As much as 70-80% of the overall public sector IT budget is likely to be spent on maintaining and operating existing systems rather than in new public service innovation. This approach to procuring expensive infrastructure, rather than procuring services and service capabilities, needs to be reviewed.

The original outsourcing model saw the UK public sector lose much of its in-house specialist expertise, further limiting the public sector's ability to ensure effective competition and cost-efficiency from its IT supplier base. More recently, this trend has been partly reversed, with most departments employing a Chief Information Officer (CIO) together with the instigation of a cross-public sector CIO Council.

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[15] http://www.berr.gov.uk/aboutus/ministerialteam/Speeches/page47051.html
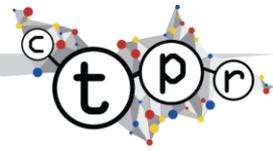
These changes should be welcomed and strengthened. It is however difficult to determine, from information in the public domain, any significant beneficial impact to date of this development on public services and the associated strategic and operational planning of IT. Indeed, as the CIO Council's own reports for the past three years show, both IT budgets and departmental budgets have in general continued to rise above the level of inflation. This may in part be due to a lack of authority and seniority accorded to the CIO role within Whitehall, with most CIOs not being full board members of their respective departments. They often appear consigned purely to technical roles rather than the broader business functions normally associated with a Chief Information Officer. The CIO role and function, and its reporting structure, needs to be reviewed in order to make the role more effective and more accountable.

EXISTING MAJOR PROJECTS

There are a varied and widespread number of IT projects and systems in planning, development, deployment and operation across the entirety of the public sector. No single definitive list exists, but in terms of understanding some of the more significant IT-related major projects currently in progress, they include:
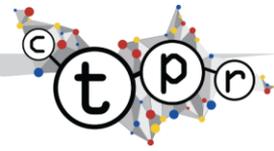
- the Department for Health is driving one of the most ambitious UK IT-related projects, namely the National Programme for IT (NPfIT), with an estimated overall cost in excess of £12bn. A core part of the development is a single, centrally-mandated electronic care record for patients. Other deliverables include an electronic prescription system, an electronic appointments booking system (known as "choose and book"), a picture archiving and communications system and a central email and directory service.

- the Home Office and Identity and Passport Service (IPS) have a variety of IT-related projects in hand, including the National Policing Improvement Agency for intelligence sharing, the £1bn+ e-borders programme, the £234m National Offender Management Information System (rolling out IT to all prisons) and the Identity Cards programme (estimated costs for which vary widely between £5bn and around £18bn)
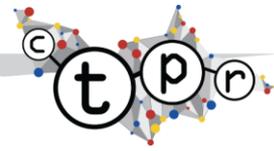
- HMRC is working on a series of improvement programmes with a budget reported to be around £2.7bn [16], including the Modernising PAYE Processes for Customers (MPCC) aimed at improving the PAYE process and ensuring that employees are paying the right amount of tax. Other programmes include the Tax Credits Transformation Programme to reduce the high number of costly errors, running into billions of pounds of waste, that have previously occurred with the tax credits system.

- the DWP is undertaking a series of major programmes involving IT, including a £178m Central Payments System to both reduce dependency on older systems and reduce fraud. This is the third time that DWP has undertaken such a project. It is also busy seeking successors to the current systems integrators' contracts with BT and EDS (now part of HP) through a series of structured work packages aimed at supporting around 140,000 PCs and laptops. Overall, DWP has committed nearly £2.5bn to IT-related programmes, with other projects, such as the £598m pensions transformation programme and a £246m change programme, forming key parts of this.

- the MoD continues with its Defence Information Infrastructure (DII) programme, with some £2bn to £3bn already committed and potentially around a £7bn overall cost to standardise on commodity, commercial off the shelf products across all three armed services and in the process the replacement of over 300 bespoke systems. It is also busy with Bowman, a tactical communications system, and a programme of whole fleet management.

- the Foreign and Commonwealth Office (FCO) is busy with its Firecrest project, budgeted at around £401m and due to deliver a modernised desktop and support environment by early 2012.

