Transforming Information Management to drive Transformational Government

1. Global trends are driving the need for improved Information Management
Across all industries and geographies organisations are under pressure to do more with less and to be generally more responsive and agile. This has led to increasing pressure to work smarter, using improved information management to turn both structured and unstructured data that is currently held hostage in silos into meaningful insights by combining this internal and external data and identifying previously unseen and deep seated patterns and trends. Such insight is used for a wide variety of purposes ranging from informing policy & strategy to improving processes & efficiency, managing risk & compliance, improving customer targeting & service plus managing performance.

Understandably, these global trends are increasing the demands on IT and CIOs everywhere to not only clearly demonstrate value for money and ROI from past investments (which have left most organisations data rich but insight poor) but also to step up to a new and more central role – from being a cost centre to becoming crucial to the achievement organisational aims and to help drive transformation. As a result, in many organisations the role of the CIO is changing from Chief IT Officer to become Chief Information Officer.

This trend has been underlined by **Business Intelligence (BI) software**, the essential IT enabling tools for improved information management, becoming the number one priority for IT – coming out top for the 2nd year running in the annual Gartner global survey of CIOs priorities. This is clearly because BI is critical to improving all of the top ten priority business areas identified by the CEOs (from compliance to process improvement, cost reduction, revenue growth and overall competitiveness).

Another important reason for the growing recognition of the vital importance of BI is the acknowledged ability of such projects to deliver early and highly visible ROI, which has been quantified by analysts at IDC at a median of 89%. If predictive analytics (see appendix) are part of such deployments the returns are even higher, at 145%.

2. Governments are not immune from these trends
Governments throughout the world are of course not immune to these global trends for improved Information management. They are seeing costs escalate to meet the increasing demands of:
- Security and safety for citizens (particularly as global terrorism requires a different, more agile/preventative intelligence based response from security services)
- Regulation and transparency (govts are being forced to protect data better than ever before but at the same time to provide legitimate access to citizens who require increasing accountability)
- growing and fragmenting customer service expectations (based on significantly improving private sector benchmarks of service standards and demographic changes which are seeing increasing fragmentation of the customer base eg more single occupancy/ ethnic diversity etc)
At the same time as cost pressures are growing exponentially, govts globally are experiencing a plateau in terms of their ability to continue to raise tax revenues, which in turn is leading to a growing gap between almost infinite demands and finite

resources. This gap cannot be bridged simply by traditional cost cutting efficiency drives within 'business as usual', because such responses are both too little and too blunt a tool - often resulting in simply 'doing less for less' and/or counter productive cuts in investments that are essential to improving performance into the future. Therefore, many govts are now embarking on more fundamental change programmes, requiring nothing less than transformation in their roles and the way they function and deliver services….and transforming information management is central to these transformational programmes.

2. The importance of Information Management to the UK Transformational Govt Strategy

In the UK the Transformational Government Strategy initially put great emphasis on data sharing as a key enabler. However, as a report by The Social Market Foundation (*"Who shares wins? Transforming the public services with intelligent information"* 26 Oct 06) pointed out, although lack of data sharing by govt has a huge economic and social costs, pursuing data sharing between departments that cannot currently manage their own silo data well could simply create new inefficiencies and erode trust. The SMF therefore called for a more holistic approach based on transforming the capabilities of govt to manage information generally including changes to people, culture, processes, regulation / law.

This call for a more sophisticated and systematic approach to information management was taken up by Sir David Varney's Service Transformation report, which stressed that transforming to achieve *"A better service for citizens, a better deal for the tax payer"* (ie doing more for less) can only be achieved by working smarter. The report stated : "…opportunities need to be quickly taken to secure significant improvements in the capacity and capability for govt to…. make better use of the govt information asset."

In theory therefore one should be increasing seeing wider Business Intelligence-based buying specifications from the public sector that are future proofed by ensuring capabilities that will inevitably be required (eg predictive analytics, end to end integration capabilities and wider dissemination of intelligence to the front line) are available, even if the more immediate need is simply for better hindsight for a few 'power users'. However, the Varney report also underlined the scale of the challenge by pointing out that currently "…only a few (depts) treat insight as a strategic asset and manage it in a systematic way" and highlighted a number of barriers. Therefore the reality tends to be somewhat different…..

