Annex 8

Review of availability of public service content online

November 2007

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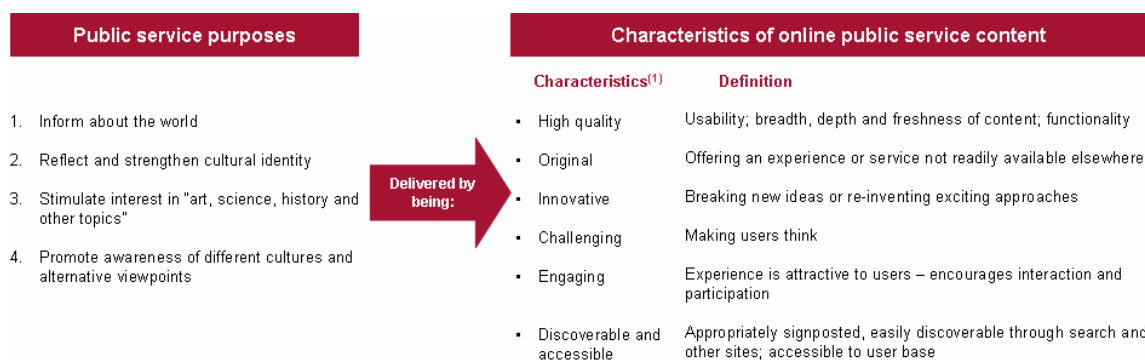
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1   Introduction

MTM London was commissioned by Ofcom to assess the nature and extent of online content and services that deliver against public service purposes and characteristics.

The key question addressed during the course of the project was:

> ***To what extent does the current provision of online content and services deliver on public service purposes and characteristics?***

This report sets out the key messages and conclusions coming out of this project. It includes a definition of online public service content (PSC) that is adapted from the public service characteristics defined by Ofcom in its *Review of public service television broadcasting*[1] to take account of the interactive and collaborative nature of online content (see below). In addition, the report contains a typology of the provision we have identified and an assessment of the nature and extent of provision by genre, public service purposes, and reach and impact.

Public service characteristics in the online market

Public service purposes	Characteristics of online public service content	
	Characteristics[1]	**Definition**
1. Inform about the world	• High quality	Usability; breadth, depth and freshness of content; functionality
2. Reflect and strengthen cultural identity	• Original	Offering an experience or service not readily available elsewhere
3. Stimulate interest in "art, science, history and other topics"	• Innovative	Breaking new ideas or re-inventing exciting approaches
	• Challenging	Making users think
4. Promote awareness of different cultures and alternative viewpoints	• Engaging	Experience is attractive to users – encourages interaction and participation
	• Discoverable and accessible	Appropriately signposted, easily discoverable through search and other sites; accessible to user base

Delivered by being:

Sources: (1) Based on characteristics outlined in Ofcom, *Review of public service television broadcasting* (April 2004); amended by MTM London

The project was completed during a three-week period from October 15th through to November 2nd 2007.

The project team used a broad range of sources in order to identify a 'long list' of provision, including various search engines and social recommendation sites, Nielsen NetRatings, expert blogs, and a small number of informal interviews with industry experts. We then applied a rigorous set of criteria for filtering the long list of provision in order to develop a representative picture of the extent of current provision that delivers public service outcomes and displays public service characteristics. In the process of completing the analysis, the project team evaluated provision on over a thousand sites.

Importantly, there is a high volume of provision, no comprehensive directory of public service content, and Ofcom's definition of public service content is broad – the conclusions presented in this report represent our best professional judgement based upon the available information.

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[1] Ofcom, *Review of public service television broadcasting* (April 2004)

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2 Executive summary

In general, **provision of public service content is strongest in genres where provision is underpinned by a competitive market**, with well-funded commercial providers pursuing established, sustainable business models, typically focused on advertising revenues. These genres include: information, search, and reference; news and comment; business and commerce; entertainment and lifestyle; health; science and technology, and politics and government.

However, **in many other genres the provision of public service content is weaker** – despite some notable exceptions, there is generally only a very limited amount of public service content available, and it is often hard to discover. This is compounded by the fact that the fast pace of change means that provision goes out of date very quickly without sustained investment and rapid cycles of development. Genres in which public service provision is currently particularly weak include: arts, culture and heritage; children; teens; community and social action; learning and education.

Exhibit 1: Summary of provision and discoverability of online public service content

Genre	Nature and extent of PSC	Discoverability
1. Information, search and reference	Extensive	Simple
2. News and comment	Extensive	Simple
3. Business and commerce	Significant	Simple
4. Entertainment and lifestyle	Significant	Moderate
5. Health	Significant	Moderate
6. Science and technology	Significant	Moderate
7. Local, regional and national	Significant	Moderate
8. Politics and government	Significant	Moderate
9. Arts, culture and heritage	Limited	Difficult
10. Children	Limited	Difficult
11. Community and social action	Limited	Difficult
12. Learning and education	Limited	Difficult
13. Teens	Limited	Difficult
14. Social networks and aggregators	Limited	Moderate
15. Recreation	Limited	Difficult

Across most genres, **the strongest areas of provision tend to be around news and commentary**. To some extent, this reflects the characteristics of online as a medium:

- it is well suited to the provision of short-form, high volume, time-sensitive content

- it favours (large-scale) producers and aggregators with large archives of searchable content and well-known (and therefore easily discoverable) brands

- it is participatory, allowing users to contribute to and engage with debates around news-worthy issues.

Public service content also tends to be strong in genres whose subject matter is relatively international, as there is a substantial body of international and in particular US content. These genres include health, science and technology, and information, search and reference. Importantly, international content tends to be strong at meeting Purposes 1 and 2 (improving our understanding of the world, and stimulating interest in subjects) and by definition weaker at Purpose 3 (reflecting and strengthening cultural identity).

By contrast, **provision of free (formal and informal) education resources is relatively fragmented and generally of a low quality** across all age ranges and genres. There is a substantial offline and, increasingly, online market for paid formal learning content, but no equivalent body of free, high quality, innovative, engaging learning resources – to some extent, this appears to reflect the lack of a sustainable commercial model for 'free' content in this area. Where substantial bodies of 'free' content do exist, it tends to be provided either by public and third sector organisations, or by commercial organisations investing relatively small amounts of resource. There are some notable exceptions, such as the Universal Leonardo site, but these tend to be stand-alone one-off projects.

Similarly, there appear to be few sustainable commercial models online for children's education content (formal and informal). As a result, provision beyond the BBC is relatively limited. By contrast, there are a number of major online companies targeting teenagers, but these are mainly US-driven.

Although difficult to generalise, **there appears to be more public service content addressing public service purposes 1 and 2 (informing and stimulating interest) than 3 and 4 (strengthening cultural identity and making us aware of different cultures and viewpoints)**. To some extent, this may be because by its nature the web is particularly strong as a repository for information and platform for research and discovery, whereas purposes 3 and 4 are more easily fulfilled in a top-down or push medium such as television.

There is a growing range of user-generated content across most genres, with contributors increasingly adopting blogs, video and other formats beyond bulletin board postings. Importantly, **user-generated and user-submitted content already delivers considerable public service value across most genres**. For example, online communities have a major role to play in providing consumers and citizens with valuable and up-to-date information, advice and support, particularly in genres such as health, although there are legitimate concerns about misinformation and privacy. Similarly, the growth of 'citizen media' is delivering a wider range of local news sites, and commercial publishers are increasingly incorporating local user generated news content into their offering in order to deliver more localised and relevant content.

Discoverability

Discoverability can be an issue across many genres, despite the power of Google, other search and recommendation tools and aggregators. Importantly, search engines are not always a reliable guide to quality and often favour major brands and aggregated content, disadvantaging smaller companies. Below the top-tier of branded content, the volume of provision and high level of fragmentation makes it time consuming to find high quality resources, even for an experienced user. Discoverability is significantly more difficult in fields such as learning and education, and arts, culture and heritage, where there are fewer high quality aggregators of content and market leading brands, meaning that the high quality stand-alone projects are particularly hard to find.
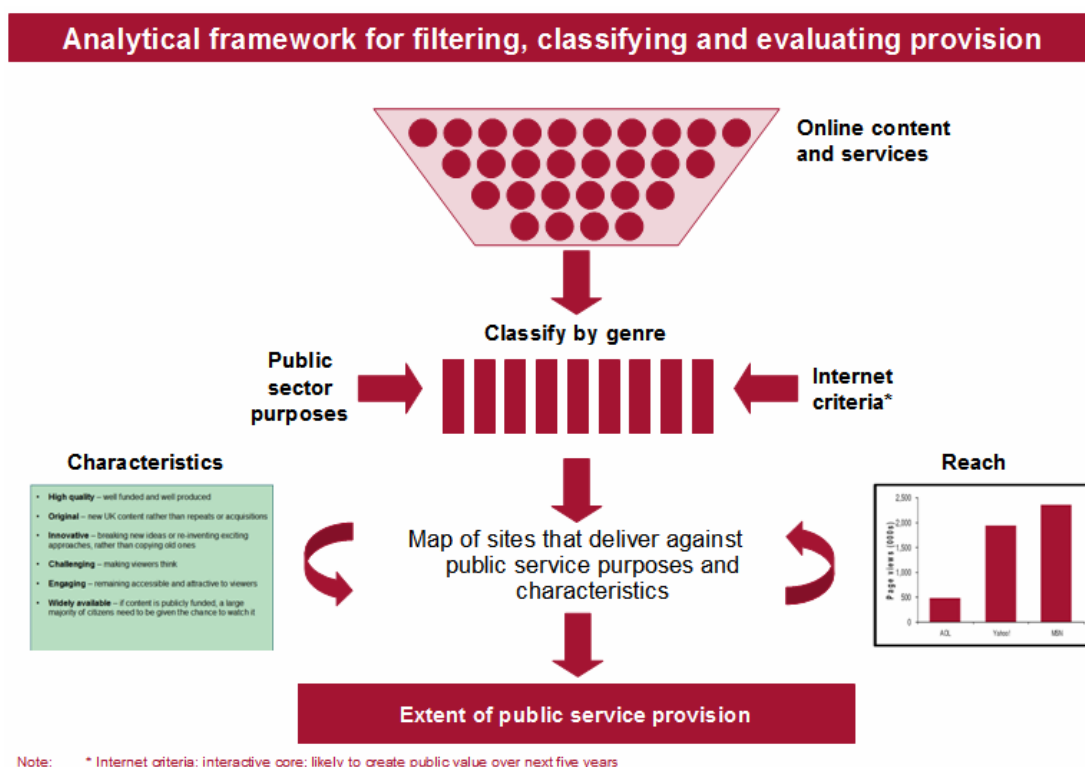
3   Methodology

Overview

The project was structured around the development and ongoing refinement of a long-list of over a thousand properties (or domains) that provide online content and services that meet some or all of Ofcom's criteria. Our efforts were focused around three phases of activity:

- Initial review of provision, using a variety of information sources

- Filtering the provision against public service purposes and characteristics criteria

- Assessing the nature, extent and reach of provision individually and in the round.

This is shown in the analytical diagram below.

Analytical framework for filtering, classifying and evaluating provision

Note: * Internet criteria: interactive core; likely to create public value over next five years

Key issues and considerations

In developing the methodology, the project team addressed a number of important issues and challenges relating to the structure of the market, the scope of the study, and the nature of the criteria that will be used to filter and assess online content and services. We have described these in more detail below.

Developing a system for classifying online content and services

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We agreed an approach to classifying provision by content genre in collaboration with Ofcom (Exhibit 2, below), derived from internationally accepted classifications and cross-referenced with schemes used by web measurement companies such as comScore, Nielsen NetRatings and Hitwise. Ofcom also contributed to and approved the final list of genres.

Classification systems:

Dewey decimal classification	Yahoo!	ComScore		Classification for this report
Computer science, information and general works	Arts and humanities	Auctions	News/information	1. News and comment
Philosophy and psychology	Business and economy	Automotive	Portals	2. Information, search and reference
Religion	Computers and internet	Business/finance	Real estate	3. Arts, culture and heritage
Social sciences	Education	B2B	Regional/Local	4. Business and commerce
Language	Entertainment	Careers services and development	Retail	5. Entertainment and lifestyle
Science	Government	Conversational media	Search/Navigation	6. Politics and government
Technology	Health	Community	Sports	7. Community and social action
Arts and recreation	News and media	Corporate presence	Technology	8. Recreations and sport
Literature	Recreations and sports	Directories/resources	Telecommunications	9. Health
History and geography	Reference	Education	Travel	10. Science and technology
	Regional	Entertainment	Services	11. Learning and education
	Science	Government	Telecommunications	12. Local, regional and national
	Social science	Health	Promotional servers	13. Children 5-12
	Society and culture	Hobbies/lifestyles	Adult	14. Teens
		ISP		15. Social networks and aggregators
		Games		16. Enabling Tools
		Gambling		

When a site was deemed to potentially cover more than one category, we either reviewed individual verticals or allocated the site to the category deemed closest to its primary purpose.

Refining the public service characteristics for online content and services

In its first strategic review of public service broadcasting and in subsequent discussions about the potential role of the Public Sector Publisher, Ofcom has noted how online services and other new platforms create new and exciting opportunities to deliver public service content. However, it is also clear that it will be necessary to consider afresh both the form and the characteristics of content and services that fulfil public service purposes going forward.

