



smarter commissioning

Commissioning Support Service (on behalf of London PCTs)



UNIVERSITY OF LEEDS

Leeds University Business School

Commissioning Support Service in London

Strategic review of e-business

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Executive summary

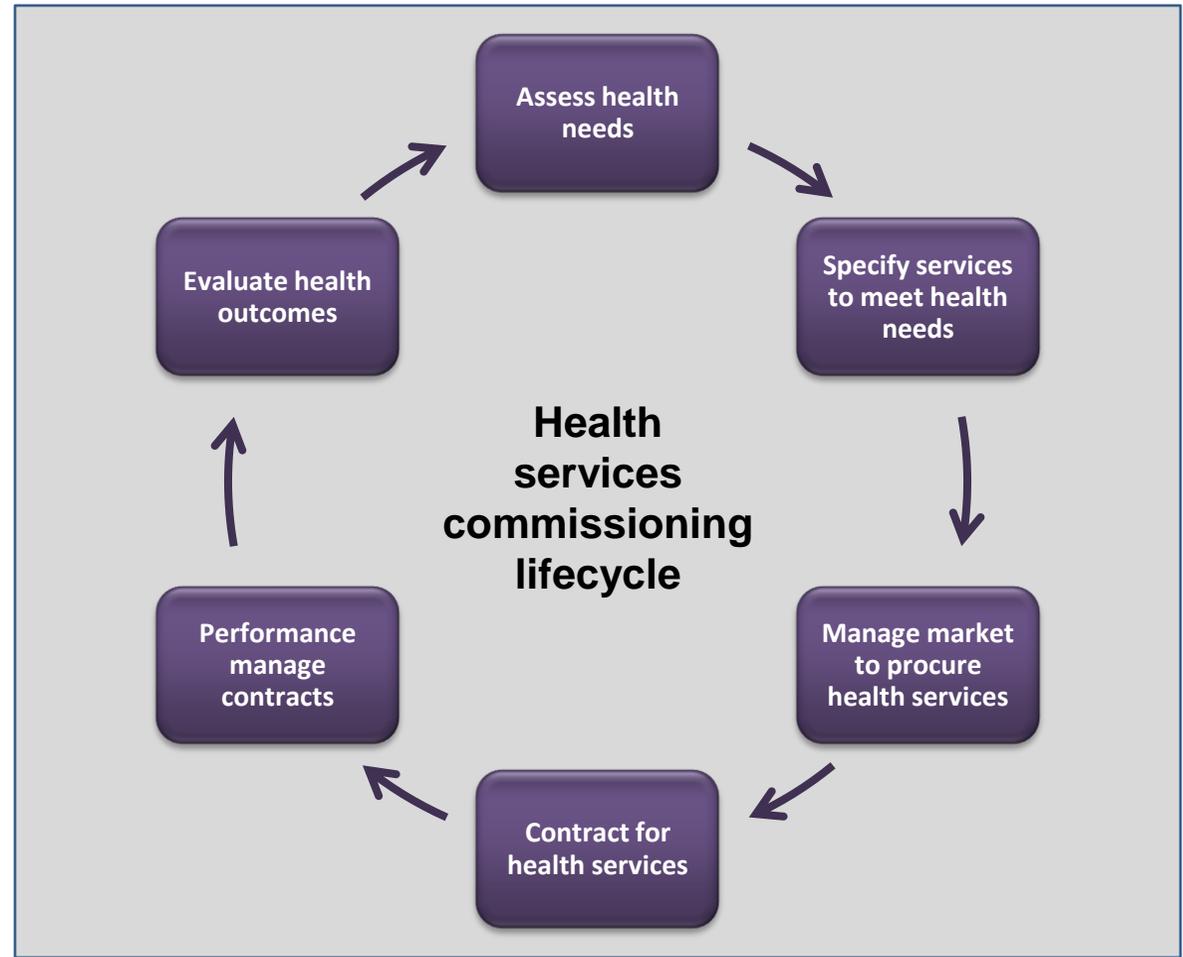
- The Commissioning Support Service (CSS) is a start-up organisation that operates a National Health Service (NHS) business intelligence service in London. It provides health information to primary care trusts (PCT) in the capital through e-business enabled technology.
- The organisation has a vision to establish itself as the 'best-in-class' business intelligence provider in the NHS. Although it has a favourable information orientation and enthusiastic staff, CSS needs to urgently address its lack of crucial information technology (IT) applications e.g. a website, system integration with external stakeholders etc.
- In order to achieve its ambition, CSS also needs to attract high-quality analysts through efficient e-marketing of its career opportunities. In addition, developing a research and development facility will help it take forward innovative ideas based on Web 2.0 technology.
- Finally, more meaningful engagement with its customers – the PCTs – is absolutely vital to overcome their resistance to IT-enabled change.

Introduction

- This report has been prepared as part of the assignment the 'e-business' module of Leeds University Business School MBA programme, 2008.
- The assignment requirement is to produce a report which provides a strategic review of the opportunities to transform an organisation into a highly performing e-business, identifying a coherent vision of the future organisation as a e-business, an assessment of the relevant information technology (IT) and applications, the business benefits and competitive advantage that could be achieved and an understanding of the challenges and pitfalls that the organisation may face.
- The chosen organisation for this report is the Commissioning Support Service (CSS), an NHS business intelligence service operating in London. It has been selected because it could and should be an example of the application of 21st century leading edge information management and e-business. As a start-up organisation, it has already run into difficulties in meeting this challenge and this report will serve as a useful stock-take of how it can get back on track.