- the Department for Children, Schools and Families (DCSF) is developing the £224m ContactPoint database of all children in the UK, which will also incur annual running costs of some £44m.

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[16] http://www.computerworlduk.com/management/government-law/public-sector/news/index.cfm?newsid=10119

PUBLIC SECTOR PRODUCTIVITY AND ONLINE SERVICES

The Office for National Statistics has reported that the productivity of public services fell by 3.2% during the period from 1997 and 2007, an annual average fall of 0.3%[17]. This was during a period of historically high investment in public services. Expenditure on IT was also high during this period, with IT public expenditure by the current date reaching the range of £13bn to £21bn.

IT is normally regarded as a means of improving productivity as well as offering the potential to transform the way goods and services are designed and delivered. As the graph below illustrates, despite the billions of pounds of investment into public sector IT over the last ten years (likely to have exceeded £100bn), there has been little evidence to date of the productivity gains that would normally be associated with effective investment[18].

This graph maps UK public sector input growth (the left-hand axis) and UK IT budget growth (the right-hand axis, using a straight linear projection between the start and end dates given the difficulties in obtaining year-on-year specific budget increments) against the overall UK public sector productivity decline (the left-hand axis).
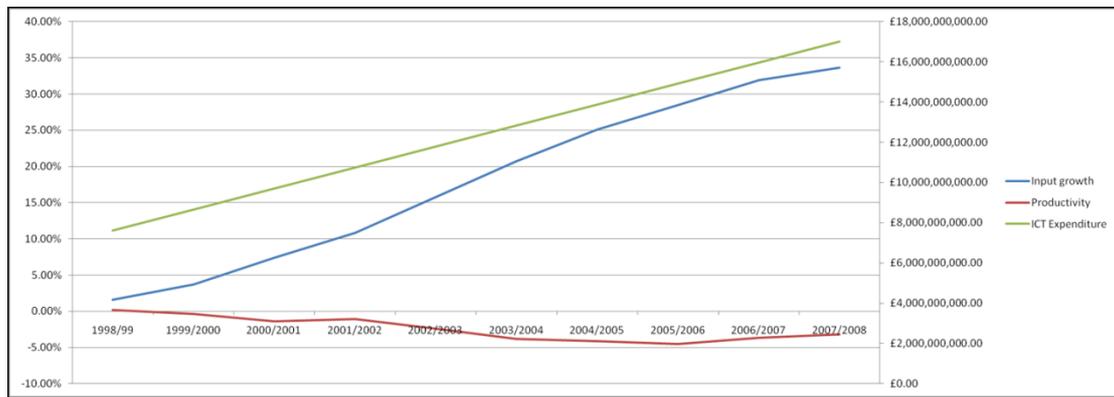

FIGURE 2: IT EXPENDITURE AND PUBLIC SECTOR PRODUCTIVITY

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[17] "*Total Public Service Output and Productivity*", Office for National Statistics, June 2009. http://www.statistics.gov.uk/articles/nojournal/TotalPublicServiceFinalv5.pdf
[18] Sourced from the ONS publication "*Total Public Service Output and Productivity*", Office for National Statistics, June 2009. http://www.statistics.gov.uk/articles/nojournal/TotalPublicServiceFinalv5.pdf and from Parliamentary Questions in Hansard, with the end ICT annual public sector expenditure figure based on a mid-range estimate from Martin Read's comments on the range lying between £13bn and £21bn per annum
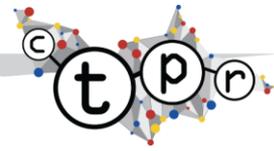
This relatively poor performance of public sector productivity during a time of historically high government investment is also in contrast to relatively strong overall UK productivity performance, which averaged 2.4% per annum between the first half of 1997 and the second quarter of 2006[19]. These figures suggest that without the drag effect of negative public sector performance, the UK overall could have experienced a period of higher overall productivity.