Following discussions, we agreed a series of refinements to the Ofcom public service broadcasting characteristics, in order to incorporate a number of characteristics of online content, including participation, personalisation, permeability, and collaborative authorship. The principle refinements are:

- 'High quality' – taken to refer to web sites that *'demonstrate high production values (incorporating usability, breadth, depth and quality of content, and richness of functionality)'*

- 'Original' – taken to refer to sites that *'offer an experience or level of service that is not readily available elsewhere'*. As such, aggregators and re-purposers of content can offer original experiences, although the content they offer may be third-party

- 'Engaging' – taken to refer to sites that *'offer an attractive experience to users, encouraging interaction and participation'* , to reflect the importance of two-way communication and user-submitted content

- Discoverable and accessible – taken to refer to sites which are *'appropriately signposted and easily discoverable through search engines and other sites, and are accessible to users'*.

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Sources: (1) Based on characteristics outlined in Ofcom, *Review of public service television broadcasting* (April 2004); amended by MTM London

Generating a long-list of provision

We used a mix of desk research and interviews with industry experts to generate our 'long list' of provision. We made extensive use of a number of informal sources, including, but not limited to:

- Social discovery and recommendation sites (Del.icio.us, digg.com, StumbleUpon, etc.)

- Awards lists (Webbies, Best of the Web, Bloggies, etc.)

- Nielsen NetRatings and Hitwise information on the top 5,000 web sites visited by UK internet users

- Expert blogs providing coverage of individual sectors and of the internet as a whole (TechCrunch, Mashable, Read/Write Web, etc.)

- Blogging platforms

- Informal interviews with industry experts, publishers, advertisers and developers

- Search engines and directories

Focus on UK content and services

The online market is international and the vast majority of sites that have any scale – and a large proportion of the long tail – serve an international audience and are not necessarily UK-based or focused (exclusively, or at all) on the needs of UK users. As such, we made judgements about whether content that is not explicitly or exclusively UK-oriented delivered against public service purposes. This issue was more important in some genres than in others – in genres such as local, regional and national it only made sense to consider (mostly) UK produced and focused content, whereas genres such as science and technology are inherently international in outlook.

Broad definition of content

We adopted a broad definition of content, to encompass social media, utilities and other services that cut across content genres. For example, Facebook, a communication utility, could deliver public service outcomes, but this will depend largely upon the applications and content distributed on Facebook by third-party providers, and the ends to which the platform is deployed by users. We analysed a range of content and services that cut across content genres, from wikis to applications taking advantage of open APIs, and worked closely with Ofcom during the course of the project to refine our criteria to take these into account.

Assessing discoverability and reach

Given that the project required us to evaluate a large number of web sites in a short period of time, we only used indicators that were readily available to us in order to assess discoverability, including the degree to which the site is referenced or linked to from other sites, and Google results generated from searches based on site title and the anticipated search terms that would be used by a visitor. Reach was assessed through data provided by established web measurement companies (Nielsen NetRatings).

4 Genre summaries

4.1 Arts, culture and heritage

4.1.1 Overview

Nature and extent of PSC	Strength of funding	Ease of discoverability

Nature and extent of PSC

The arts, culture and heritage genre contains a wide-range of sites that seek to deliver on public service purposes, but only a small and fragmented sub-set of these sites display public service characteristics. There are examples of both UK and international sites that fulfil public service purposes for the arts and culture, although heritage is largely UK focused – with some genealogy sites firmly dividing their UK and US offerings (e.g. Ancestry.co.uk)

There is limited news provision relative to other genres, with partial coverage from the BBC and online newspapers, and a number of small-scale arts and culture news sites such as ArtsJournal.com. The majority of museum and other institutional sites are little more than brochureware: the stand-out sites (which tend to be focused on the arts and culture rather than heritage) include The Metropolitan Museum of Art and the Tate family of sites, which both include extensive collections of learning resources and stand-alone online art commissions.

There are examples of innovative, cutting-edge educational resources in the genre, including the SoundJunction and the Universal Leonardo site about Leonardo da Vinci. However, these sites are the exception rather than the rule – there aren't similarly innovative sites about the other major renaissance painters, for example. Similarly there are examples of inspiring online art, including the Getty Institute's 10 Ways, but in general this category is extremely fragmented and comprises small and low profile sites, many of which are project-based and rapidly fall into disuse when collaborative phases end.

The PSBs play a major role in providing arts, culture and heritage content: the BBC provides an extensive range of resources, These display public service characteristics in part, withthe interactive Roman adventure game CDX is a stand-out feature. The Channel 4 arts site contains a far smaller body of content, although those features it does carry tend to be highly engaging, including the First World War site Lost Generation.
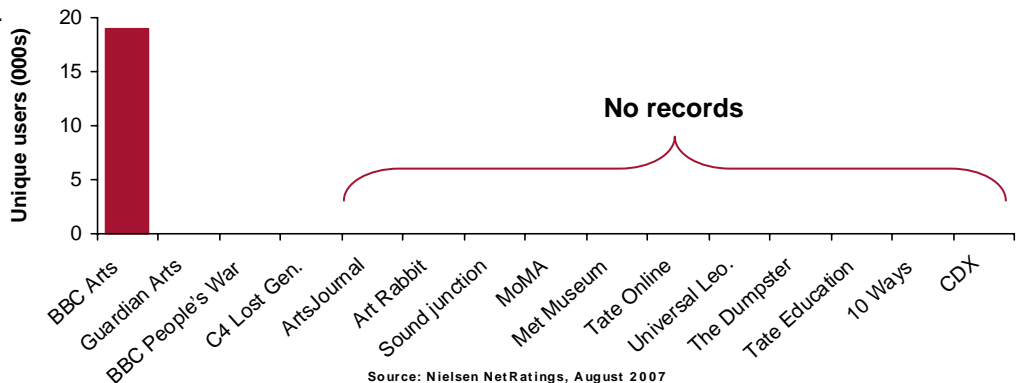
Strength of funding

The genre appears poorly resourced overall, and heavily reliant on time-limited and unsustainable government grants, although the BBC and some major museums and institutions appear to have substantial budgets.

Discoverability

Overall, the content in this genre is highly fragmented, and while the major institution sites are easy to find on Google it is extremely difficult to find the most innovative and exciting content. The Universal Leonardo site, for example, does not appear in the first four pages of returns under a search for "Leonardo da Vinci", and is not referenced from any of the first three pages returned, including Wkipedia. This is compounded by the absence of a leading aggregator of content.

Unique users

Source: Nielsen NetRatings, August 2007

4.1.2   Review of provision

There are five main categories of art, culture and heritage sites. We found sites in each category that deliver against public service purposes, primarily against Purpose 2 (*stimulating our interest in and knowledge of…science…and other topics*), and Purpose 3 (*reflecting and strengthening our cultural identity*).

Categories of art, culture and heritage web site:

Categories of web site	Description	Examples	Nature and extent of PSC
News and commentary	• Detail developments and trends	• ArtsJournal, Guardian Arts, Art Rabbit	◗
Institutions, collections and directories	• Sites representing cultural institutions (e.g. museums or galleries)	• Tate Online, MoMA, Metropolitan Museum of Art	◔
Educational content and resources	• Sources of educational Information or resources	• Ancestry.co.uk, Universal Leonardo, Sound junction, Tate Education resources	◔
Stand-alone arts exhibits	• Sites that use the web as the delivery mechanism for a work of art	• The Dumpster, 10 Ways	◔
PSB	• News and commentary • Aggregators and standalone arts, cultural or heritage resources	• BBC Arts • BBC People's War, CDX, Channel 4 Lost Generation	◗

Key: ● High   ◗ Medium   ○ Low

1.   News and commentary

The arts, culture and heritage genre has limited news provision relative to other genres, most likely because there is a small audience and no incentive for commercial publishers to invest heavily. Major news providers such as **The BBC** and The Guardian offer partial coverage – in The Guardian the genre is broken down into sub-verticals such as 'Art and Architecture' and 'Performing Arts'. There are a small number of general arts news sites such as ArtsJournal (international) and Art Rabbit (UK) that aggregate news content and manage to deliver an easy-to-use and engaging service on a low budget. Elsewhere coverage is restricted to low-budget niche sites focused on a particular sub-vertical.

2.   Institutions, collections and directories

The majority of major and minor museums and galleries have web sites; taken in the round, these sites feel under-resourced and out-of-date, and even the stronger sites display limited functionality and ambition beyond cataloguing and providing background information on their catalogues. The Metropolitan Museum of Art and the Tate family of sites are examples of good practice: both include extensive collections of learning resources (see category 3) and online stand-alone art commissions (see category 5) in addition to information about current exhibitions. The MoMA site is notable for the online video tour of its collection.

3.   Educational content and resources

The major museums offer collections of learning resources. For example, The Tate Online's learning resources are particularly extensive and generally of a high quality. There are also a range of free or commercial personal heritage tools (such as Ancestry.co.uk) providing public service information, often as a subscription product. In addition, there are examples of innovative, cutting-edge educational resources in the arts, culture and heritage genre that deliver unique and immersive experiences: the Sound junction offers a web based synthesiser to teach the principles of music composition, and the Universal Leonardo site on the life and times of Leonardo da Vinci offers extensive and innovative resources and games such as "Make the Mona Lisa smile" to stimulate interest in da Vinci's work. However, these sites are the exception rather than the rule, and many are project-based and can rapidly fall into disuse when collaborative phases end.

4.   Stand-alone exhibits

This is an extremely fragmented category comprising mainly small and low profile sites. The more high profile stand-alone online exhibits tend to be commissioned by the major institutions - for example, the Getty Institute's 10 Ways, which is a compelling interactive exploration of the power of visual media, and The Tate's The Dumpster, which aggregates and tracks extracts from blogs about relationship breakdowns.

5.   PSB

The BBC provides an extensive range of arts, culture and history content and educational resources: highlights include the interactive Roman adventure game CDX and the World War 2 resource People's War.

Channel 4 offers a number of stand-alone and largely programme based arts, culture and heritage features, including a resource on the First World War called Lost Generation, which includes a powerful flash-based narrative on the Battle of the Somme, and encourages users to trace their ancestors and submit their own stories.

4.2 Business and commerce

4.2.1 Overview

Nature and extent of PSC	Strength of funding	Ease of discoverability

Nature and extent of PSC

There is a comprehensive range of high quality business and commerce sites that deliver against public service purposes. The majority of exemplar sites are UK-based as much of the content is UK-specific (e.g. legal or tax advice). News, commentary and academic sites are more international in scope and provision.

The Economist and the Financial Times, the BBC, and the major online newspapers all provide high quality business news and personal finance information. There are comprehensive information, advice and community sites targeted at the private investor, including Motley Fool and This is Money. Entrepreneurs and business start-ups are well catered for through advertising funded sites such as RealBusiness, which has an active community, and through the government-funded BusinessLink, which provides information and useful tools on areas that the private sector sites are weakest on, including taxation and employment law. In addition there are high quality blogs around most aspects of investment, finance and economics, and a small number of helpful consumer protection sites, including the Citizen's Advice Bureau's Adviceguide and the government's ConsumerDirect.
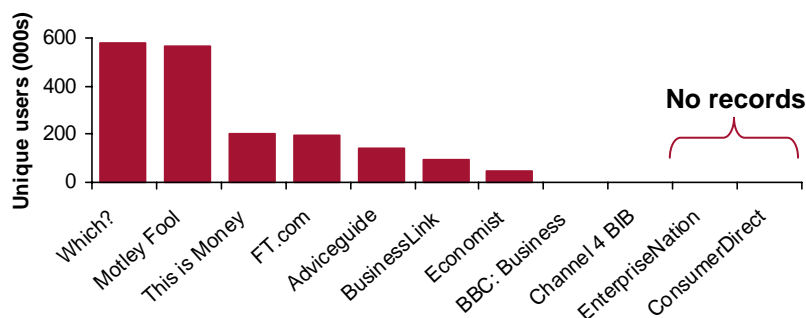
Strength of funding

Public information sites relating to business and commerce do not appear to suffer from a lack of funding: there is a strong commercial model supporting the provision of business and private investor news and advice, and a number of apparently well-funded UK government agencies and departments offering consumer protection and business start-up information and advice.

Discoverability

High quality news content is relatively easy to find as there are a range of trusted and well-known brands that are easy to discover through the search engines. For example, the first ten sites returned on Google under a search for "business news" include the FT, the Times, the BBC and the Guardian. High quality consumer or business advice and support sites are similarly easy to find – Which? and ConsumerDirect are the first two sites returned under a search for "faulty goods", while BusinessLink is in the top three sites returned under "business start up".

Unique users

Source: Nielsen NetRatings, August 2007

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4.2.2 Review of provision

There are five main categories of business and commerce sites that provide public service content. We found sites in each category that deliver against public service purposes, primarily Purpose 1 (*informing ourselves and others, and increasing our understanding of the world*), or Purpose 2 (*stimulating our interest in and knowledge of… other topics*).

Categories of business and commerce web site:

Categories of web site	Description	Examples	Nature and extent of PSC
News and information	• General business news sites • Online offerings from cross-platform media	• Economist • FT.com, EnterpriseNation	
Private investor and entrepreneur	• News, information, advice and community resources • Regulation and law guides • Informal learning resources	• Motley Fool, This is Money • BusinessLink	
Consumer advice and support sites	• Price comparison and review sites • Consumer recommendation communities	• Which? • Adviceguide, ConsumerDirect	
PSBs	• Business and personal finance news • Business-start-up and entrepreneur news and advice	• BBC News: Business • Channel 4 Being in Business	

Key: ● High ◑ Medium ○ Low

1. News and information sites

The Economist and the Financial Times are the market leading specialists in this category, offering a mix of high quality free news, features and commentary and subscription content. In addition, all the major online newspapers offer business news. There are a range of specialist news portals, such as Enterprise Nation, and blogs written by professional journalists and citizen journalists.