Overview of the organisation

- Commissioning in the NHS is a relatively new development in health services management in the UK, introduced initially as part of the purchaser/provider reforms of the early 1990s. The concept of commissioning is quite wide and it encompasses a variety of activities, as shown in the diagram.
- The CSS was set up to provide products and services that would support PCT commissioners in all of these activities



Source: adapted from DH (2006)

Overview of the organisation (contd)

- CSS was set up in 2007 as a shared service, hosted by a single PCT but jointly funded by all of London's 31 PCTs. It's remit is to support efficient and effective commissioning of healthcare services through the provision of information, analysis and knowledge management products and services. The PCTs are effectively the 'customers' of CSS, which can thus be described as a G2G company.
- By providing business intelligence capabilities to the PCTs, CSS allows them to manage several £ billions of annual expenditure on hospital services in the capital. Appendix 1 identifies the six key business areas against which CSS has to deliver.
- Funding for CSS has only been agreed for three years. Beyond this, its future is uncertain. Therefore, effective delivery of its products and services, by 2009, will be crucial as the PCTs will be looking for significant return on their investment.
- CSS has resources for a full-time establishment of around 70 staff. As a new organisation, however, many of the substantive permanent posts have not yet been recruited to whilst others are covered by interim contractors, particularly on the IT development side.
- The organisation has its headquarters in central London, with its own IT infrastructure.

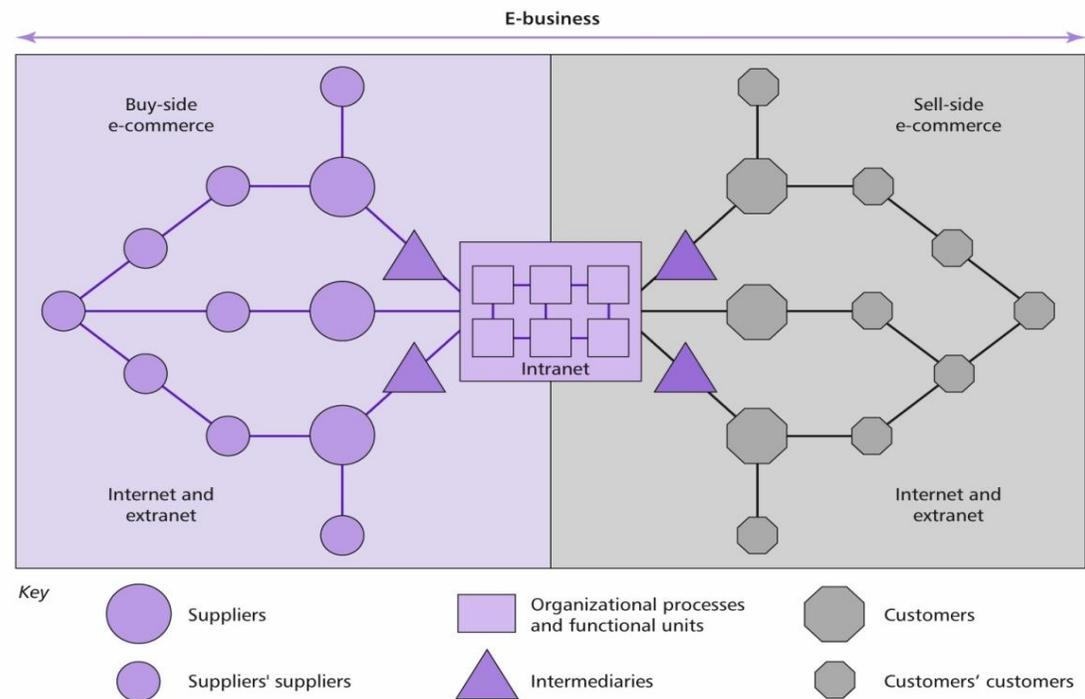
CSS as an e-business

The delivery of the CSS products and services to its customers is largely through e-business enabled technology, principally using web-based business intelligence software.

Buy-side

- In the context of Chaffey's model, CSS does not really have a buy-side as such. It has no suppliers from which it buys supplies of raw materials. However, the basic input used in CSS operations is raw data, which is supplied by providers and other agencies.
- There are many sources of raw data as identified in Appendix 2.

The distinction between buy-side and sell-side e-commerce



Source: Chaffey (2007)

CSS as an e-business (contd)

- The principal data source is the secondary uses service (SUS), an NHS-wide clearing house for the receipt and onward transmission to commissioners of patient-level data from hospital providers. Consequently, SUS could be considered as an intermediary on the buy side.
- Other than raw data, CSS also buys in many of its back office functions like payroll, accounting and human resources functions. These are mainly provided remotely through the host PCT elsewhere in London.

Sell-side

- On the sell-side, CSS is 'selling' business intelligence data, reports and analytics to its PCT customers.