The UK is "apparently a world leader in ineffective IT schemes for government"[20]. Dunleavy et al observe that:

> *".... a large number of projects have been scrapped in the last decade, with significant losses of complete investments or with partial write-offs of investment. This record is closely associated with a pattern of price rises in contracts over implementation periods and of significantly less functionality for implemented systems than initially expected."*

With a few limited exceptions (such as the apparent "repayment" by EDS to HM Revenue and Customs (HMRC) of some £71.25m in compensation for the problems associated with the tax credits system, as reported widely in IT media such as Computing and The Register), it is difficult to determine any consistent accountability for, or consequences arising, from these failures, either in the civil service or its big industry suppliers.

Such a lack of accountability is only likely to compound the inefficiencies evident in this significant area of public expenditure. The UK is also noted for having contract prices for government IT that are relatively high and with an unfavourable contrast between the performance of public sector systems relative to those of the private sector.

One area of expected high productivity is the move to the delivery of public services over the internet and a similar application of automation to currently manual processes within public service administration and operations. Guidance from Her Majesty's Treasury (HMT)[21] indicates, based on research carried out by

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[19] "*The 2008 Productivity and Competitiveness Indicators*". Berr.
http://www.berr.gov.uk/files/file49953.pdf
[20] Dunleavy, P., Margetts, H., Bastow, S., Tinkler, J. *Digital Era Governance*. Oxford University Press, 2008
[21] "Measuring the Expected Benefits of e-Government". Version 1.4, 29th August 2003. Retrieved from the OGC website on 04.09.2009.
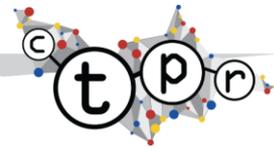
KPMG, that the costs of delivering many public services over the internet would be in the order of just 20% of the manual costs:

> *"For example, car tax renewal £0.39 compared with £1.95 and housing benefit applications £2.50 versus £12.48."*

The same government paper draws parallels with cost-savings achieved in the private sector:

> *… the cost of a typical baking transaction was $1.07 over the counter, $0.27 through an ATM and $0.01 over the internet: and the cost of a typical travel reservations through a travel agent was $10 compared with $2 over the internet.*

The figures quoted in the paper, available from the OGC website, were in fact derived from a report originally published in September 2000[22], some 9 years ago. Despite the clear business aspiration to exploit the advantages offered by the internet and the significant increase in annual public sector IT expenditure since that time, the government spends only an estimated £208 million a year on delivering services and related information online, such as the renewal of vehicle excise duty, the filing of tax returns and for the matching of applicants to jobs[23].

This expenditure represents just 1.0% to 1.5% of the overall public sector IT budget. In the case of one government department, the DWP (the Department for Work and Pensions), in 2008 online communications amounted to less than 1% of customer contacts. Yet assumptions that DWP customers are not internet or web users is not supported by the evidence, which shows that 51% of DWP customers were already online with broadband access by mid 2008[24]. Out of 142 million contacts between the DWP and the public in 2008, only 340,000 (about 0.25%) were online.

The low priority apparently given to online services contradicts the expected direction for modern public services, in particular the idea that departments and

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[22] "e.gov: Electronic Government Services for the 21st Century". September 2000. Performance and Innovation Unite.
[23] House of Commons Public Accounts Committee, Sixteenth Report, Session 2007-08, 31 March 2008. http://www.publications.parliament.uk/pa/cm200708/cmselect/cmpubacc/143/14302.htm
[24] "How Digital Era Governance (DEG), and now DEG 2.0, are changing public services". Dunleavy, P. Paper to an OECD seminar, 3 June 2009
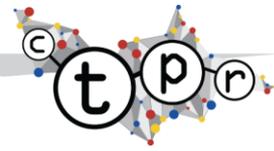
agencies will *become their website*, exploiting massive stores of administrative data and automating many currently manual front-, mid- and back-office processes[25]. This is not just about the re-design of services for citizens and businesses, but also the benefits to be taken within the public sector itself of better designed, more efficient and streamlined processes.

The House of Commons Public Accounts Committee has found that a quarter of government organisations are unable to provide data on the cost of their websites and that where data were provided, over 40% of organisations were only able to give estimates. The government was also not able to identify exactly how many websites it operates, with some estimates running as high as 2,500[26]. It is unclear what this high figure relates to – whether it is physical server installations and separate sites, or merely web site domain names running on common infrastructure.