2. Private investor and entrepreneur advice and support

There are approximately 10-20 UK-based advertising funded sites of note targeted at the private investor – market leaders include Motley Fool and This is Money, both of which offer high quality editorial, comprehensive news, and active communities.

Sites providing support to entrepreneurs and small business owners range from advertising funded news and commentary providers, to individual bloggers and government departments and agencies. RealBusiness is a leader

amongst the advertising sites: it makes good use of video, blogs, RSS feeds and podcasts in addition to its text news offer, and has an active community. BusinessLink is a high quality government-funded site that provides advice and support to small and medium sized businesses: it is particularly strong on regulation, finance and taxation and employment law. The site is easy to use and offers a range of useful business management tools and widgets.

In addition, there are a number of high quality academic blogs clustered around particular subject areas - the strongest seams of blog activity surround investment/finance and economics. Marginal Revolution is an example of a high quality economics blog with a strong following (ranked in Technorati's top 700 most popular blogs).

3. Consumer advice and support sites

Consumer advice and support sites often focus around either price comparison and review or consumer protection. The leading price comparison and review sites have active communities and operate on an advertising model – they can be of value to the consumer but do not currently deliver against public service purposes as the focus tends to be primarily on bargain hunting. Which? is the market leader in providing high quality product reviews, but most of its content is subscription only. The leading not-for-profit and public sector consumer protection sites include the Citizen's Advice Bureau's Adviceguide and the government's ConsumerDirect site: both have a large quantity of helpful information, but are not particularly engaging or easy to use.

6. PSBs

The BBC has a strong business news offering; however, its business start-up advice is a limited, text based resource under BBC Consumer, and consumer protection provision is heavily programme-based (e.g. Watchdog).

Channel 4's Being in Business site (a subsection of its 'money' vertical) has a thin layer of mainly programme-related content, and its consumer advice is limited to a structured education programme for 14-19 year olds called Consumer Power.

4.3 Children 5-12

4.3.1 Overview

Nature and extent of PSC	Strength of funding	Ease of discoverability

Nature and extent of PSC

At present, the provision of children's content online is dominated by a relatively small number of large-scale providers. The largest provider is the BBC, which offers a broad range of public service content through its Cbeebies and CBBC brands, aimed at five year-olds and under, and 6-12 year-olds respectively. Both brands are extremely popular and highly regarded for their ability to connect with their respective age groups successfully and to educate and entertain at the same time.

However, beyond the BBC sites, public service content in the children's genre is limited to a small and fragmented base of resources, produced mostly by museums, galleries and other cultural institutions, relying mainly on public funding. These sites are often difficult to find, and tend to be significantly less engaging than the services provided by the BBC and some commercial providers. Funding for these properties is often grant-based and one-off.

In addition, there are a limited number of commercially-funded children's entertainment sites and virtual communities provided by a mix of start-ups and major US providers, including Disney, Nickelodeon and Turner. Children's properties owned by the major US networks, including Cartoon Network, Nickelodeon and its sister site Nick Jr, Neopets (owned by Viacom) and Club Penguin (owned by Disney), provide a range of casual games and video and have grown rapidly, attracting large user bases. Importantly, these properties tend to focus primarily on entertainment rather than education, although there is some content focused on numeracy and social skills - they offer relatively little public service content.
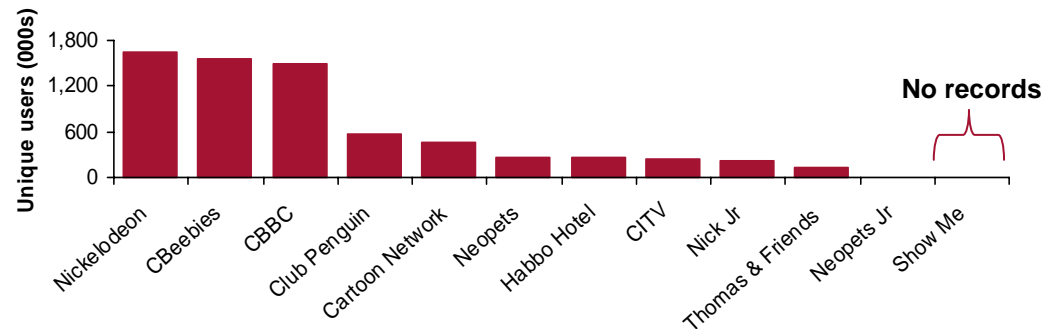
Strength of funding

The BBC and major US providers invest substantial resources in their online offerings for children; however, beyond the PSBs and the major US providers, provision is limited - there appear to be few sustainable commercial models for small-scale public service content in the children's market.

Discoverability

Discoverability is high for the market-leading brands in the children's category. However, beyond the major BBC brands, that public service content that does exist is very difficult to find as it tends to be stand-alone and not associated with major brands. A search for "children's educational games" returns BBC first, but beyond that there are hundreds of sites of variable quality, and it is time consuming to visit each site and decide which are sufficiently engaging and educational.

Unique users

Source: Nielsen NetRatings, August 2007

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4.3.2 Review of provision

There are four main categories of children's sites which primarily deliver against Purpose 1 (*stimulating knowledge and learning*).

Categories of children's 5-12 site:

Categories of web site	Description	Examples	Nature and extent of PSC
Educational sites	• Stand-alone resources for 5 – 8 and 9 – 12 age range	• Show Me	◕
Entertainment sites	• 5 – 8 • 9 – 12 • Product-linked sites	• Cartoon Network • Nickelodeon, Nick Jr • Thomas and Friends	○
Virtual communities	• Online multiplayer games	• Club Penguin • Neopets / Neopets Jnr • Habbo Hotel	○
PSBs	• Children's offerings from the public sector broadcasters	• CBeebies • CBBC • CITV	◑

Key: ⊕ High ◑ Medium ○ Low

1. Educational

With the exception of the BBC sites (reviewed below), public service content in children's education is extremely limited, and what content exists is fragmented and hard to find. There are a small number of resources of any note, produced mostly by museums, galleries and other (mainly publicly-funded) cultural institutions. For example, the 'Show Me' collection of educational games is typical of the stronger offerings in this category - it is produced by the 24 Hour Museum, co-funded by the DCMS, MLA and Culture Online, and is significantly less engaging than CBBC content or the commercial entertainment sites.

2. Entertainment

There are a wide range of (mainly commercially-funded) children's entertainment sites provided by major US companies such as Disney, Nickelodeon and Turner, and typically aimed at the 5-8 and 9-12 age ranges. Market leading sites include Cartoon Network, Nickelodeon and its sister site Nick Jr for the under 8s. All these sites are mainly advertising funded, have high production values and are extremely popular, but their primary purpose is to entertain rather than educate: they are dominated by television cartoon brands and characters, and mainly offer a

range of casual games and video, with little content that delivers against public service purposes or characteristics.

3. Virtual communities

There are a small number of very popular browser-based graphical communities and multiplayer games for children. All of these sites are commercially funded, usually with hybrid subscription and advertising models (e.g. Neopets charges a subscription, whereas Neopets Jr, aimed at the under 8 audience, is free; Club Penguin, owned by Disney, operates a subscription model). Their primary purpose is to entertain rather than educate.

Given their commercial model, there is limited opportunity for new market entrants or for smaller scale providers - running costs for children's communities, including moderation, are high, and few parents are likely to subscribe to multiple services.

4. PSBs

The BBC offers high quality public service content through its Cbeebies and CBBC brands, aimed at six year olds and under and 6-12 year olds respectively. Both brands are extremely popular and highly regarded for their ability to connect with their respective age groups successfully and educate and entertain at the same time. There is a substantial body of video content, educational games and programming, and well-used, moderated message boards.

ITV's offering, CITV, is commercial- and entertainment-orientated. It features a highly graphical interface with minimal text and many small, flash-based games, with a very basic uploading and sharing facility for children's artwork.

4.4 Community and social action

4.4.1 Overview

Nature and extent of PSC	Strength of funding	Ease of discoverability
◔ → ◑	◔	◑

Nature and extent of PSC

The community and social action genre comprises sites representing cross-genre charities and think tanks, and sites seeking to promote community activity and volunteering. Sites which support and enhance participation in democratic processes are reviewed within the politics and government genre.

There are a small number of well-funded and well-conceived charity sites that exhibit public service characteristics; Amnesty International's Unsubscribe Me site, and the Dutch I Spy campaign against cruelty to children are examples of powerful educational international communications campaigns in this category, whilst the BBC campaigns Comic Relief and Children in Need campaigns are examples of powerful cross-channel hybrid education plus entertainment campaigns. In addition there are a range of sites produced by policy groups, think tanks and lobbying organisations, such as Demos, that seek to stimulate debate and challenge thinking in a constructive and academically rigorous manner and have web sites that play an important role in encouraging debate and disseminating information.

Sites that seek to promote community activity and volunteering are primarily produced by voluntary and community sector organisations, the majority of which are operating on low budgets; as a result public service purposes are poorly served in this area. There are examples of hyper-local community action content that may offer value, such as the Five Roads Forum and Kings Cross Environment site – what these lack in production values they make up for in the high level of relevance they have to their local audience. In addition there are a small number of sites such as TimeBank and PledgeBank which aggregate voluntary and community organisations and pledges for social action respectively.
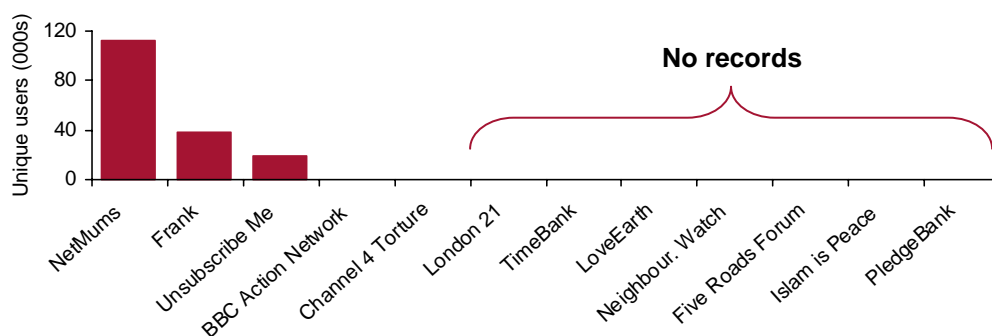
Strength of funding

With the exception of a small number of popular and well-funded charities, and a small number of well-funded think-tanks and lobbying groups, the community and social action genre is poorly funded and heavily reliant on volunteers.

Discoverability

Discoverability is high for the well-known charity sites; however, voluntary and community sector sites which do not possess brands that have high levels of awareness amongst consumers can be extremely difficult to find, as there are a large number of generally low quality sites and few aggregators of the high quality sites.

Unique users

Source: Nielsen NetRatings, August 2007

4.4.2 Review of provision

There are three main categories of community and social action sites, most of which deliver against public service Purpose 1 (*informing ourselves and others, and increasing our understanding of the world*) and some also contributing to purposes 3 (*reflecting and strengthening cultural identify*) and 4 (*creating awareness of different cultures and alternative viewpoints).* In addition, many sites in this genre help to fulfil a public service purpose mentioned by Ofcom in relation to local digital television content: *to support and enhance access to local services, involvement in community affairs, participation in democratic processes and consumer advice and protection.*

Categories of community and social action site:

Categories of web site	Description	Examples	Nature and extent of PSC
Charities, social action and lobbying	• Cross-genre charities and good causes • Policy groups, think-tanks and lobbyists	• Amnesty's Unsubscribe Me, I Spy • ERS, Demos	
Community action	• Sites relating to community action	• NetMums, London 21, Five Roads Forum, PledgeBank, TimeBank	
PSBs	• Community and social action sites as described above, provided by a PSB	• BBC Action Network • Channel 4 Torture • Children in Need	

Key: High   Medium   Low

1. Charities, social action and lobbying

This category comprises sites produced (in the main) by charities seeking to raise awareness or encourage action on behalf of a particular cause, and sites representing policy groups, think tanks and lobbying organisations that are campaigning for social or economic policy reform.

In the charities category there are a small number of well-funded and well-conceived sites that exhibit public service characteristics; these tend to contain a mix of educational and entertainment content designed to engage and mobilise target audiences (e.g. sign a petition, donate money, volunteer time). Amnesty International's Unsubscribe Me site, and the Dutch I Spy campaign against cruelty to children are examples of powerful educational international communications campaigns in this category. Beyond this small base of exemplars there are a wide range of charity and campaign sites that seek to deliver against public service purposes but are not of particularly high quality.

In addition there are a range of sites produced by policy groups, think tanks and lobbying organisations – some of which are well funded by private and corporate donors – that seek to influence social and economic policy. A sub-set of these organisations seek to stimulate debate and challenge thinking in a constructive and academically rigorous manner and have web sites that play an important role in encouraging debate and disseminating information, such as Demos.

2. Community action

This category comprises web sites that seek to promote community activity and volunteering. These sites are primarily produced by voluntary and community sector organisations, the majority of which are small and operating on low budgets. The web sites are often correspondingly limited in ambition, with many being produced by volunteers or 'citizen journalists', and as a result public service purposes are poorly served in this area. There are examples of hyper-local community action content that may offer value, such as the Five Roads Forum and Kings Cross Environment site – what these lack in production values they make up for in the high level of relevance they have to their local audience. In addition there are a small number of sites such as TimeBank and PledgeBank which aggregate voluntary and community organisations and pledges for social action respectively.

3. PSBs

The BBC operates a small number of powerful charity and social action campaigns, including Comic Relief and Children in Need, which leverage strong brands and cross-media promotion to deliver a combination of education and entertainment content. In addition the BBC runs the Action Network, a community action site. However, this site has suffered from low take-up and is closing, to be replaced by "a more news driven service which has a greater emphasis on aggregation of bottom-up content, including issue related blogs".