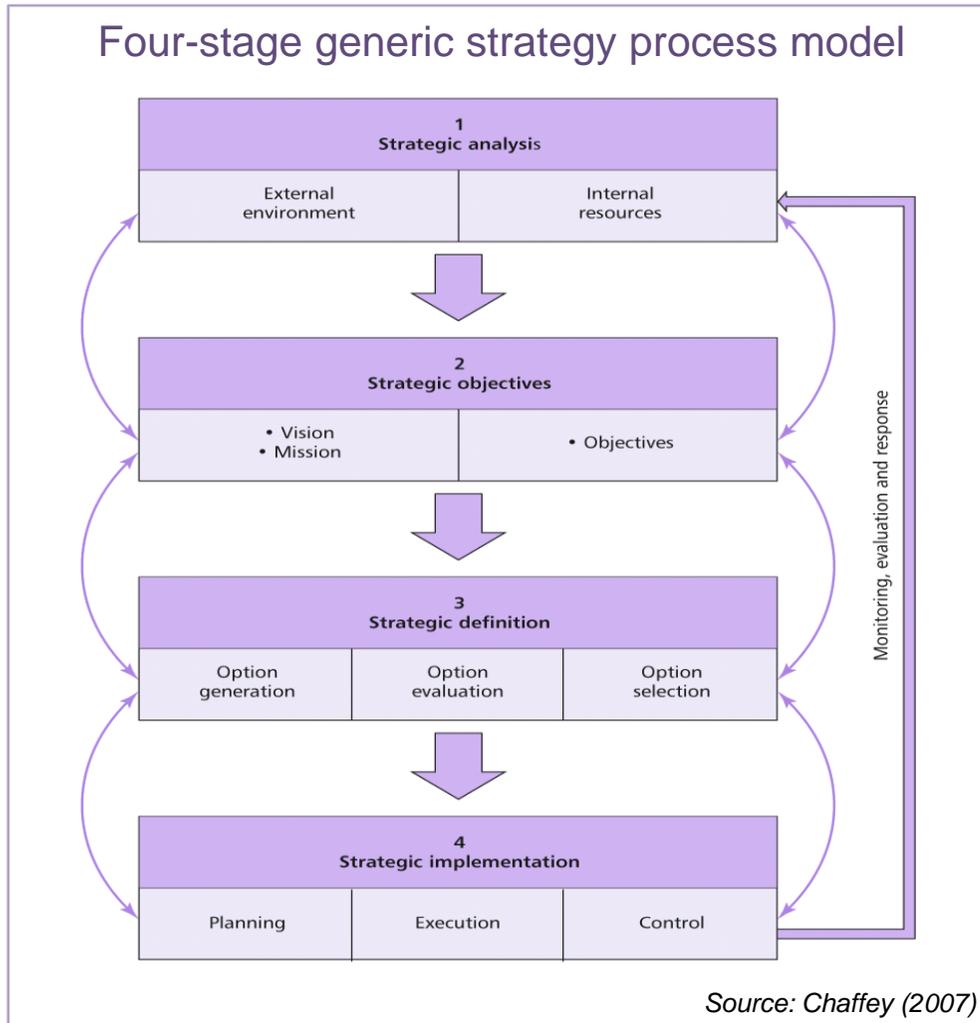
Intranet

- The heart of the business operations of CSS is its data warehouse.

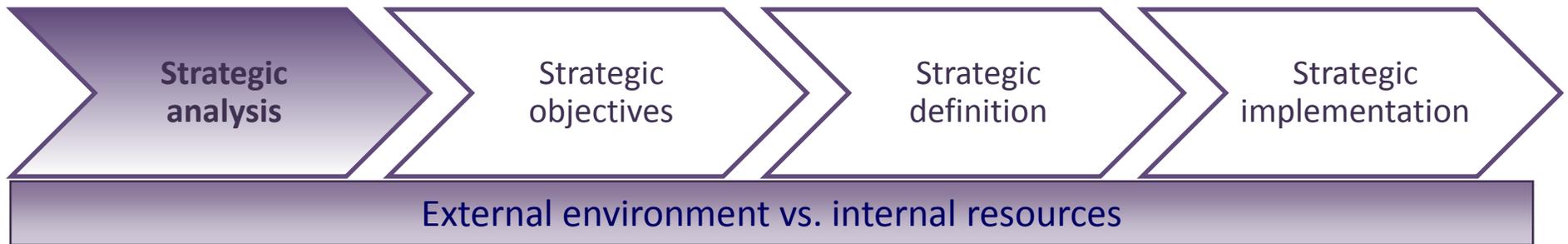
Methods of enquiry

- Review of documentation and other materials provided by CSS.
- As CSS does not have an operational public website at present, it was not possible to review the quality of their web presence.
- Telephone interview of two staff members of CSS, namely the Head of Business Intelligence and the Communications & Marketing Manager.
- In addition, telephone interview of two PCT members of staff – a commissioning manager and an information analyst. They work in different PCTs in London, so were able to offer different perspectives on CSS. One was in the middle of user acceptance testing of CSS systems, whilst the other had had very little contact with CSS to date.
- Searched the world wide web to conduct some limited research into a few other information and business intelligence services, some of whom may represent potential competition.
- Literature search to identify theoretical and conceptual tools which are appropriate to the analysis and investigation of this kind of e-business enterprise.

Strategy process model



- For the purpose of this report, we shall use Chaffey's four-stage process model, shown alongside, as our framework for developing an e-business strategy for CSS.
- He defines e-business strategy as "the approach by which applications of internal and external electronic communications can support and influence corporate strategy" (Chaffey, 2007, p.203).
- Such e-business strategy can contribute to the creation of business value only if it is 'strategically aligned' with the corporate strategy (Ward and Peppard, 2002, p.44).