3. The Public Sector is lagging the Private Sector in adopting BI

There are many examples from around the world of how public sector bodies use BI successfully today (see Appendix 2). Nevertheless, the evidence points to the Public Sector lagging behind the private sector in applying BI systematically and holistically to improve the delivery of strategic imperatives.

a) For example, the 15 'future-focussed' Capability Reviews thus far completed on UK central govt departments have identified a number of common capability gaps, including the needs to:

- strengthen governance and accountability
- strengthen strategy, priority setting, performance mgt

- step change in professionalism in policy, operational delivery and corporate services (eg HR, Finance, IT, procurement)
- improve the engagement with the front line, citizens and communities for evidence based policy making and system design
- anticipate the future challenges and new models of delivery

All of the above are areas that require and can be positively impacted by improved information management generally and Business Intelligence software specifically, particularly predictive analytics.

b) But the gap is not simply against capabilities that will be required in the future to meet the transformational agenda, because government's ability to manage information has yet to catch up with the narrower demands of the efficiency era. The report by the NAO in February 07 on the efficiency programme estimates that only 26% of the £13.3bn savings claimed to date "…fairly represent savings made" and "many reported efficiency gains still carry a significant risk of inaccuracy". The report concludes that "Many of the measurement problems arise from long standing weaknesses in departments' data systems…".
The NAO and other audit bodies have since collaborated to produce guidelines on common 'indicator sets' public bodies should use to assess the value for money of their corporate services, stressing that "The use of good quality information for making decisions, managing performance and demonstrating good value for money….is a vital part of the work of public sector organisations.". These guidelines currently cover only 5 areas of corporate services but, by seeking to measure not just cost efficiency but also effectiveness and quality and to enable greater benchmarking across public sector bodies, they represent an important step forward.

c) According to recent research by analysts at Butler Group, although the public sector is critically in need of BI to improve decision making, Private sector firms spend twice as much on BI than public sector bodies. This gap is set to increase, as only 15% of public sector organisations are planning to invest in BI in the next two years, compared to 28% of private companies.
The research indicates that Public Sector priorities remain mainly focused on iT hardware (such as security, infrastructure, desktop) rather than more Information based software, such as BI. Butler conclude "…that the public sector does not have all the information that it can at its disposal for decision making, planning and monitoring, at a time when most governments are working on modernisation of their services and managing limited resources well."

d) Another example of demand lagging govt strategy is in the area of Performance Management (PM), which a key application for BI. PM is an umbrella concept that explicitly links strategic, operational & financial objectives to close the gap between policy / strategy and day to day actions **-** a major common weakness identified in the UK Central Govt Capability reviews.
Recent research by SAS (the leading BI vendor globally) on PM across private and public sector organisations in Western Europe showed that the biggest barrier to adopting PM is cultural resistance to performance measurement. This factor is also the root of the second most cited obstacle ie departments don't share information or collaborate. The research demonstrates that organisations who achieve the best results in PM have prioritised a high level of maturity in information management generally.

Such best practice, enterprise wide PM fully aligns all functions to the strategic goals of the enterprise and replaces:
- command & control, internal politics and 'gaming' with more enlightened behaviours and empowerment
- budgeting as a cost control weapon with budgeting as a value fostering funding mechanism
- the traditional political definition of annual appropriations to an ongoing planning and review process, based on advanced forecasting tools to analyze what if scenarios of critical political and operational decisions.
The SAS research also underlined that once again public sector bodies tend to lag private sector in both existing PM maturity and future intent, with c 75% of central and local government bodies having no plans to invest in PM in the next 12 months and yet of those bodies only c18% had even silo PM solutions in place currently.

e) These results are not surprising given the findings of another exercise SAS performed to aggregate and analyse the results of assessments using their industry leading Information Evolution Model to measure the relative information management maturity of c 850 organisations across both the public and private sectors. This model enables organisations to chart their 'As is' and 'To be' positions on a 5-stage information management maturity ladder and to develop their route map for closing the gap across the 4 assessment criteria (including people, culture and processes as well as IT). On average, across nearly 850 assessments, Public sector bodies trailed their private sector counterparts in terms of overall maturity stage reached and against each of the four criteria, with the biggest gap being in culture.

Taken together the above and similar analyses suggest that the current activities to improve information management in the UK Public sector are perhaps too narrowly focused (eg on areas such as technical and legal barriers to data sharing) and a more holistic and comprehensive transformation of Information Management capabilities is required to drive the delivery of Transformational Govt.