Beyond the BBC, social action sites and content provided by PSBs appears limited to calls to action within programme support sites (e.g. Channel 4 Torture).

4.5 Entertainment and lifestyle[2]

4.5.1 Overview

Nature and extent of PSC	Strength of funding	Ease of discoverability
◕	◕	◕

Nature and extent of PSC

There is a comprehensive range of high quality entertainment and lifestyle public service content comprising a mix of UK-based provision, as the major commercial publishers tailor their content to the UK market, and international sites such as Last.fm.

The major portals' entertainment and games verticals focus on gossip and casual games and do not deliver substantial amounts of public service content. However, beyond the portals, there are a wide range of entertainment sites such as Time Out and Last.fm that seek to inform or stimulate interest in music, film and other aspects of entertainment, and display public service characteristics. The BBC provides a mix of entertainment news and features and comprehensive lifestyle coverage, and strong special event coverage such as the Electric Proms. In addition, there are a wide range of popular entertainment commentary sites and blogs that provide challenging and disruptive entertainment content.

The web is well served for lifestyle content that delivers against public service purposes. The lifestyle verticals in the major portals carry some content – healthy eating, for example – but the quality of the content is rarely innovative or original. However, beyond the portals there is a substantial base of high quality specialist lifestyle content focused around lifestyle verticals such as women, parenting, healthy eating and DIY. Handbag provides strong women's lifestyle content, parenting is well catered for by sites such as Babyworld, and in addition to UK content there is a range of high quality US content such as DIYnetwork and EatBetterAmerica.
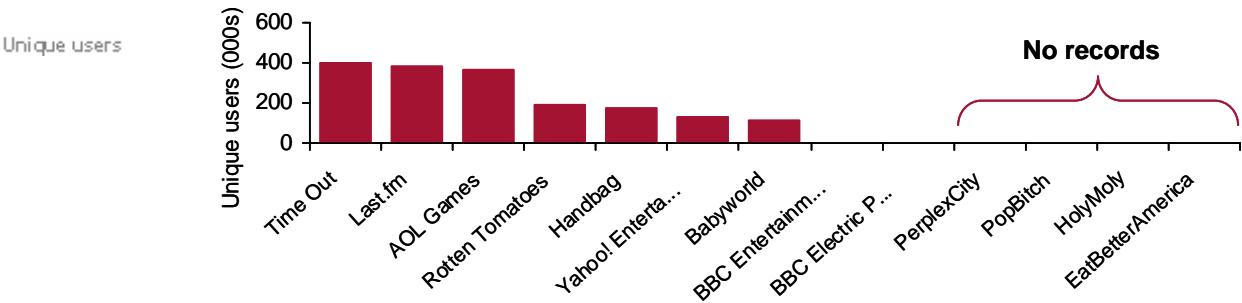
The area of entertainment and lifestyle that is least well served is gaming – while there are occasional exceptions such as PerplexCity, the majority of online games fall into either the casual gaming and gambling category, or non-educational Massively Multiplayer Online Reality Games and Alternative Reality Games.

Strength of funding

The entertainment and lifestyle genre is underpinned by well-funded commercial publishers and content providers puursuing established, sustainable business models, typically focused on adverttising revenues.

Discoverability

High quality entertainment and lifestyle content is relatively easy to find as there are a small number of high profile brands that carry PSC in each category, such as the major women's and men's lifestyle brands and the BBC.

Unique users

Source: Nielsen NetRatings, August 2007

[2] Out of scope for this genre are online games targeting children and teens, social networks and audiovisual content aggregators such as YouTube – these sites are addressed within other genres

4.5.2 Review of provision

There are five main categories of entertainment and lifestyle sites, delivering primarily against Purpose 1 (*informing ourselves and others, and increasing our understanding of the world*), or Purpose 2 (*stimulating knowledge and learning*).

Categories of entertainment and lifestyle web site

Categories of web site	Description	Examples	Nature and extent of PSC
General lifestyle and entertainment portals	• Entertainment, games and lifestyle verticals within major portals	• Yahoo! Entertainment • AOL Games	
Entertainment (excluding games)	• Entertainment news and listings • Single – subject entertainment sites (e.g. music, film)	• Time Out, HolyMoly, PopBitch • Last.fm, Rotten Tomatoes	
Lifestyle	• General lifestyle information • Entertainment experiences	• Handbag, Babyworld, EatBetterAmerica	
Online games[3]	• Games portals • Standalone games sites, Massively Multiplayer Online Reality Games (MMORGs), Alternative Reality Games (ARGs)	• PerplexCity	
PSBs	• Entertainment news • Programme-based entertainment and lifestyle content • Entertainment experiences	• BBC Entertainment news • BBC Electric Proms	

Key: ● High   ◑ Medium   ○ Low

1. General lifestyle and entertainment portals

All the major portals, including AOL, MSN and Yahoo! have separate entertainment and lifestyle verticals which deliver high traffic volumes.

The entertainment verticals focus on celebrity news and gossip and popular culture; in general they do not seek to challenge, educate or inform (beyond popular culture) and do not deliver against public service purposes. In addition, each portal has a substantial gaming vertical. While there is some educational value in the quizzes, puzzles and

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[3] This category excludes games and alternate worlds that are not browser based; informal educational games that are genre-specific are reviewed on a genre by-genre basis, and children's games are reviewed in the children's category

general knowledge games, the sites focus heavily on non-educational casual games content such as bingo and do not deliver significant public service value.

In contrast, the lifestyle verticals, which break down into substantial sub-verticals including women, parenting, DIY and careers, carry a wide range of content that could be said to deliver against public service purposes – encouraging healthy eating, for example. However, the quality of the content is mixed and rarely innovative or original, and therefore cannot be said to consistently display public service characteristics. In addition, the major portals give disproportionate attention to subject matter which drives high volumes of traffic, such as losing weight, and are less likely to address challenging issues such as drug abuse.

2. Entertainment (excluding games)

There are a wide range of sites that seek to inform or stimulate interest in music, film and other aspects of entertainment, and display public service characteristics. The major online newspapers have high quality entertainment listings and review offerings, and Time Out provides consistently high quality reviews and features.

Beyond the traditional publishers there are a number of high quality entertainment portals such as heavy.com. Last.fm is an example of how the internet is revolutionising music and encouraging consumers to explore new forms of entertainment. In addition, there are a wide range of popular entertainment commentary sites and blogs such as PopBitch and HolyMoly, which provide challenging and disruptive entertainment content that arguably, is the internet equivalent of Channel 4's challenging entertainment content.

3. Lifestyle

In addition to the content provided by the major portals and PSBs (reviewed elsewhere), there is a substantial base of often high quality specialist lifestyle content focused around lifestyle verticals such as women, parenting, healthy eating and DIY. The majority of this content is produced by either commercial publishers or FMCG companies who have created lifestyle content that is tailored to the UK market: Handbag and iVillage provide strong women's lifestyle content to slightly different demographics, and parenting is well catered for through Johnson & Johnson's Babyworld. DIYnetwork and EatBetterAmerica are examples of US best practice that could deliver public value to the UK market.

4. Online games

Casual games portals such as MiniClip and RealArcade attract large user bases but cannot be said to deliver significant public service value because (as with the general portals) the sites focus heavily on non-educational content such as bingo and poker over and above educational quizzes, puzzles and general knowledge games.

In addition to casual games there are a small number of popular Massively Multiplayer Online Reality Games and Alternative Reality Games, but with a few notable exceptions such as Mind Candy's puzzle-based PerplexCity, these games do not deliver against public service purposes.

5. PSBs

The BBC provides a mix of entertainment news and features and comprehensive lifestyle coverage, including strong healthy living and eating and recipe resources. The BBC's Electric Proms is a current highlight, with a wide range of original downloadable content.

Channel 4 Lifestyle offers lifestyle content which is mainly programme-related such as Jamie at Home.

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4.6 Health

4.6.1 Overview

Nature and extent of PSC	Strength of funding	Ease of discoverability
◕	◕	◑

Nature and extent of PSC

The health genre is notable for the breadth and depth of public service content available: overall, provision is reliable and accurate, and there are examples of innovation in the use of rich media to describe conditions and to share patient stories. Provision is highly international in nature, reflecting the universal nature of the subject matter, although there is an important role for UK-centric content in the area of health care delivery, as UK residents will rely on UK health provision in the main.

Consumers can choose from public sector health gateways such as the US site Medline Plus, and NHS Choices, as well as private sector gateways and aggregators such as Organized Wisdom, all of which provide reliable and comprehensive information. There is in-depth health news and lifestyle provision from both commercial publishers and the BBC. The quality of sites relating to specific conditions is more variable, and even exemplars such as Arthritis Care, which have active communities and comprehensive information, tend to look and feel a little out of date. There is a substantial body of user-generated content, with active communities around most conditions and illnesses, and contributors increasingly adopting blogs, video and other formats beyond bulletin board postings. The newly launched US site Patients Like Me site, while still limited in its coverage and the size of its community, points the way forward in terms of functionality and look and feel. While there are legitimate concerns about misinformation and privacy, much of the information is accurate[4] and taken in the round, these resources have the potential to provide an individual with valuable and up-to-date information.
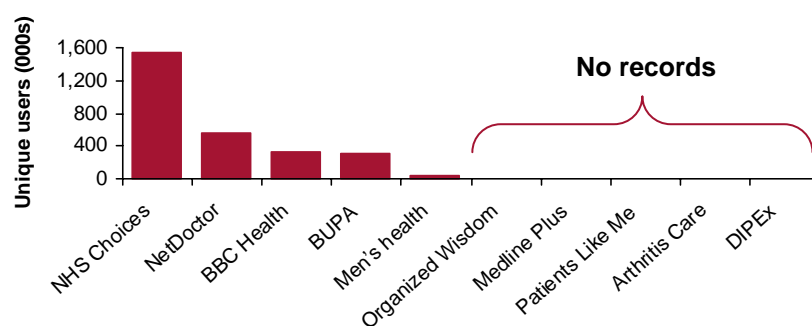
Strength of funding

The sector is well funded, with public and private health care providers, commercial publishers and charities all investing heavily. In addition, the sector attracts a high level of involvement from users, many of whom contribute content, and share experiences and advice in communities.

Discoverability

The major gateways and news services are easy to find on Google. Basic searches reveal content that appears to be relevant - for example, a search for "depression + friend" yields pages of sites with headlines such as "Depression – helping a friend", the majority of which appear to contain legitimate content. However, the number of options yielded by any search is intimidating and makes it difficult to discover the exemplars - in the field of prostate cancer alone a leading aggregator of content links to over 50 sites (e.g. Prostate Link).

Unique users

Source: Nielson NetRatings, August 2007

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[4] A panel of neurology specialists judged that only 6% of the information posted in the epilepsy-support group of Braintalk was factually wrong, according to a study published in 2004 in the British Medical Journal. The Economist, Sept 7th, 2007

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4.6.2 Review of provision

There are five main categories of health sites that deliver to some degree against public service purposes, primarily against Purpose 1 (*informing ourselves and others, and increasing our understanding of the world*), or Purpose 2 (*stimulating our interest in and knowledge of…science…and other topics*).

Categories of health web site:

Categories of web site	Description	Examples	Nature and extent of PSC
Health gateways, aggregators, and reference sites	• General health information gateways • Sites that aggregate or index content of online content • Reference sites	• NHS Choices, NetDoctor • Organized Wisdom • Medline Plus	High-Medium
Healthcare delivery	• Public and private sector sites that market or deliver health products and services	• BUPA	Medium
News and lifestyle	• Sites offering health news and lifestyle content	• Men's health	High-Medium
Condition or disease-specific resources	• Information and community sites set up around a condition or disease or family of conditions • Patient story sites	• Arthritis Care • Patients Like Me • DIPEx	Medium
PSBs	• BBC health and lifestyle news and features	• BBC Health news, BBC Health	High-Medium

Key: ● High ◑ Medium ○ Low

1. Health gateways, aggregators and reference sites

There are a small number of trusted and reliable health gateways and reference sites providing information for academics, professionals, carers, patients and the interested layperson. UK leaders in this category include netdoctor and the NHS family of sites (NHS Choices and NHS Direct). There are also a number of high quality US sites, including Medline Plus. In addition to providing their own information, many of these sites aggregate content from across the web: we also found a number of high quality stand-alone aggregators, including Organized Wisdom.

2. Healthcare delivery

This category is dominated by sites that market or deliver healthcare products or services, including online pharmacies, online consultations and healthcare insurance. Many of these sites deliver against public service purposes even though that is not their primary objective – for example, the BUPA site is a valuable health information and advice resource in its own right.

3. Health news and information sites

There is a wide range of trusted and reliable news provision across the health genre, including the major health (and science) publishers such as New Scientist, lifestyle specialists such as Men's Health, the major portals, the BBC (see category 5) and the online newspapers.

4. Condition or disease-specific resources

The quality of sites providing information, advice, patient support and community facilities relating to a specific condition or family of conditions is variable. While information is generally reliable and there are a wide range of sites relating to any given condition, many have low production values and can appear dry and out-of-date, probably because they are run by charitable or not-for-profit organisations on a limited budget.

Arthritis Care is an example of an exemplar single condition charity site run on a limited budget – it has a strong and active community, user stories, and good information about the condition, although it looks and feels a little out of date. DIPEx provides a powerful resource of video-based patient stories. The newly launched US site Patients Like Me site, while still limited in its coverage and the size of its community, points the way forward in terms of functionality and look and feel.

In addition there are a wide range of popular blogs by long-term and/or chronic patients (e.g. Mental Mommy) and health care professionals (e.g. NHS Blog Doctor).