The macro- and microenvironment analysis of CSS uses PESTEL and Porter's Five Forces framework (Porter, 1980):

- The NHS National Programme for IT (NPfIT) is one of the several healthcare reform programmes that were introduced by the UK government in 2000. Managed by the agency Connecting for Health, its purpose is to use information technology to effectively link the many disparate NHS organisations. CSS is one such service and it can help reduce the social impact of health inequalities and the rising cost of healthcare by providing better quality information. But it will, undoubtedly, have to demonstrate value for money in the current financial climate of the NHS.
- Essentially, CSS is a monopoly. There is currently no other similar public sector organisation in London that integrates health information in the acute and primary care sectors. Dr Foster Intelligence is a private company which provides a similar service to the NHS for a price.
- The 31 PCTs in London are the main customers of CSS. If they are dissatisfied with the quality of service provided by CSS, they may well decide to set up their own individual health intelligence services in-house. Such substitutes would inevitably threaten the existence of CSS, as it is funded by the PCTs.



Current applications portfolio

- On the buy side, the SUS system supplies data to the CSS data warehouse over the largest virtual private network in the UK – the NHS Net. It is received via an FTP (file transfer protocol) system over a web-based extranet.
- The CSS data warehouse, which is a multi-server relational database network running in parallel with the web servers, has no system integration with the SUS system. Instead the data has to be saved to a local server and subsequently loaded into CSS systems via an ETL (extract, transform and load) process.
- CSS doesn't have a website at present (Level 0) (Chaffey, 2007). Nor does it have a web-based staff diary system or access to the NHS Jobs site, for managers to view details of job applicants.
- On the sell side, business intelligence is supplied to the PCTs largely through an NHS Net extranet, delivered through a *Microsoft Sharepoint* internet portal.
- In line with the Data Protection Act (1998) and patient confidentiality, security and encryption of the data handled by CSS is paramount and achieved by the use of SSL (Security Socket Layer). Connecting wireless or mobile networks to NHS Net is not permitted. Users can only access NHS Net connected machines using smartcards.



A SWOT analysis of CSS

Strengths

- Start-up without legacy systems
- Political support from the NHS
- Established source of funding
- No direct competitor
- Secure encrypted patient data

Weaknesses

- No buy-side system integration with SUS
- No website
- No web-based diary for remote staff
- No sell-side integration for contract invoice settlements
- Difficult to recruit good analysts

Opportunities

- Improve the health of London
- Become the 'best-in-class' business intelligence service in the NHS
- Develop sell-side partnerships with commercial intermediaries (e.g. BUPA)

Threats

- Future uncertain beyond 2009
- Poor performance will jeopardise funding from PCTs
- PCTs may develop substitute products



Vision

CSS wishes to establish itself as the 'best-in-class' business intelligence provider in the NHS by the efficient and effective use of electronic information systems and by exploiting a wide range of e-business opportunities.

How it will achieve this

- By setting objectives using a balanced scorecard framework
- By optimising the information orientation of its organisation.

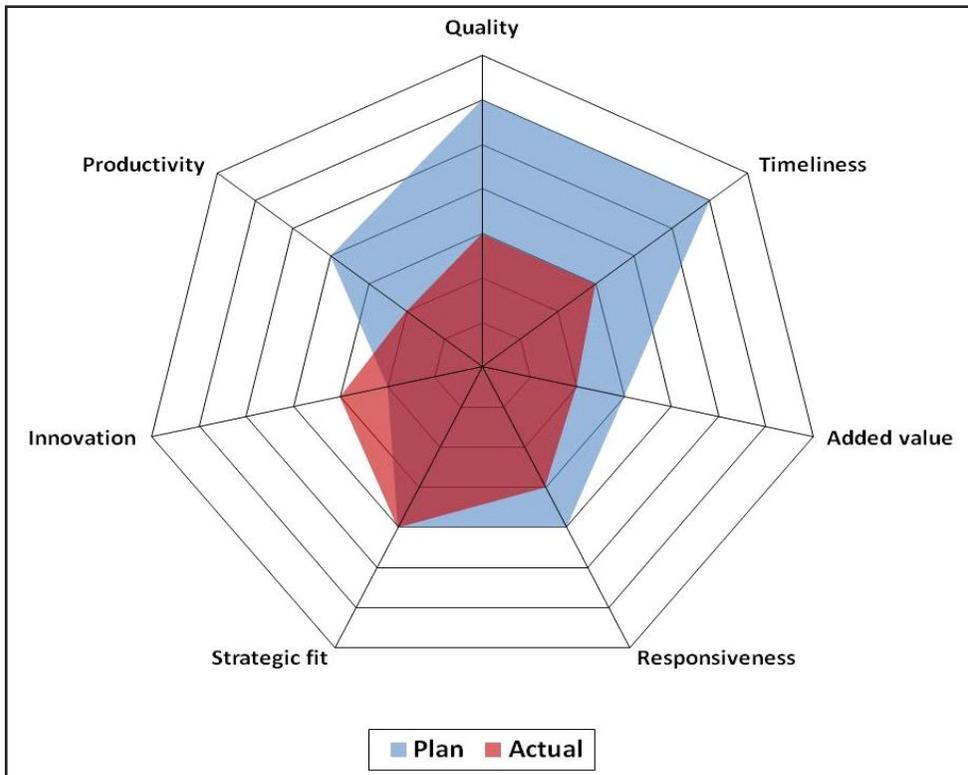
Balanced scorecard framework

This method was first popularised by Kaplan and Norton (1993) to translate vision and strategy into objectives without an over-reliance on financial metrics alone. The main measures used are customer concerns, internal processes, financial measures and innovation. CSS has developed its strategic objectives by modifying the Kaplan and Norton framework. It uses quality, timeliness, added value, responsiveness, innovation, productivity and strategic fit as its main measures.