The government was also not able to identify how much is being saved through the use of internet based services, nor whether any such savings are redeployed to improve services for citizens who do not, or cannot, use the internet. Given that internet transactions are administratively cheaper and more efficient in the provision of effective public services, it is notable that most departments apparently not only do not know the costs per transaction of their internet-based services, but neither do they know how they compare with the costs of other channels[27].

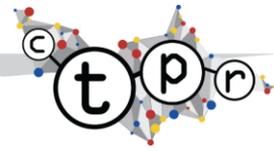## PUBLIC SECTOR IT VISION, POLICY AND STRATEGY

There is no clear ownership or co-ordination of public sector IT vision, policy or strategy, which may also account for the lack of consistent accountability and responsibility narrated above. A variety of government departments and agencies all own aspects of IT policy, including overlapping and sometimes competing or contradictory aspects.

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[25]"How Digital Era Governance (DEG), and now DEG 2.0, are changing public services". Dunleavy, P. Paper to an OECD seminar, 3 June 2009
[26] House of Commons Public Accounts Committee, Sixteenth Report, Session 2007-08, 31 March 2008. http://www.publications.parliament.uk/pa/cm200708/cmselect/cmpubacc/143/14305.htm
[27] House of Commons Public Accounts Committee, Sixteenth Report, Session 2007-08, 31 March 2008. http://www.publications.parliament.uk/pa/cm200708/cmselect/cmpubacc/143/14306.htm

For example, at the time that the then DTI (later BERR and now BIS) and OGC were calling for SMEs to obtain a greater market share of public sector contracts, other departments seemed to believe that aggregating requirements into larger contracts and reducing the number of suppliers with whom they needed to engage would provide them with more leverage in the marketplace.
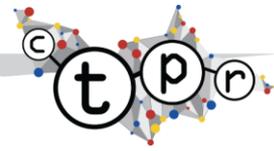
Despite the creation of an overall Chief Information Office (CIO) for government in the Cabinet Office, the role presently has very limited authority, including (according to the present incumbent John Suffolk), control over only 0.068% of the overall IT budget[28]. The role instead seeks to work through influence via the CIO Council and the related CTO Council, although as noted above only a very few of those on who sit on these bodies also sit on the senior management boards of their departments, a reflection of the current status of IT within the senior Civil Service.

As a result, consultations on future IT direction tend to be technology oriented rather than policy focused and involve familiar industry players, in contrast to the desire for greater innovation and use of UK SMEs.

The recent exploratory work undertaken by the government for a new approach to their data centre requirements appears indicative of both the dependency on large suppliers, and the assumption of a need to procure and own infrastructure rather than services. This work explored the potential for reducing the existing estate of over 130 government data centres to 10-12 data centres. Led by IBM, the consultation included Fujitsu, Dell, Microsoft, BT, Capgemini and HP. All of the companies involved were apparently drawn from the list of top 20 IT suppliers to the public sector. There was little evidence of the new policy on the inclusion of open source providers being put into practice during this exercise, nor of the commitment to include a greater number of UK SMEs in public procurement exercises. Likewise, no consideration appears to have been given of the alternative approach, of procuring capability and services, rather than specifying infrastructure.

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[28] http://johnsuffolk.typepad.com/john-suffolk---government-cio/2009/08/public-sector-productivity-vs-it-investment.html (retrieved on 02.09.2009)

Whilst such a rationalisation of IT infrastructure may well make good economic sense at one level, it can also give rise to concerns of potential further market consolidation in the hands of a limited number of major incumbent suppliers, as well as other issues relating to resilience and diversity in the context of the UK's critical national infrastructure.

Political and policymaking ownership of IT-related issues does include some limited Ministerial responsibilities, generally homed in the Cabinet Office, but the importance of the contribution and expenditure of IT is not reflected as would be expected in a Cabinet level portfolio. Whilst it may be possible to drive some operational efficiency savings and public service improvements with a narrow focus on technology operations alone, to do so in a sustainable and directed way will require the integration of technology and policy during the planning cycle. Existing evidence in terms of increasing budgets and declining productivity suggest the current piecemeal approach is not working to anyone's benefit.