5. PSBs

The BBC offers a health news service and a separate health section – although it lacks depth compared to the other news and gateway services, it provides a useful starting point for the layperson, and links to high quality sites.

4.7 Information, search and reference

4.7.1 Overview

Nature and extent of PSC	Strength of funding	Ease of discoverability
●	●	●

Nature and extent of PSC

There is a comprehensive and valuable mix of (mainly advertising-funded) search, general information and reference sites that are reliable, easy to use, well known and easy to find.

Google dominates the search engine market and is the primary mechanism through which the end user navigates the web and discovers content. There are a small number of other general search offerings, including Ask, Yahoo! and Microsoft Live Search, as well as specialist search engines concentrating on blogs, videos, audio and images. Other search engines have human-compiled results pages, although true 'social search' is conducted through the recommendation and bookmarking sites such as Del.icio.us, listed in the 'Social networking and aggregator' genre.

The market-leading global reference and knowledge resources are owned by the Wikimedia Society and include an encyclopaedia (Wikipedia), dictionary (Wiktionary) and quotations site (Wikiquotes). These are internationally collaborative sites drawing on user contribution and editing in many different languages, delivering against the public service purposes primarily by informing and educating people. In addition there are a range of advertising-supported, professionally-compiled reference sources such as Dictionary.com. Together, these sites provide a comprehensive and valuable portfolio of general reference sites that fully deliver against public service provision.
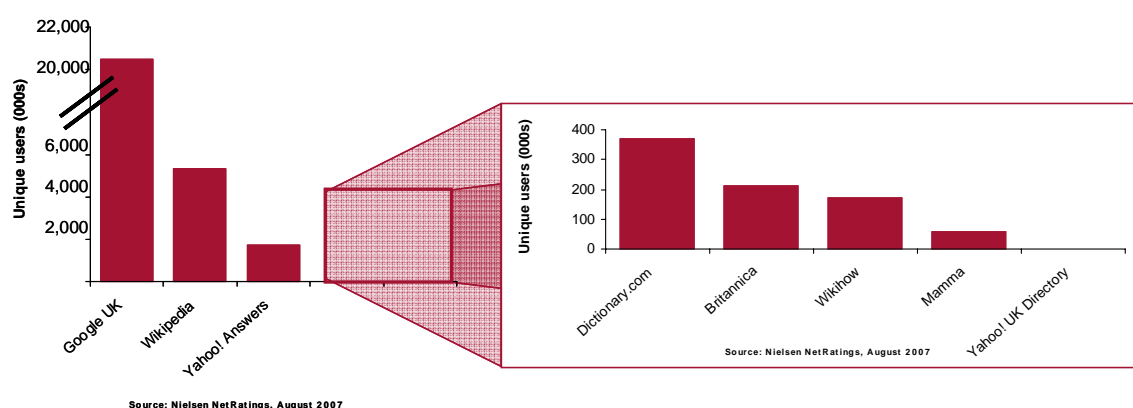
Strength of funding

The sector is well funded, with strong advertising-funded and subscription models in place across all major categories of search, information and reference. In addition, the sector attracts a high level of involvement from users, many of whom contribute content and advice in communities.

Discoverability

The major search and reference brands are well known and easy to find, nad have extremely high traffic levels.

Unique users

Source: Nielsen NetRatings, August 2007

Source: Nielsen NetRatings, August 2007

4.7.2   Review of provision

There are three main categories of information, search and reference sites that deliver to some degree against public service purposes, primarily against Purpose 1 (*informing ourselves and others, and increasing our understanding of the world*)., or Purpose 2 (*stimulating our interest in and knowledge of arts, science, history…and other topics*).

Categories of information, search and reference web site:

Categories of web site[5]	Description	Examples	Nature and extent of PSC
Search engines and directories	• Search engines for web sites, images and video • Directories of web sites	• Google UK, Mamma • Yahoo! UK Directory	◑
General reference	• Dictionaries, thesauri and word reference • Encyclopaedias. Quotation collections and almanacs • Tutorial sites • Time and measurement sites	• Yahoo! Answers • Dictionary.com • Wikipedia • Wikihow • Britannica	◑
PSBs	• Information, search and reference offerings from the PSBs	• n/a	○

Key: ● High   ◑ Medium   ○ Low

1. Search engines and directories

Google dominates the search engine market and is the primary mechanism through which the end user navigates the web and discovers content. In addition to Google, there are a small number of other (far smaller) general search offerings, including Ask, Yahoo! and Microsoft Live Search, and specialist search engines concentrating on niches such as blogs, videos, audio and images (e.g. Technorati in blog search). A second tier of search sites scrape the results of one or more of the major engines and repurpose them (e.g. Dogpile, Mamma). Other search engines have human-compiled results pages (e.g. ChaCha), although the directories of sites that were once a common feature of the internet are no longer as prominent. 'Social search' is conducted through the recommendation and bookmarking sites such as Del.icio.us, listed in the 'Social networking and aggregator' genre.

The major search engines do not carry their own content and so do not directly deliver against the four official public service purposes; but play a central role in enabling other sites to do so.

2. General reference

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[5] This genre only considers general information, search and reference tools – those that focus on specific genres (such as health or science) are dealt with in the appropriate, dedicated genres

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The market-leading global reference and knowledge resources are owned by the Wikimedia Society and include an encyclopaedia (Wikipedia), dictionary (Wiktionary) and quotations site (Wikiquotes). These are internationally collaborative sites drawing on user contribution and editing in many different languages, delivering against the public service purposes primarily by informing and educating people.

In addition to Wikimedia there are a range of advertising-supported, professionally-compiled reference sources such as Dictionary.com and Wikihow. Taken together, these sites provide a comprehensive and valuable portfolio of general reference sites that fully deliver against public service provision.

3. PSBs

BBC Search includes Web search service as an option, and the BBC also offers CBBC-branded web search service targeted at children. Neither is heavily promoted, and usage is low. The other PSBs do not offer such services.

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4.8 Learning and education

4.8.1 Overview

Nature and extent of PSC	Strength of funding	Ease of discoverability
◕ → ◑	◔	◔

Nature and extent of PSC

The nature and extent of PSC in the education and learning genre is generally low; as formal learning resources must be based on the UK educational system and qualifications, provision is almost entirely UK based.

The free formal online learning and education market is fragmented, and taken in the round, of low quality. The BBC offers a substantial body of learning resources for Key Stages 1-4, through BBC Schools. There are a small number of not-for-profit institutions, government bodies, education software providers and other commercial entities that provide free education resources. Overall, there is no substantial body of free, high quality, innovative, engaging learning resources that is easily available online. The picture is similar in adult learning, with the BBC offering learning resources and assistance through BBC Adult Learning and BBC Skillswise, and a range of other commercial and not for profit providers of free resources, but no substantial body of free, high quality resource.

While we have not reviewed the learner's and teacher's pay resources provided by commercial publishers. The received wisdom is that despite the UK's reputation as a world leader in e-learning, much of the pay e-learning material aimed at the children's, young adult's and adult markets remains CD-ROM based, and online provision is regarded as limited, and dominated by a few major suppliers, such as Espresso in primary education.

There are a range of active networks and communities, including the TES forums, but while these communities are lively and sources of considerable value to teachers, the teachers that populate them are in general time and resource poor, and are making the best of a sparse resource base.
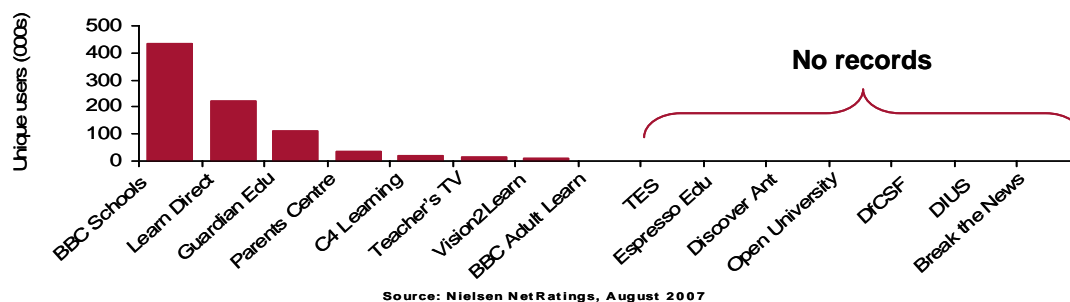
Discoverability

Discoverability is a major issue in the education and learning sector, due to the high degree of fragmentation; there are a number of aggregators, including Curriculum Online and TES, but the quality of the resources they link to is variable, and there is no reliable mechanism for discovering the most valuable content. One of the consequences of this lack of discoverability is that the value of the educational resources that are available is dissipated, as they often do not reach their intended audience.

Strength of funding

The sector is supported through a mix of private and public funding, with private funding is concentrated around a few major providers of online services.

Unique users

Source: Nielsen NetRatings, August 2007

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4.8.2 Review of provision

There are seven main categories of education and learning sites which primarily deliver against Purpose 1 (*stimulating knowledge and learning*).

Categories of education and learning web site:

Categories of web site	Description	Examples	Nature and extent of PSC
News and commentary	• Traditional and online only publishers providing news and commentary • Blogs	• Education Guardian • TES	◖
Teacher's resources[6]	• Suppliers and aggregators of teacher's resources (e.g. lesson planning tools)	• Teacher's TV, Vision2Learn for Schools, TES Resource Bank	◕
Children's and young adult's learning resources	• Mix of free and pay formal learning resources designed to be used in key stages 1-5	• Espresso Education • Discover Antarctica	◕
Adult learner's resources	• Mix of free and pay formal learning resources for adults (excluding professional training)	• Open University • Vision2Learn	◕
Learning institutions	• Sites and content produced by learning institutions	• Learn Direct	○
Government	• Teacher's and learner's resources produced by the government • Resources for parents of students	• DfCSF, DIUS • Parents Centre	○
PSBs	• Information about learning and education • Teacher's resources • Learner's resources	• BBC Schools, Channel 4 Learning, Breaking the News • BBC Adult Learning	◖

Key: ● High ◖ Medium ○ Low

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[6] Although resources targeted at teachers are not necessarily public service content (i.e. not targeted at citizens or consumers), we have included them in this review on the grounds that resources aimed at teachers are often intended for use by the learner

1. News and commentary

There are a small number of traditional and online providers of news and commentary in the learning and education space and a large number of (generally low-value) blogs. Leading providers of news and information about the learning and education sector include:

- Education Guardian, which provides high quality news and education information such as course and university guides and video podcasts

- TES which provides news and comment aimed at the learning and education professional, highly active members forums and a deep archive of user generated and uploaded resources searchable by subject, key stage and type

- A wide range of blogs (edublogs hosts over 100,000 education blogs from all over the world), although there do not appear to be any stand out 'must-reads'.

2. Teacher's resources

There are a number of aggregators of teacher resources that are notable for the large amount of content and resources (e.g. lesson plans, power point presentations) created by and shared among teachers. The TES archive appears well used and MFL resources houses resources which have been donated by over 600 practising teachers who are members of a Yahoo group called 'mflresources' [modern foreign language] and who want to 'share the workload'.

There are a range of other sources, including BT Education and the National Education Network. In addition, the web site of Teacher's TV (a free-to-air television channel funded by the Department for Children, Schools and Families) provides a range of free resources. However, the extent and quality of resources available on these sites is generally low.

3. Children's and young adult's learning resources

This category includes formal learning resources designed to be used directly by children and young adults for Key Stages 1-5 and comprises a mix of pay and free resources intended for both mediated and unmediated learning.

There are about 10-20 major pay formal children's online learning resource providers (we have not reviewed the quality of their content in this paper) – most are run by large scale commercial education providers such as Pearson. In addition, there are a small number of specialist education software providers such as Desq which offer a mix of free and pay resources. Espresso Education is the market leader in online provision for the primary education market with over 6,000 schools around the country subscribing and a renewal rate of 95.9%. It provides an online library of cross-curricular multi-media learning resources tailored to the National Curriculum and cross-referenced to QCA Schemes of Work. Vision2Learn for Schools is an example of a major commercial provider of a virtual learning environment for secondary schools including an online portfolio and teacher's resources.

The market for free formal learning resources (mediated and unmediated) is highly fragmented, especially following the decommissioning of BBC Jam. The BBC is a leading provider (see PSB category); elsewhere there are stand-alone examples of engaging and innovative free formal learning resources, such as Discover Antarctica, which provides high quality online activities, videos and an easy to navigate series of narrative image and text lessons, all designed to align with the national curriculum, but no substantial body of high quality free content.

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4. Adult learner's resources

Adult learning resources tend to comprise a mix of learning materials, remote access to lectures and tutorials, and links to learner networks to encourage remote group working and discussion. As with children's resources, much of the provision is still offline in the form of CD-ROMs. Leading adult online learning programme providers include:

- Open University, which offer a range of free online courseware in addition to its pay home study services;

- Learn Direct, a government provider of pay adult online courses which lead to qualifications across skills for life, IT, business and management, languages and university level qualifications;

- National Extension College, a charitable organisation offering adult learners with courses and qualifications across a range of subjects and provides online support and student forums.

There are a small number of adult basic skills sites as learners at this level tend to require face-to-face teaching using physical learning aids. The BBC provides Skillswise which was developed in partnership with Skills for Life and is aimed at students studying Level 1 of the curriculum for England, Wales and Northern Ireland or Intermediate 1 for Scotland.

5. Learning institutions

In general, schools, colleges, universities and other learning institutions' sites provide information about the institution its courses, but do not provide substantial online learning resources. Notable exceptions include adult learning providers Open University, Learn Direct and the National Extension College (see adult learning). In addition, there are a number of schools that aggregate learner or teacher resources, such as Coxhoe and Ambleside primary schools, although the sites themselves have low production values.