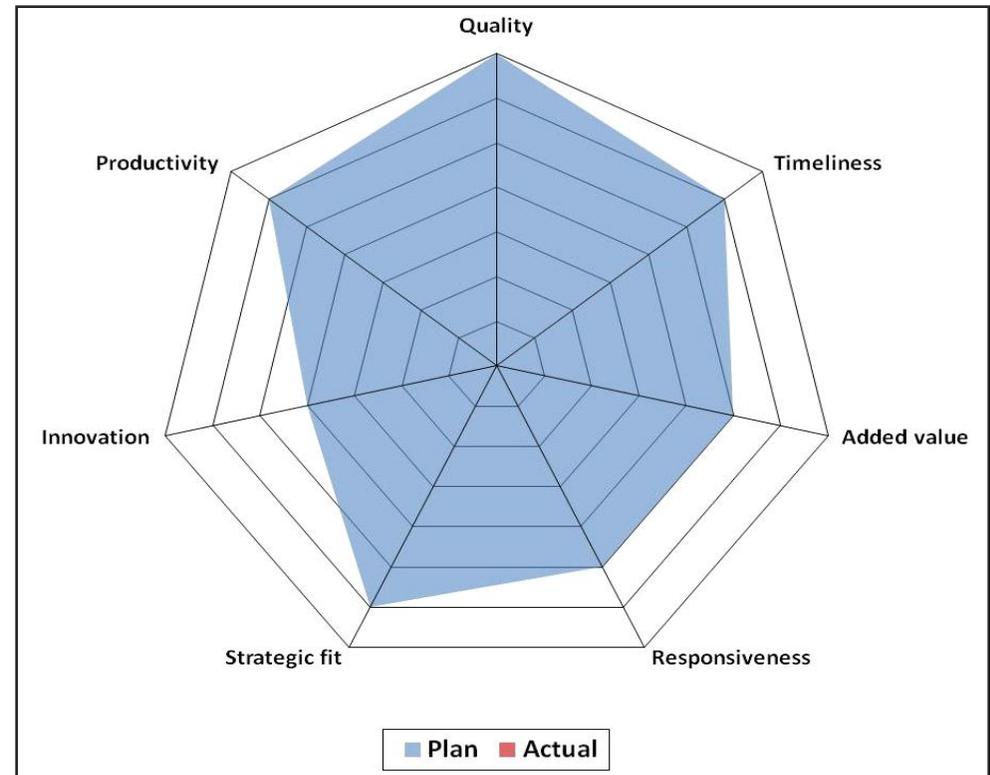


CSS balanced scorecard approach

March 2008 – 07/08 plan vs actual



April 2009 – long-term plan





Information orientation

- Marchand, Kettinger and Rollins (2000) have asserted that ‘information technology improves business performance only if combined with competent information management and the right behaviours and values’ (p.69). Information technology practices (ITP), information management practices (IMP) and information behaviour and values (IBV) are the three components of a higher level idea called ‘information orientation’ (IO). IO measures an organisation’s capabilities to effectively manage and use information.
- ITP - CSS is looking to improve it’s business process support by better integration of its data warehouse both on the buy-side and sell-side. It is also seeking to use Web 2.0 applications to introduce innovative services.
- IMP – Although CSS does a good job of sensing changes in the environment together with maintaining and reusing existing information, its aim is to improve its performance on gathering and organising information to build collective knowledge.
- IBV - Being a business intelligence organisation, CSS scores well on the IBV aspect. So far, it has recruited and selected senior managers and analysts who are by nature ‘information proactive’. It’s objective is to market itself better to attract more such suitable employees.



As a business intelligence provider, there is tremendous scope for CSS to exploit a wide range of e-business opportunities. The adoption of new Internet technologies by CSS could yield significant benefits, both for the organisation itself and its customers, as improvements in business intelligence capability and capacity will in turn support better and more effective commissioning by PCTs. This will result in better health outcomes for the population of London as a whole. Several options are available to CSS e.g.

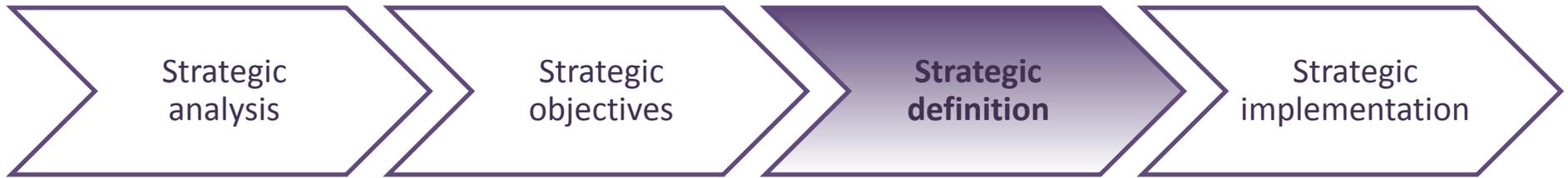
- website development
- web-based staff diaries
- wikis
- RSS feed
- instant messaging etc.