Appendix 1 : Understanding and defining Business Intelligence
It is important to establish a common definition of BI because, even within the IT industry, it means different things to different people. At it's simplest BI is about providing people with the information they need to make decisions that contribute to the achievement of corporate objectives. Gartner define BI as "The use and analysis of information enables people to best lead, decide, measure, manage, innovate and optimise performance".

Unpacking this definition requires an exploration of the 'yesterday, today, tomorrow' continuum**.** Many software vendors often deliberately narrowly define BI to suit their own more narrow capabilities and/or many clients send demand signals based on their more narrow understanding or short term needs. Certainly traditionally the focus of BI has been focussed on achieving simply better hindsight ie enabling organisations to accurately know and react to *what has happened* in the past or, at best, *what is happening* today. But one wouldn't want to drive even a car let alone a major organisation by using only the rear view mirror. At best this approach can generate incremental improvements in business as usual activities, at worst it can result in major accidents.

SAS, the leading global vendor of BI software, use the wider definition of 'Enterprise Intelligence' software to cover the not only traditional, 'rear view mirror' BI but also the predictive foresight provided by Analytics. Analytics are the vital component for providing predictive foresight, explaining *why things are happening*, *what is likely to happen in the future and what decisions will avoid impending hazards / optimise future performance*. Analytics are the car equivalent of satnav and are essential to organisations faced with managing increasingly uncertain and volatile futures and the need to transform performance by anticipating risks and opportunities and becoming more agile generally.

A fully comprehensive and integrated platform of EI / BI tools covers the following technical capabilities:

1. Data Integration (including data quality, migration & federation)
2. Intelligent Storage (for storing & disseminating information quickly & securely)
3. Analytics (including trending, modelling, forecasting, simulation etc)
4. Query & Reporting (reporting tools that allow even non specialist users to access the insight and perform their own queries)

In contrast the term BI is used by some vendors to refer to 4 only (but without 1 this can simply be pretty illustrations of fiction) or more often, by vendors without analytical capability, to refer to just 1 & 4 (but without 2 & 3 is only pretty illustrations of ancient history).

The benefits of investing in prevention rather than reaction are recognised in many public sector policy areas (eg security, poverty, crime, ill health, fraud etc) as well as the Transformational Govt Strategy. However, the current demand signals from the UK Public Sector have largely yet to catch up and at best the call is all too often for historical BI to meet short term, componentised and silo functional needs – an approach which will only exacerbate the current problem of overly complex IT systems that require significant effort, cost and risk just to manage the integration challenge and do little in terms of providing actionable insight.

Appendix 2 : Some examples of Public Sector uses of BI

The EI/ BI tools listed in Appendix 1 are generally used in the following broad solution areas that cover the gamut the activities of most organisations in any sector:
- **Financial Intelligence** (including planning, budgeting & financial reporting, activity based costing, fraud & risk management etc)
- **Operations Intelligence** (including workforce management & planning, supplier management, IT management etc)
- **Citizen Intelligence** (including targeting, campaign management & optimisation, contact management, channel optimisation etc)
- **Performance Management** (including compliance reporting, strategic & programme performance management, resource prioritisation, strategy/policy formulation etc)

Governments across the world have used these capabilities in all areas of their operations including:

- **Policy formulation** : macro economic modelling, national accounts, trade statistics, economic and demographic & social statistics and projections (eg HMT/HMRC, DWP, ONS)

- **Defence & Security** : includes management of armed forces resources and logistics, supply chain optimisation, recruitment & training optimisation, anti terrorism intelligence (eg MOD)

- **Law enforcement** : includes crime prevention & detection, anti fraud, anti money laundering, crime analysis and reporting, manpower planning (eg Gloucester Police, South Wales Police, NHS counter fraud, DWP)

- **Health :** includes matching blood/organ donors for transplants, patient & nurse safety/error analysis, admissions management/ optimisation, evaluation and supervision of medical products throughout the EU, understanding root causes of adverse outcomes, predicting outbreaks of desease (eg NHS, National patient Safety Agency)

- **Education :** includes enrolment management/ demographic analysis, funding reporting (eg Universities of Cranfield, Wales Swansea)

- **Welfare :** includes demographic longitudinal studies, targeting non claimers and fraud, performance management for Job centres (eg DWP, Pensions Service)

- **Taxation** : includes informing tax policy & modelling, tax evasion, channel optimisation / web usage, risk management (HMRC, Customs, LAs, DVLA)

- **Transport**: Road, rail, water integration and reporting, travel safety, road conditions, improving & increasing web usage, Oyster usage (eg VOSA, DVLA, TfL)