6. Government

There is a range of government learning and education resources, including:

- government department sites which provide information about learning and education including standards guides and policy (e.g. DfCSF, DIUS);

- the citizen's public services portal Direct Gov's education and learning section;

- local councils which provide information about local education and learning issues including details of institutions, learning plans and targets and education financing;

- Parents Centre, a government site designed to provide parents with information and support on choosing a school, curriculum and assessment, home education, special educational needs, bullying, truancy and rights and responsibilities.

7. PSBs

The BBC offers a wide range of resources and assistance to school children aged five to 16 based around the national curriculum as part of its public purpose of promoting formal education in the context of school age children. It also offers resources and guidance for parents (e.g. BBC Schools - parents) and teachers (BBC Schools - teachers) of pre-school, primary, secondary and post 16 students. However, much of the BBC's material is regarded as insufficiently innovative or engaging, and far more limited than it would have been if BBC Jam had not been decommissioned. The BBC also offers learning resources and assistance to adults. BBC Adult Learning offers

informal tutorials, testimonials, and information about further and higher education options and student life. The BBC Skillswise site offers free informal interactive adult literacy and numeracy resources such as factsheets, worksheets and quizzes. It is supported by Skills for Life but does not lead to any qualifications.

Channel 4 Learning provides a range of interactive resources across Key Stages 1-4, although these are not comprehensive (there are no Arts resources for primary or secondary students, for example). Channel 4's pay video clip resource for secondary teachers Clipbank contains over 800 hours of educational audiovisual content and is arranged by subject. Channel 4's Breaking the News was an award winning and engaging site; although the scheme is now closed, the site remains open as a resource and is an example of innovation in the sector.

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4.9   Local, regional and national

4.9.1   Overview

Nature and extent of PSC	Strength of funding	Ease of discoverability
◑	◔	◔ → ◕

In this context, we are defining 'national' as referring to the four nations within the United Kingdom, 'regional' to be the major regions within those nations (i.e. the Highlands and Islands in Scotland, or the North-east in England) and local to refer to anything of more limited geographical scope.

Nature and
extent of PSC

We have restricted the scope for local, regional and national to the provision of news, information, services and entertainment that is targeted at specific geographic communities. We have included a separate category for community and social action.

Local, regional and national sites tend to have limited ambitions and low production values. The genre is dominated by a combination of commercial news services and local news web sites with content built from community members – often called "citizen media" or "citizen journalism". Of the commercial offerings, Newbury Today stands out for its high production values, in depth content and use of video and user-generated content. The BBC's Where I Live regional service and the ITV Local service offer less local relevance in comparison with local newspaper and citizen journalism offerings. There are an increasing number of hyper-local sites emerging as more people have broadband access and the tools for creating content become easier to use - the Brixton site Urban75 and The Holmes Chapel village site are notable examples of urban and rural hyper-local provision.

The quality of non-news based geography specific content is variable, with the majority of sites having low production values, limited content and functionality, and appearing to operate on limited budgets; Walk Northern Ireland is an example of a high quality tourism promotion site in this context.
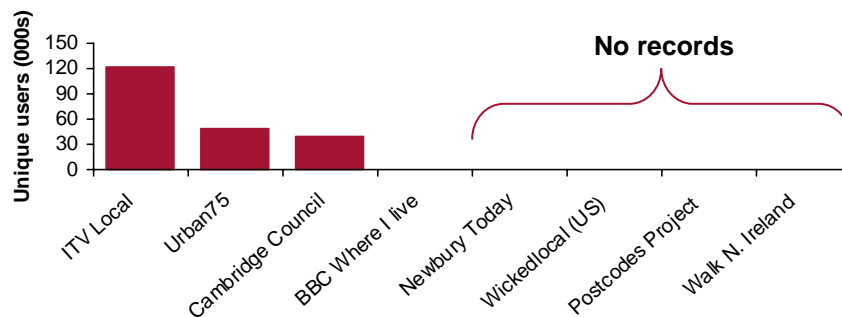
Strength of
funding

Local, regional and national sites tend to be poorly-resourced: main sources of funding include local authorities, Regional Development Agencies, national development bodies in Scotland, Wales and Northern Ireland, and regional news providers. Provision is UK-centric.

Discoverability Local news content is easy to find through search engines if the user is searching for a known brand such as a local newspaper. BBC and ITV dominate search returns for generic searches (e.g. area name plus news) without providing the most relevant and in depth content. Discoverability for hyper-local content can be hindered by the lack of established brands for local sites. As a result these sites feel very fragmented and their value may be dissipated as a result.

Unique users

Source: Nielsen NetRatings, August 2007

4.9.2 Review of provision

There are four main categories of local, regional and national sites, which primarily deliver against a mix of public service Purpose 1 (*informing ourselves and others, and increasing our understanding of the world*), Purpose 2 (*stimulating our interest in and knowledge of…science…and other topics*), or Purpose 3 (*reflecting and strengthening our cultural identity*).

Categories of local, regional and national web site:

Categories of web site	Description	Examples	Nature and extent of PSC
News and information	• Local and regional online newspapers • Hyper-local news and community sites	• Newbury Today • The Daily Record • Urban75 • Wickedlocal (US)	
Local, regional and national government	• Local government sites	• Cambridge Council	
Geography-specific cultural or entertainment content	• Sites offering geography-specific non-news content aimed at residents and/or visitors	• The Postcodes Project • Walk Northern Ireland	
PSBs	• ITV's and BBC's regional news service	• BBC Where I live • ITV Local	

Key: ● High   ◑ Medium   ○ Low

1. News and information

Traditional publishers such as regional newspaper groups and radio stations have established online news sites. Many of these sites are heavily templated and homogenous between regions. Newbury Today and Scotland's Daily Record stand out for their high production values, in depth content, use of video and user-generated content. Services like UKvillages and UpMyStreet provide national brands and infrastructures within which local and regional content can be delivered – in the US WickedLocal provides an equivalent (but more user-friendly and sophisticated) service.

There are a wide range of local news sites created and run by members of the local community on a voluntary basis; they tend to be heavily templated, thin on content and sparsely populated, although there are exceptions such as the Brixton site Urban75, which has a variety of content and active bulletin boards. The Holmes Chapel village site is a notable example of a rural hyper-local site – although it has low production values and limited functionality, it offers local content that is not available elsewhere online through a simple and easy-to-use interface.

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Commercial firms are now playing an increasing role in hosting, aggregating and incorporating local user generated news content into their offering – Trinity Mirror has gone one step further and launched twenty citizen journalism micro-sites based around local postcodes to sit alongside its Teeside Gazette offering.

2. Local, regional and national government

Local council sites provide a mixture of information and public services. Most are built and run on limited budgets, and offer a standard set of functionality including online bill and fine payments. Cambridge Council's site is an example of good practice – the site easy to use, the content is well written and in depth.

There are a small number of sites created by the devolved administrations that seek to deliver against public service purposes: these sites tend to be either information heavy and difficult to use, or glossy brochureware, such as OneScotland, the Scottish Government's site aimed at celebrating cultural diversity.

3. Geography-specific cultural or entertainment content

The quality of geography-specific cultural or entertainment content is variable, with the majority of sites having low production values, limited content and functionality, and appearing to operate on limited budgets.

Walk Northern Ireland is an example of a high quality tourism promotion site, while the Museum of London's Postcode Project is an innovative and compelling local history project.

4. PSBs

The BBC's Where I Live regional news service operates in parallel to its television and radio offering, and ITV has rolled out its ITV Local service. Both lack depth in content and suffer in comparison with local newspaper and citizen journalism offerings, which (when well executed) provide genuinely local (as opposed to regional) content that feels more relevant and in depth. Channel 4 and Five do not offer regional coverage.

4.10 News and comment

4.10.1 Overview

Nature and extent of PSC	Strength of funding	Ease of discoverability
●	●	◖ ➡ ●

Nature and extent of PSC

The news and commentary genre provides many rich seams of public service content, with flagship PSB sites competing with professional, high-quality commercial content. Overall, provision is plentiful and thorough, with examples of innovation in rich media and user contribution. However, the genre is heavily biased towards news providers, with fewer people consuming the equally high quality commentary available, and there is very little awareness of some of the most innovative sites that seek to aggregate news content or build platforms for citizen-led debate.

News provision comes from a mix of domestic and international sources, with overseas sites providing some of the best international coverage (Newsweek, New York Times) while British sites offer some of the most innovative debating platforms and tools (Friction.tv and Chipwrapper). Obviously, the primary demand of the UK citizen will be for UK-centric content, and so most UK residents will rely on UK provision for the majority of the time.

Although all sites mentioned in this summary have their individual strengths, few of them manage to combine first class news reporting and high quality analysis with user generated content, video and participative debate – although Guardian Unlimited is close to achieving this. Much of the most innovative work in the genre is being carried out in isolation from the big news providers, even when this innovation scrapes their content (e.g. the Annotated New York Times). Overall, there is no question that the public service content available in this genre would keep a citizen very well informed about the world around them. However, innovation in the genre might be slow while it continues in the semi-professional peripheries of the genre.
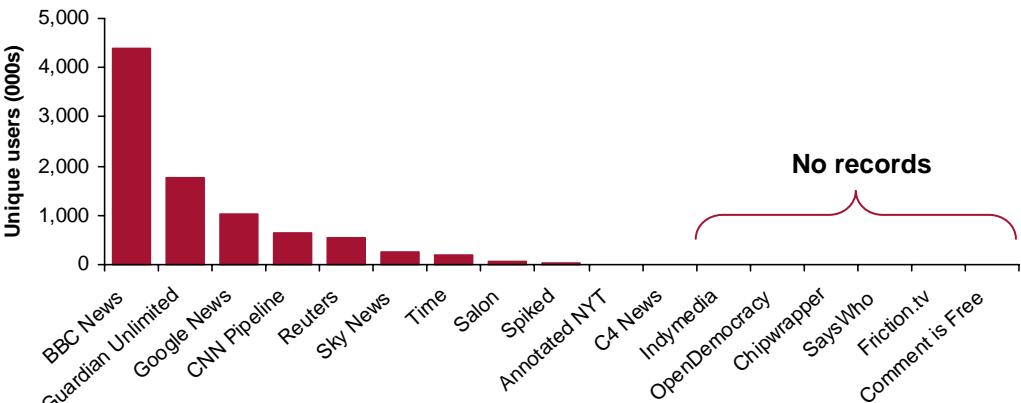
Strength of funding

In general, this sector is well funded, although the majority of PSB and commercial funding is concentrated on the news provision and magazine categories. Less well-funded are the tools and debate platforms, which are more innovative and unproven areas.

Discoverability

The major headline news properties are among the easiest sites to find on the web, with a profusion of big news brands showing up at the top of any search query for "news". Magazine-type commentary sites are not as easily discovered unless their exact name is mentioned, although their individual articles often show up in searches for current affairs topics. Most illusive are the debate platforms and news tools, many of which do not reach the front page of Google searches such as of "uk current affairs debate" of "news discussion".

Unique users

Source: Nielsen NetRatings, August 2007

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4.10.2 Review of provision

There are five main categories of news and comment sites that deliver to some degree against public service purposes, primarily against Purpose 1 (*informing ourselves and others, and increasing our understanding of the world*), or Purpose 2 (*stimulating our interest in and knowledge of arts, science, history…and other topics*) but also, in many cases, against Purpose 4 (*promoting awareness of different cultures and alternative viewpoints*).

Categories of news and comment web site:

Categories of web site	Description	Examples	Nature and extent of PSC
News providers	• Cross-platform news organisations, such as newspapers and broadcasters • Internet-only media	• Guardian Unlimited, CNN Pipeline, Reuters • Indymedia	◕
Magazine and features	• Cross-platform media companies, such as magazines • Internet-only media, either editorial or user-contributed • Blogs	• Time • Spiked, Salon • OpenDemocracy	●
Scrapers, aggregators and tools	• News aggregators, collecting news from various sources • Comment aggregators and search tools	• Google News • Chipwrapper, SaysWho	◕
Debate platforms	• Participative channels for discussion, comment and debate	• Friction.tv • Comment is Free • Annotated New York Times	●
PSBs	• Provision from the existing PSBs	• BBC News • Channel 4 News	◕

Key: ● High ◑ Medium ○ Low

1. News providers

This category includes sites primarily intended to inform the user of national or international events through text, audio or video headlines or bulletins. Most of these sites are associated with cross-media brands and almost all are commercially funded (we are excluding PSBs from this category and dealing with them separately in category 5).

There are a number of high-quality and high-profile headline-driven offerings from cross-platform news organisations, such as Reuters. These sites offer a range of text, pictures, audio, video and interactive content of a uniformly high standard. Exemplar sites have taken full advantage of media diversification and web technologies such as RSS syndication and user contribution to build outstanding and highly engaging web sites (e.g. Guardian Online). Less

ambitious sites from cross-media organisations have stuck to the format where they compete best – CNN Pipeline is mostly video-based, for example.

Internet-only news sites tend to be less headline-driven and proactive, presumably because of the prohibitive costs of establishing a primary newsgathering network. The few that remain in this category, such as Indymedia, are reactive (responding to news leads from other sites) and offer a different perspective on this news.

Few blogs or individual sites exist to report the news alone, on a headline or bulletin basis – rather, blogs more often feature commentary and interpretation.

2. Magazine and features

This category contains commercial and non-commercial sites that aim to inform users about the world by focusing on feature-pieces and commentary relevant to current affairs, but not through explicit bulletins. Content on these sites can be in any media format and tends to be more detailed than headline-based news services.