The benefits of each option were considered with reference to Porter's value chain analysis (Porter, 2001) and a final selection made with the aid of McFarlan's applications portfolio matrix (McFarlan, 1984; cited in Ward and Peppard, 2002).



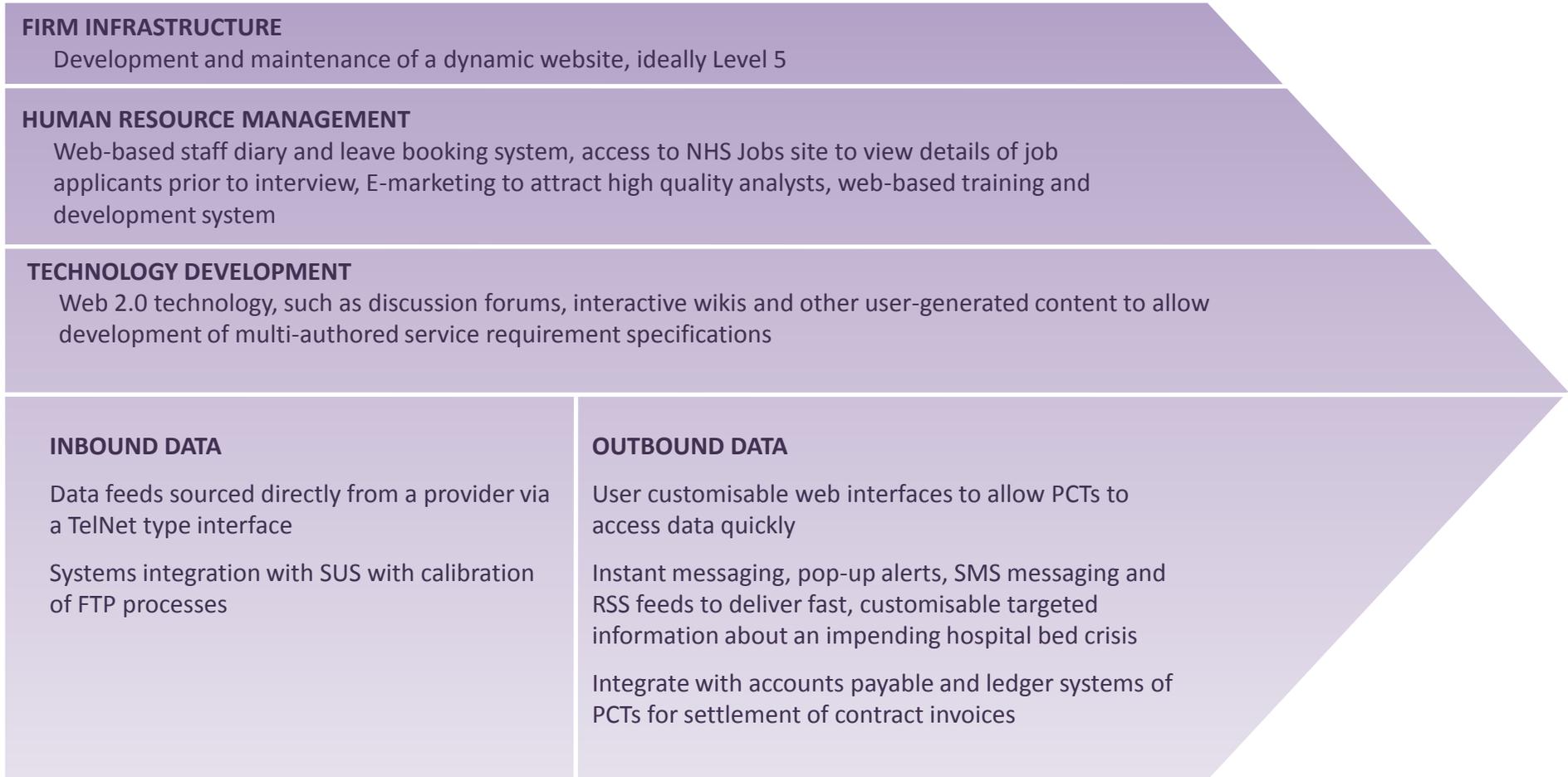
Potential benefits of adopting new technology