The design and operation of a modern state, and its economic and social policy options, are now inextricably interlinked with modern IT's capabilities and the IT marketplace, from multi-national traditional service providers to small and medium businesses and open source software players. Policymakers need to better understand the options now available to them, and evolve a more effective and efficient model for harnessing the use of IT in the successful delivery of a twenty-first century digital state. To do so requires an appropriate Cabinet level role able to work across departmental functions to inform colleagues during the policymaking process and hence help deliver the capabilities necessary for the redesign of more cost-effective and higher quality public services.
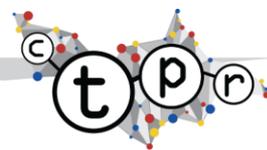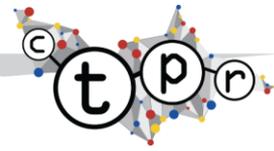
RECOMMENDATIONS

Based on the snapshot overview set out in this Memo, the CTPR recommends several changes to the accountability and public reporting of IT-related expenditure in the UK public sector. These include:

- recent proposals have been made for the adoption of consistent accounting practices across the public sector for IT-related expenditure[29]. From the evidence available it appears the public sector does not have any of the accountancy and IT-investment consistency or rigour expected of even a small UK enterprise, let alone a large, multi-billion pound organisation. Strict timelines for implementation need to be enforced to ensure such a recommendation becomes reality. Progress against plan needs to be reported regularly to Parliament

- there should be routine publication of both summary overall IT-related expenditure and also a breakdown of the underlying figures for each specific public sector entity, including those of England, Wales, Scotland and Northern Ireland. Exceptions for security-related expenditure are accepted as not being suitable for the public domain, but do need the same level of accounting rigour and accountability applied for appropriate review within trusted circles

- to assist with the above, OCG Gateway Reviews and details of all contracts should be openly published. In addition, it is worth reviewing whether OGC and related procurement functions and central Whitehall IT strategy should be brought together within a single Whitehall department (they are currently split between the Treasury and the Cabinet Office, with policy split far wider across many other departments). Consistency of procurement policy is also required – ensuring that commitments, for example, to open up procurement to more small suppliers are properly enforced and implemented through the entire procurement chain

- "publication" above refers not only to traditional publication in a final printed form (such as the PDFs that are traditionally used today), but to making available the underlying data so that it can better be analysed and

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[29] For example, the Operational Efficiency recommendations http://www.hm-treasury.gov.uk/vfm_operational_efficiency.htm.

reviewed, both by required statutory bodies, but also by the general public. This will also enable longitudinal analysis. The Conservative Party recommendation that all IT-related expenditure above £25,000 should be openly published must be supported by publicly available tools or interfaces, and by encouraging an ecosystem of independent/third party providers. Expenditure below £25,000 should be published internally on similar lines and available for review and analysis by trusted parties

- there needs to be clear cross-Whitehall ownership of IT policy and strategy to ensure better cost-efficiency and consistency of policymaking, with strengthened responsibility and accountabilities of both CIO functions and Cabinet level representation of IT

- procurement contracts need to clearly specify the operational efficiency and productivity gains required, and to ensure they are measured and delivered.

- policymakers need to understand the direct causal relationship between complex legislative instruments and the major and expensive bespoking of IT systems to deliver them. The Centre for Technology Policy Research believes there is a 'simplicity dividend' to be found by revisiting the interplay of legislation and consequential impacts on IT services and how best they are supplied. This will be the topic of a dedicated future paper

- IT-related expenditure needs to be clearly related to the design, operation and delivery of public services in order for a proper assessment of its relevance and return on investment to be calculated. Public sector business and IT plans need to be properly integrated to enable proper independent assessments of the contribution of IT to public services.

- the dominance of a limited number of large players in the public sector IT contract space needs to be reduced. Greater competition is required, including the ability for smaller and medium sized IT businesses to bid for and become a part of UK public sector contracts. Improved competitive tension is required to secure better value for money for the taxpayer and more successful IT systems for the public sector. Transparency in all public sector IT bids and contracts is one mechanism for helping encourage this.