Some commercial offerings are provided by cross-media publishers, such as the news magazines Time and Newsweek. There are also a large number of internet-only commercial brands in this category, such as Salon, Slate and Spiked.

This category also contains a variety of non-commercial sites, many of adopt innovative layouts and rely heavily upon high-quality – and vetted – user-submitted content (e.g. TruthDig, OpenDemocracy).

3. Debate platforms

The most innovative sites in the genre take full advantage of the two-way nature of the web to open participative channels for discussion, comment and debate. These channels can be text-based or may incorporate rich media elements.

The majority of debate platforms are standalone projects (e.g. The Annotated New York Times) but some are attached to news or commentary sites, such as GuardianUnlimited's Comment Is Free.

The range of content formats employed by these platforms ranges from text-based comments to video submissions on the most innovative sites (e.g. Friction.tv). Sites vary in the degree to which debate is structured, with the standard model being an initial posting of a 'think piece' to open a debate and a period of lightly moderated discussion in response.

4. Scrapers, aggregators and tools

This category contains a range of news capturing, searching and presentational tools that allow users to find, rearrange and receive their news in a format of their choosing. Some of these sites are advertising-funded commercial enterprises (e.g. Google News) while others are smaller, individual sites with no clear funding models (e.g. SaysWho, Chipwrapper).

As tools for interacting with third-party content, these sites to not provide any original content (user-submitted or editorial) and do not normally have dedicated community areas.

5. PSBs

All of the PSBs offer news and commentary. The depth of these offerings varies widely, with Five providing very informal and basic online provision. ITV's news focuses on video clips.

In contrast, the BBC's news coverage is the corporation's global standard-bearer: it provides detailed, trusted and timely news bulletins through BBC News and by the streamed rolling news channel News 24.

Channel 4 News differentiates itself by focusing on a more confrontational approach, challenging viewers to consider different interpretations of world events and promoting education campaigns (such as Jamie's School Dinners) through their news and current affairs offerings.

4.11 Politics and government

4.11.1 Overview

Nature and extent of PSC	Strength of funding	Ease of discoverability
◑ → ◕	◔	◑ → ◕

Nature and extent of PSC

The politics and government genre is relatively well served in terms of public service content, although there is a sharp contrast between the high quality news and commentary provision and the majority of UK government sites, which are fragmented and of more variable quality. The development of the Direct.gov and BusinessLink 'super-sites' and the ongoing rationalisation of central government properties is leading to a gradual improvement in the quality and consistency of the user experience and discoverability, but is very much a work in progress. Public service content in politics and government is largely provided through UK sites, although there is a role for international sites that stimulate interest in and knowledge of international politics and other cultures.

The PSBs and all the major online newspapers offer high quality politics news and commentary; the best of breed providers increasingly use rich media and synthesize professional with user-submitted content (e.g. The Guardian's Comment Is Free). Guido Fawkes is an example of a widely read and influential blog that has become a must-read in Westminster. The best of the political parties and politician's sites, including WebCameron and The Conservative Party, are increasingly using rich media and social networks to communicate their message, yet remain some distance behind the sophisticated offerings of US parties, which leverage user-generated content and application widgets (e.g. Democrats.org). There are a small number of low budget but innovative sites such as TheyWorkForYou and WriteToThem which aim to connect citizens with the democratic process. There is a wide range of sites covering central government and related bodies. The CIO stated that there were over 2,500 government websites in *Transformational Government: Enabled by Technology (November 2005)*, although this includes a number of local government sites. The COI have identified 951 central government websites during their process of analysing and rationalising the government's web presence[7], though this is not thought to be an exhaustive list. Whilst many of these sites play an important role in making information and services more easily accessible to the citizen, they range from clear and easy to use (if uninspiring) to low grade brochureware. Direct.gov provides an intimidating but comprehensive gateway into the wide range of citizen-facing government sites.
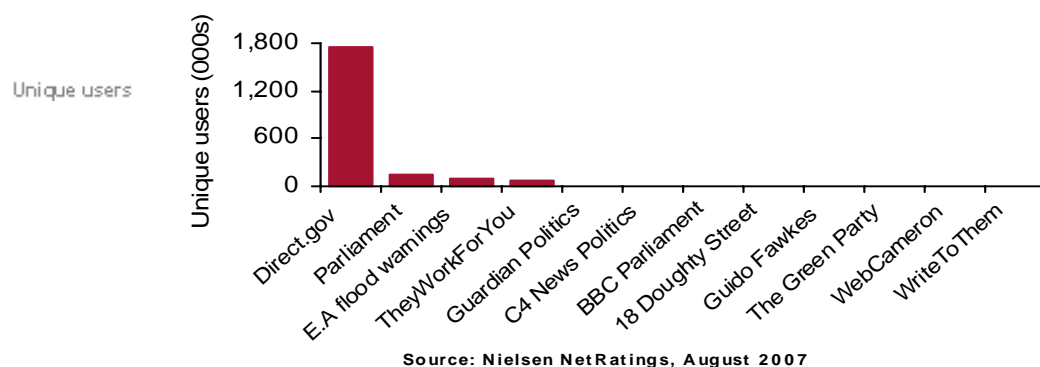
Strength of funding

The sector is relatively well funded. It is dominated by government spend, although commercial publishers, the PSBs, political parties and interest groups also invest heavily.

Discoverability

The sheer volume of Government and official information sites hinders discoverability in this category, although the development of Direct.gov is improving discoverability by providing a single gateway into a range of content; Direct.gov appears on the first page of Google search returns for most government related searches.

In contrast, high quality political news is relatively easy to find thanks to the discoverability of a range of well-known cross-media brands within the sector. For example, the first ten sites returned on Google under a search for "politics" include the Guardian, the Independent and the BBC. Non-traditional or internet-only politics news sites and blogs (such as 18 Doughty Street and Guido Fawkes) are much harder to discover through neutral search-engine terms. While widely read among the political establishment, blogs are rarely referenced from politics news sites or from portals.

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[7] Evidence given to the House of Commons' Public Accounts Committee, Wednesday 29th November 2007
http://www.publications.parliament.uk/pa/cm200708/cmselect/cmpubacc/uc143-i/uc14302.htm

Unique users

Source: Nielsen NetRatings, August 2007

4.11.2 Review of provision

There are five main categories of politics and government sites that deliver against the public service purposes, primarily against Purpose 1 (*informing ourselves and others, and increasing our understanding of the world*) but also, in many cases, against Purpose 4 (*promoting awareness of different cultures and alternative viewpoints*).

Categories of politics and government web site:

Categories of web site	Description	Examples	Nature and extent of PSC
News and comment	• Cross-platform media • Internet-only media • Blogs	• Guardian Unlimited Politics • 18 Doughty Street • Guido Fawkes	
Political parties and representatives	• Political parties • Politicians – MEPs, MPs, MSPs, MWAs, Councillors	• The Conservative Party • WebCameron	
Action and engagement[8]	• Political communication tool encouraging debate and interaction	• TheyWorkForYou • WriteToThem	
Government and official information	• Government information portals • Information from official agencies • Political institutions	• Direct.gov • Environment Agency flood warnings • Parliament	
PSBs	• Politics news sites • Special features (elections, etc.)	• Channel 4 News - Politics • BBC Parliament	

Key: ● High   ◑ Medium   ○ Low

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[8] Note that we cover Think Tanks, lobbying and campaigning groups in the 'community and social action' genre.

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1. News and comment

There is in-depth news and commentary provision from both traditional, commercial UK publishers (including newspapers), the PSBs, online specialists operating commercial models and the blogosphere. All the major online newspapers offer high quality news and commentary; the best of these combine text with video and audio content, podcasts and user-submitted content (e.g. The Guardian's Comment Is Free). 18 Doughty Street is an example of a small but successful online only political news service which offers a mix of text and video news coverage. In addition there are a small number of very widely read and influential blogs in the genre, including Guido Fawkes (which is a must-read publication in Westminster).

2. Political parties and representatives

All political parties and most major politicians have web sites. The best of these, such as Webcameron and The Conservative Party, have high production values, make good use of rich media to communicate policy and are beginning to explore means of linking into social networking platforms (e.g. the Conservative party's Facebook application). That said, even the exemplars tend to treat their sites as largely one-way communications platforms, and do not encourage user participation and contribution or networking to the same extent as the sites of the US political parties (e.g. Democrats.org). Furthermore, the sites of individual politicians in the UK, fall short of the sophistication of their US counterparts – compare the interesting but simply presented blog of Tom Watson MP with the in-depth information provided by Senator Ted Kennedy.

3. Action and engagement

There are a small number of high-profile and innovative sites in this category, including TheyWorkForYou and WriteToThem, which aim to connect citizens with the democratic process by providing them with the information and tool to communicate with and scrutinise the actions of their representatives in all levels of government. These sites are generally built on limited budgets and have correspondingly low production values and unengaging interfaces. Nonetheless, they make innovative use of the web's strengths as a medium for aggregating information, making it easily available to the citizen, and opening up new channels of communication with representatives in the political process.

4. Government and official information

There is a wide range of sites in this category – by way of illustration there are nearly 1,000 non-departmental public bodies, the majority of which will have at least one web site (the SSDA, now closed, had nearly 30). These sites play an important role in making information and services more easily accessible to the citizen, although the quality varies from clear and easy to use to low grade brochureware. Direct.gov acts as a gateway into citizen-facing government sites and provides a valuable service in aggregating information about all aspects of government activity. Transport for London's site is an exemplar in this category, offering a clean interface and useful journey planning tools.

5. PSBs

The BBC Politics News offers in-depth news and commentary on a par with the best of the commercial providers, including a broad range of podcasts, RSS feeds and video, including its web-streamed BBC Parliament channel. The BBC News also offers particularly strong coverage of special events such as elections.

Channel 4's political news offer is far less comprehensive, although it differentiates by providing a more provocative range of political commentary and analysis, including its 'Fact Checking' of ministerial claims. ITV and Five integrate politics with their general news offerings.

4.12 Recreation and sport

4.12.1 Overview

Nature and extent of PSC	Strength of funding	Ease of discoverability
◔	◔	◑

Nature and extent of PSC

To some extent, the sports and recreation sector is characterised by the contrast between a relatively small number of well-funded sites provided by large scale commercial news providers and major sports brands on the one hand, and a much larger number of poorly-funded, small-scale institutional, community and volunteering properties on the other.

All the major gateways, aggregators and news providers offer in-depth sports news and commentary, and the strongest providers deliver on public service purposes by providing information on and stimulating interest in these sports through engaging sites that display high production values. Provision around minority sports is weaker, in line with the lower levels of consumer interest, and there is a lack of high quality content reporting on or promoting minority sports (e.g. Gaelic football, athletics and disabled sports).

Sites that promote participation in sport and improve access to sport and community facilities tend to be unambitious and unengaging, although there are exceptions. Nike's Run London site has high production values and provides useful training tools, and the Territorial Army's Army Fit site makes compelling use of interactive animation to demonstrate fitness exercises. The US-based Expert Village uses video tutorials well to demonstrate how to play rugby – and in doing so illustrates the lack of ambition in the approach of similar UK sports and recreation sites, with even the BBC's Sport Academy site relying on text and pictures for its tutorials.
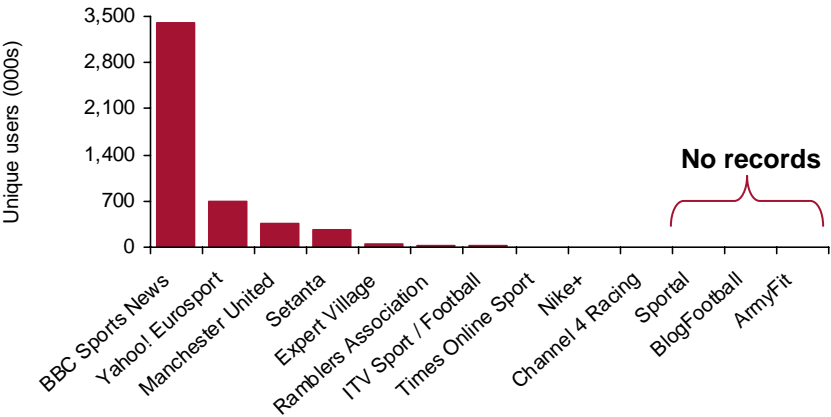
Strength of funding

The major news providers and sports brands sites are well funded, but heavily focused on a handful of sports; the rest of the sector appears poorly funded, with sites heavily reliant on (limited) government grants and funding from professional associations.

Discoverability

The major gateways and news services are easy to find on Google, mainly because of their strong cross-platform brands. However, while basic searches reveal relevant content for many typical queries – for example, a search for "rules of rugby" yields many pages of sites with basic explanations – the exemplar sites are hard to find, and there is no reliable aggregator of the best sports and recreation content.

Unique users

Source: Nielsen NetRatings, August 2007

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4.12.2 Review of provision

There are five main categories of sport and leisure sites that deliver to some degree against public service purposes, primarily against Purpose 1 (*informing ourselves and others, and increasing our understanding of the world*), or Purpose 2 (*stimulating our interest in and knowledge of…sport…and other topics*).