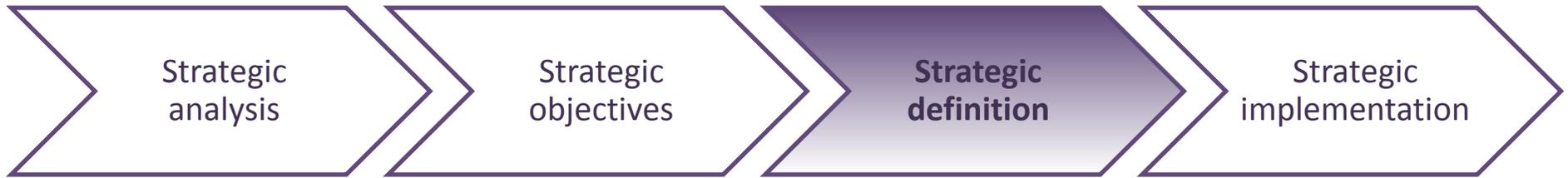
- Better systems integration on the buy-side, for example, could reduce both processing time and risk of errors whilst improving data completeness and data quality. The enforcement of defined data standards and information specifications for providers of data would also promote more comparable information, on contract performance say.
- On the sell-side, better systems integration could open lots of opportunities for better data sharing (e.g. faster and more accurate reconciliation of financial data) whilst instant messaging services could be used to target ‘hotspot’ areas such as pressures in emergency services more effectively.
- Furthermore, Web 2.0 developments offer a very effective way to build consensus around product development and service delivery – a phenomenon described as ‘the power of the web to harness collective intelligence’ (O’Reilly, 2005, p.5). Such developments can militate against resistance to change and promote better transparency and accountability of CSS with its stakeholders.



Prominent applications of the Internet in the value chain

Source: Porter (2001)





McFarlan's applications portfolio matrix

<p>STRATEGIC critical to future strategy</p> <ul style="list-style-type: none"> • Website development • Access to NHS Jobs site • E-marketing to attract analysts • System integration with SUS 	<p>HIGH POTENTIAL maybe important for future success</p> <ul style="list-style-type: none"> • Web-based diary for remote staff • Customised web interface with PCTs • Wikis & discussion fora • Instant messaging, SMS, RSS feed • Direct data feed from hospitals via TelNet
<p>KEY OPERATIONAL currently depends on for success</p> <ul style="list-style-type: none"> • Payroll • Accounts 	<p>SUPPORT valuable but not critical to success</p> <ul style="list-style-type: none"> • Web-based training tools • Integration with PCT general ledger systems



Identifying critical success factors

Critical success factors (CSF) are the 'limited number of areas in which results, if they are satisfactory, will ensure successful competitive performance for the organisation' (Rockart, 1979; cited in Ward and Peppard, 2002, p.209). Shah, Braganza and Morabito (2007) surveyed CSFs in the e-banking industry. Their findings, which are applicable to an organisation like CSS, are listed below.

Critical success factors in e-banking

- Quick, responsive products and services
- Organisational flexibility
- Service expansion
- System integration
- Enhanced customer service



Alternatively, Pinto & Slevin's (1996) Project Implementation Profile, which is more comprehensive, may be used. The key thing is to identify the CSFs before the stage of implementation.

The Project Implementation Profile
Project mission
Top management support
Project schedule/plan
Client consultation
Personnel
Technical tasks
Client acceptance
Monitoring & feedback
Communication
Trouble-shooting



It is envisaged that the main barrier to implementation will be resistance to new technology usage by healthcare professionals on the PCT (customer) side. Such resistance to IT-driven change is not unique to CSS but is, in fact, oft-quoted in the health informatics literature. Bhattacharjee and Hikmet (2007) identified that both perceived usefulness and perceived ease of use of the new technology can reduce physician resistance to change.

Day and Norris (2006) studied a project similar to CSS – a shared IT service across two district health boards in New Zealand. Their study identified emergent themes that can be used to reduce the negative impact of technological change projects. These include:

- ambiguity and uncertainty
- communication
- leadership
- predictions of failure
- resources
- workload



- During data collection, it was interesting to note the different viewpoints of the CSS staff as opposed to the customer-side PCT staff. Senior managers at CSS had expected to be further ahead in the implementation process than they actually were and felt that they were being held back by disengagement at the PCT end. On the contrary, some staff at the London PCTs didn't expect the CSS systems to work and felt that the whole exercise was a waste of resources. This is a classic example of what Markus (2004) refers to as technochange management.
- She defines technochange as 'using IT in ways that can trigger major organisational changes, thus creating high-risk and potentially high-reward situations' (Markus, 2004, p.4). One major risk in technochange, Markus asserts, is that people will not use IT and related work practices. This risk is often not addressed by IT project managers because their focus is mainly on project cost, project schedule and solution functionality.
- Merely combining IT project management and organisational change management approaches does not produce the best results. Markus's suggestion is an iterative, incremental approach to implementing technochange where each phase involves both new IT functionality and related organisational changes e.g. training and business process redesign.

Key findings and recommendations

	Key findings	Strategic recommendations
1	No web presence	Urgent need to develop a dynamic website
2	Lack of system integration with SUS	Calibration of FTP processes to achieve integration
3	Unable to invoice hospitals directly	Integrate with accounts payable and ledger systems of PCTs
4	Unable to attract high-calibre analysts	E-marketing of employment opportunities
5	Unable to co-ordinate team members working across London	Develop web-based staff diary system
6	Need to develop and implement new Web 2.0 based applications	Establish research & development facilities
7	Disengaged PCT staff	Implement technochange incrementally

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Appendix 1: Scope of CSS operations

- **Data management**

CSS will provide all commissioners in London with access to single data warehouse for an increasingly sophisticated range of data sources. These will initially include mandatory data delivered through the national secondary uses service (SUS) but will extend over time to include direct data feeds from providers and other sources. Continual enhancements in data quality will be a major priority for CSS, enabling improvements in accuracy, timeliness, completeness and validation of key data across London. The data management service will also underpin many of the other services and products offered by CSS.