- Permanent Secretaries need to be held accountable for all aspects of the IT-related expenditure of their departments, including adherence to acceptable and consistent standards of accounting practice and reporting.
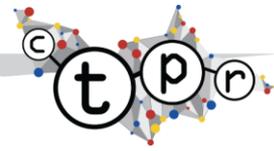
They also need to demonstrate how IT-related expenditure forms an integral part of their strategic business plans, and the consequential design, operation and delivery of public services, including its impact on productivity. They should be encouraged to bring the CIO function fully onto their boards and to plan information and technology requirements as an integral part of the wider policymaking process

- the existing statutory audit bodies (National Audit Office, Audit Commission) together with internal audit functions should incorporate a Chartered Engineer or a Chartered IT professional accredited in systems engineering in order to better qualify not only the quality of IT-related expenditure but also the assessment of how it furthers the business plans and design, operation and delivery of public services.

- the Parliamentary Public Accounts Committee should conduct more regular reviews of IT-related projects, including their accounting and reporting, with departmental CIOs and their Permanent Secretaries required to provide public evidence. In the short-term, to ensure that this is given more priority, an initial six-monthly review cycle may be appropriate.

- we support the creation of an appropriate Cabinet level IT Ministerial role able to work across departmental functions to help identify cost savings (by improving the way IT is managed and supplied); and to inform colleagues during the policymaking process and hence help deliver the capabilities necessary for the redesign of more cost-effective and higher quality public services. This role may need to be supported by the creation of a mirror Chief Technology Policy Advisor function, similar in independence and credibility to the Chief Scientific Advisor and Chief Medical Officer, but specifically focused on cross-public sector IT issues.
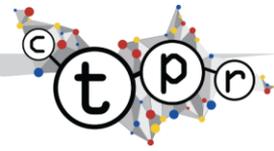
ABOUT THE CENTRE FOR TECHNOLOGY POLICY RESEARCH

The Centre for Technology Policy Research (CTPR) is an independent, non-partisan organisation that aims to ensure that IT is better understood across public, private and voluntary sector boundaries in order to provide mutually beneficial outcomes. We hope to help avoid the toxic outcomes often associated with ill-designed projects and programmes. We help to make this happen by improving the evidence base, dialogue and links between private, public and voluntary sectors and academia.

We do this by:

- remaining independent of any market interests
- using open source market intelligence to provide insightful reports and analysis
- providing rigorously independent and objective insight, analysis and guidance into the best applications of IT in public, private and voluntary sectors
- informing public understanding of the intersection of information technology and public policy through reports, and private and public interactions
- improving the opportunities for engagement for SMEs in UK public sector programmes

Technology is everywhere around us, but rarely planned for effectively at a policymaking level due to a lack of understanding of its impacts during the formulation of public policy. One of the aims of the CTPR is to help raise the level of understanding of information technology and technology policy as a lever of policymaking, rather than as purely an administrative and operational tool

The CTPR's website can be found at http://ctpr.org.

Every care is taken to use primary, verified open sources of information in the compilation of these Memos but CTPR Ltd makes no warranties, expres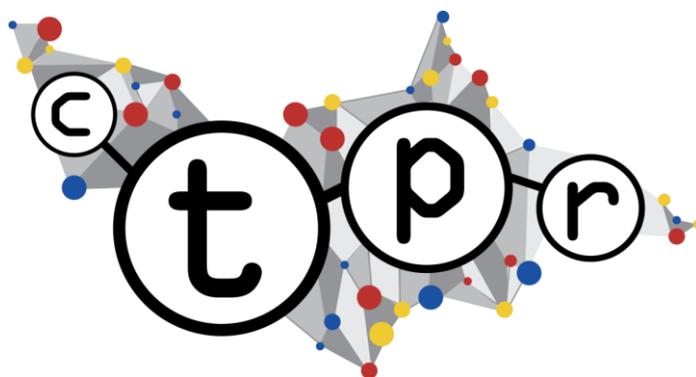s or implied, in this publication.