- **Contract management**

Building on its data management service, CSS will offer commissioners an increasingly comprehensive and integrated contract management system. This will provide commissioners with a range of tools and services to support regular activity and finance contract monitoring and reconciliation across both all types of activities.

- **Benchmarking and intelligence**

Alongside the support offered to commissioners around contract management, CSS will quickly be building up a wide range of analytical services designed to add significant value to commissioning activities across London. These will focus on best practice high impact metrics, indicators and reviews to support better care pathway management, clinical outcomes and financial stability. Over time, new and complementary data sources will be drawn into these analyses and increasingly innovative and intelligent methods will be applied.

Appendix 1: Scope of CSS operations (contd)

- **Planning and forecasting**

The analyses required by commissioners for short and long term health planning will be supported by CSS through the gradual introduction of planning and forecasting tools. This will commence during 2008/9 with the development of integrated demand and capacity models that will help to assess strategic priorities and inform future commissioning intentions. Because of its whole-of-London perspective, CSS will be able to support detailed modelling of key initiatives such as Healthcare for London.

- **Collaborative work**

CSS offers a huge opportunity to the commissioners across London to work together more effectively to support their priorities. To that end, CSS will be developing very early on a range of products and services around a 'commissioner advantage programme' – ie collaborative working to get information, standards and reporting ready for 2008/9, projects on high impact areas, identification and dissemination of best practice, a data quality framework, and building relationships with acute trusts, SUS and other information providers.

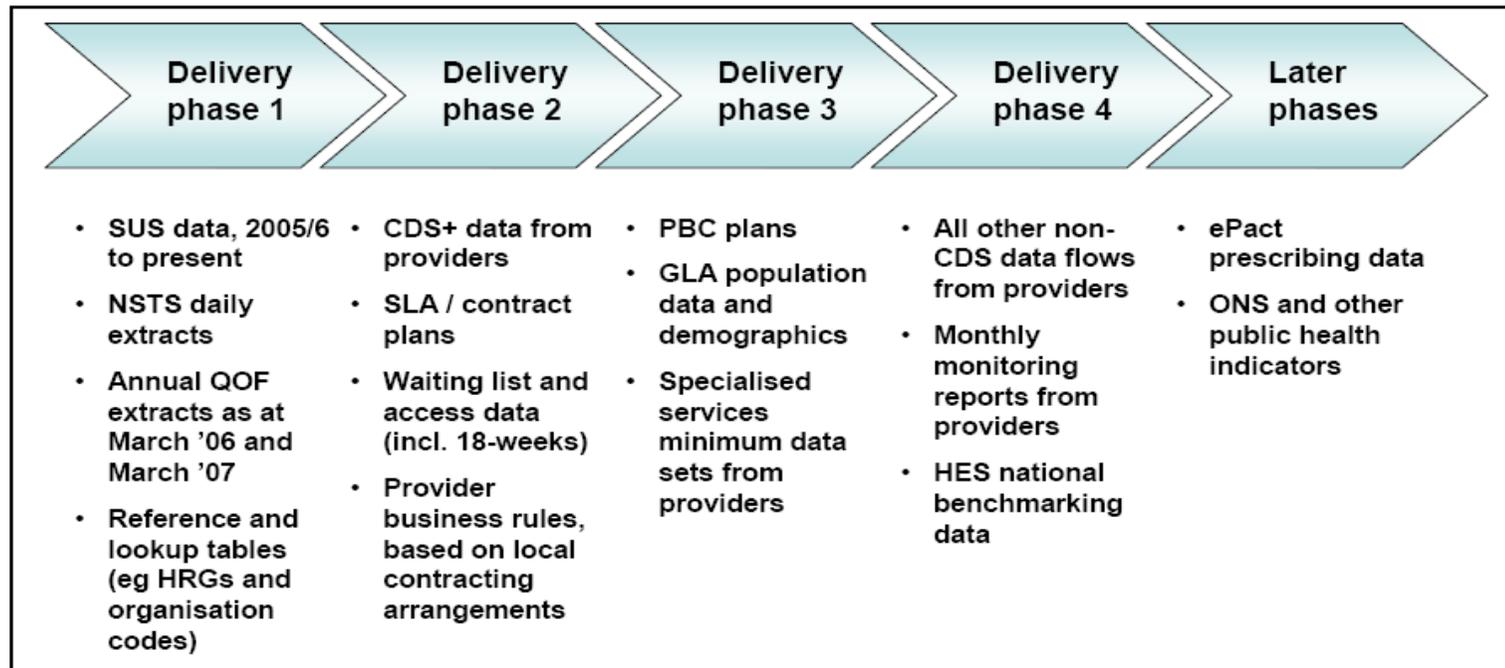
- **Operational support**

There will be some day to day operational activities where CSS will be best placed to support commissioners by offering a more efficient and effective centralised service. This will include services such as the coordination, validation and submission of many statutory and mandatory commissioner returns, including access and activity returns. Other operational services will include case finding of patients at high risk of hospitalisation.

Source: CSS core product catalogue, Sep 2007

Appendix 2: Data sources used by CSS

- CSS will be building up its data management services to include an expanding range of data sources and processes. Current plans include the following:



Source: CSS core product catalogue, Sep 2007