Categories of sport and recreation web site:

Categories of web site	Description	Examples	Nature and extent of PSC
Aggregators and gateways	• General sport and recreation information gateways • Sites that aggregate or index online content • Reference sites	• Sportal • Yahoo! Eurosport	◕
Sports news and commentary	• News and commentary sites from cross-media or internet-only commercial organisations • Non-commercial news and coverage from blogs, etc.	• Times Online Sport • BlogFootball	◕
Commercial sites	• Professional teams and organisations • Merchandising shops • Sports service providers	• Manchester United • Setanta	○
Sports and leisure interest sites	• Governing bodies of sport, other sports organisations and sports councils • Educational resources • Sites about specific events (Olympics, World Cup) • Community sport and volunteering (and funding)	• Ramblers Association • Expert Village • Nike+, ArmyFit	◕
PSBs	• News, commentary and discussion offerings from the PSBs	• ITV Sport, Channel 4 Racing, BBC Sports News	◐

Key: ● High ◐ Medium ○ Low

1. Aggregators and gateways

All the main portals offer sports news, including MSN, Yahoo! and Lycos. Taken as a whole they are strong on popular sports news, and weaker on commentary and minority sports, and overlap with the news providers in category 2. There is a degree of user generated content present in the site forums, but this is not an integral part of

the experience. Importantly, these sites do not appear to deliver against public service purposes and characteristics because they are providing 'me too' content that is easily available elsewhere, and focusing on the most popular sports in order to drive traffic.

2. Sports news and commentary

There are a small number of well-funded commercial sports news sites, including the newspapers and a number of online pureplays that provide high quality news and commentary services combined with varying degrees of UGC, from simple comments on posts to fan video submissions. There are also a large number of fan-supported communities and blogs providing more informal and less structured commentary and analysis. While there is room for more in-depth reporting on minority sports, taken as a whole the sports news and commentary category is well served by commercial provision.

3. Commercial sites

There are a relatively small number of well-funded sites provided by major sports brands. These do not deliver against public service purposes.

4. Sports and leisure interest sites

Sites that seek to stimulate interest and encourage participation in sport and leisure activities have low production values and tend to lack ambition, reflecting the fact that most are developed on limited budgets by sports organisations and councils. Exemplars include Nike's Run London site, which provides useful running and fitness planning tools through an engaging interface, and the Territorial Army's Army Fit site, which makes compelling use of interactive animation to demonstrate fitness exercises. The Rambler's Association provides a neat tool for finding walking routes across the UK, while the US-based Expert Village uses video tutorials well to demonstrate how to play rugby. These sites are very much the exception and serve to illustrate the poor quality of other sites.

5. PSBs

ITV, Channel 4 and the BBC provide sport news content, comparable in quality and quantity to that of the cross-media providers in category 2. However, the range of sports covered differs, with the BBC covering most pursuits, ITV focusing on football and rugby and Channel 4 following niche specialisms in poker and horse racing. The BBC Sport Academy provides sporting tutorials, including video master classes and tip-sheets, but content is mainly text and picture based, is not consistently original, engaging or innovative, and does not encourage user contributions or interaction.

4.13 Science and technology

4.13.1 Overview

Nature and extent of PSC	Strength of funding	Ease of discoverability
◕	◕	◑

Nature and extent of PSC

Science and technology is notable for the breadth and depth of public service content relative to other verticals. There is also a substantial body of user-generated content, much of which is of a very high quality. Provision is highly international in nature, reflecting the universal nature of the subject matter, and the majority of exemplar English language sites are US-based.
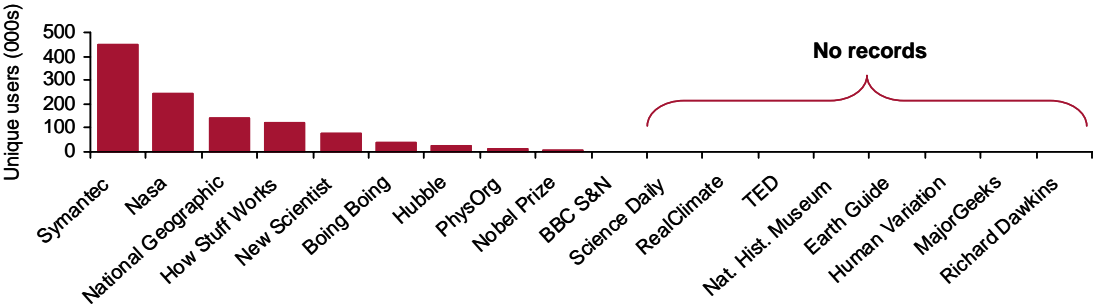
There are circa 10-20 major traditional commercial publishers who provide trusted and reliable news provision such as New Scientist and a similar number of online news services and aggregators such as Science Daily. There are a wide range of popular blogs - four of Technorati's top five most linked-to blogs are technology-focused. The quality of institutional sites and educational resources is more varied, with many appearing under-funded and text and picture based. Exceptions that demonstrate the art of the possible include the Hubble site and the Earth Guide, both of which make compelling use of rich media. The Natural History Museum site makes good use of live video streaming and is an example of a UK institution delivering a compelling site on a limited budget relative to the major US institutions. In addition, a sub-set of the commercial sites provide valuable educational resources, such as TED's videos of its live events. There is a substantial body of user-generated content, much of which is of a very high quality, and the genre is notable for the numerous active communities that deliver against public purposes by providing free advice (e.g. MajorGeeks) or stimulating interest in their subject (e.g. the Richard Dawkins Foundation social network).

Strength of funding

The sector is well funded, with commercial publishers and other companies in the sector, governments, academic institutions and charitable bodies all investing heavily. In addition, the sector attracts a high level of involvement from users, many of whom contribute content, and share experiences and advice in communities.

Discoverability

High quality news content is relatively easy to find as there are a range of trusted and well-known brands that are easy to discover through the search engines. For example, the first ten sites returned on Google under a search for "science news" includes New Scientist, Scientific American, Science Daily and the BBC. Educational resources are significantly harder to find – the volume, fragmentation and variable quality of content makes it time consuming to find high quality resources, even when the user is experienced in the use of search engines and social recommendation tools.

Unique users

Source: Nielsen NetRatings, August 2007

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4.13.2 Review of provision

There are six main categories of science and technology sites that deliver to some degree against public service purposes, primarily against public service purposes, primarily Purpose 1 (*informing ourselves and others, and increasing our understanding of the world*), or Purpose 2 (*stimulating our interest in and knowledge of…science…and other topics*).

Categories of science and technology web site:

Categories of web site[9]	Description	Examples	Nature and extent of PSC
News and information	• General science and technology news sites • Verticals within science and technology • Blogs	• New Scientist, National Geographic • Science Daily, PhysOrg • Boing Boing, RealClimate	◕
Commercial products or services	• Sites that market or deliver commercial products or services and deliver public value	• Symantec • TED	◔
Government, academic or not-for-profit institutions	• Sites built as online extensions of public sector or not-for-profit organisations, such as academic institutions, museums and charities	• Hubble, Nobel Prize • Natural History Museum	◐
Educational resources	• Informal education resources	• Earth Guide, Human Variation • How Stuff Works	◐
Communities	• Communities and forums	• MajorGeeks • Richard Dawkins	◕
PSBs	• BBC science and technology news service and range of programme based science features • Channel 4 science and technology resource	• BBC Science and Nature	◔

Key: ● High ◐ Medium ○ Low

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[9] Need a separate category for aggregators and gateways? Also consider combining categories 3&4 into one category called Academic and educational

1. Science and technology news and information sites

There is a wide range of trusted and reliable news provision across the science and technology genre, catering for a variety of audiences from beginner to expert. Traditional publishers such as New Scientist and National Geographic offer high quality free content and a subscription service. Science Daily and PhysOrg are exemplar aggregators of online news and features that make strong use of RSS feeds, podcasts and social recommendation. The Guardian is an exemplar among online newspapers. There are a wide range of popular blogs of equivalent quality, including Boing Boing and RealClimate: many of these are run as commercial enterprises.

2. Commercial products or services

This sub-set of the major commercial science and technology sites delivers against public service purposes, although it is not their primary purpose. The Symantec site provides valuable free privacy and anti-virus information advice and support as part of its online help. Similarly, TED's videos of its live events are valuable educational resources in their own right.

3. Government, academic or not-for-profit institutions

The quality of government, academic and not-for-profit institution sites is variable, and there are fewer examples of best practice than in the news and information category, which is likely to be a result of lower levels of funding. Some government, academic or not-for-profit institutions, such as Hubble, have substantial budgets and have created compelling web presences. The Natural History Museum site makes good use of live video streaming and is an example of a UK institution delivering a compelling site on a limited budget relative to the major US institutions.

4. Educational resources

There are a wide range of educational sites funded by a mix of commercial publishers, government, NPOs and charitable organisations, although the majority exhibit low production values, are not engaging, and appear under-funded. There are notable exceptions including the Earth Guide, which makes compelling use of rich media to describe the Earth's place in the universe, the popular and comprehensive How Stuff Works resource, and the Race – Human Variation guide.

5. Communities

The science and technology genre is particularly notable for communities such as MajorGeeks, that deliver free, community driven support and advice services, research communities such as SpringWatch which engage in collaborative data collection (e.g. surveying wildlife for SpringWatch), and special interest groups such as the social network that is growing around the Richard Dawkins Foundation.

6. PSBs

The BBC offers a science and technology news service and a range of science features, but coverage is not comprehensive and much of the content draws heavily on television programme material. Channel 4 has a small

science and technology resource. Both sites have high production values but neither stands out for originality, innovation or ability to engage its audience.

4.14 Social networks and aggregators[10]

4.14.1 Overview

Nature and extent of PSC	Strength of funding	Ease of discoverability
◔	◑	◑

Nature and extent of PSC

Many sites in this genre are characterised by their subject-agnostic nature and the common traits they share: they are editable, they are participative, they allow audiences to add content and they connect people. As such, they tend to link to or host content created, uploaded and/or recommended by users, rather than providing public service content themselves. It could be argued that the public service value of the content provided on these services varies over time – like the web overall, aggregators and generalist social networks provide 'neutral' platforms for communication, sharing and aggregation and do not necessarily constitute public service content in and of themselves.

In general, most content on large-scale social networks and uploader sites is short-form entertainment content, with music, humour and celebrity and show business content strongly represented. However, networks have considerable potential for allowing self-emergent 'bottom-up' groups to form around and create public service content, and also create opportunities for public service content to be distributed, especially in editorially-led networks. The PSBs are already using social networks and uploader sites as platforms for marketing and distributing their content, but have tended to focus on entertainment (drama, factual). The major social recommendation sites provide many links to sites containing content which could be considered public service content, although this is largely a consequence of the large volume of sites that tend to be bookmarked on these properties.
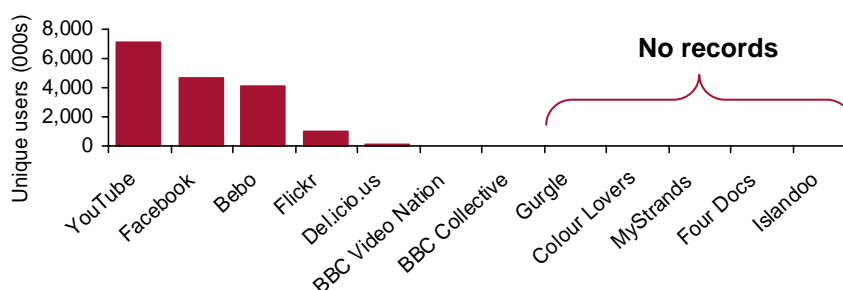
Strength of funding

Overall, the genre is strongly funded, with sites such as Facebook and Digg receiving large amounts of private capital, while other properties are owned by major online providers, including Google, Yahoo! and Microsoft. However, the 'content' on these services is rarely funded directly by the site itself – it is typically either user-contributed or provided through distribution partnership with third party rights owners.

Discoverability

The major social networks are easily discoverable – indeed, hard to avoid – online. By contrast, social recommendation sites are less well publicised, nor is their content easily discoverable to search engine indexes. However, answers to common queries such as "how can I share my video online" and "what sites are other people rating on the web" produce many accurate and discoverable entry points to the major aggregators and social networks.

Unique users

Source: Nielsen Netratings, August 2007

- [10] The social networking and aggregator genre includes sites that enable networking, social recommendation and the sharing of user-uploaded or user-generated content. Sites that aggregate or feed from professionally produced content (e.g. Netvibes) are out of scope and are addressed in other genres where appropriate

4.14.2 Review of provision

There are four main categories of social network and aggregator sites that deliver to some degree against public service purposes, primarily against Purpose 1 (*informing our understanding of the world*).

Categories of social networks and aggregator web site:

Categories of web site	Description	Examples	Nature and extent of PSC
Social networks	• Communication platforms • Entertainment-led networks • Niche interest	• Facebook • Bebo • Gurgle, Colour Lovers	◕
Media aggregation and sharing	• User-generated and user-uploaded media – audiovisual, audio and image	• YouTube, Flickr	◔
Social recommendation and bookmarking	• Bookmarking and sharing links • Media focused recommendation	• Del.icio.us • MyStrands	◔
PSBs	• Media aggregation • Social networking	• Four Docs, BBC Video Nation • Islandoo, BBC Collective	◔

Key: ● High ◐ Medium ○ Low

1. Social networks

There are three main types of social networks:

- Communication platforms enable contact and information exchange (via walls spaces which contain messages, groups, email and instant messaging functionality) between users who often already know one another (e.g. Facebook)

- Entertainment-led networks such as Bebo also enable communication between users but provide access to rich content (e.g. music, videos, webisodes) and/or entertaining experiences (e.g. Flirtomatic)

- Niche interest social networks which group users according to a special interest (e.g. Group Recipes for foodies) or a particular type of member (e.g. doctors or lawyers). There are also a number of advertiser branded networks used as marketing tools (e.g. Reebok's GoRunEasy)

The larger social networks are characterised by rapidly evolving functionality, driven largely by the opening up of their platforms to allow third party developers to create new applications on them. Google's recent open initiative OpenSocial is likely to lead to smaller social networks gaining access to third party widgets and applications, increasing the potential for (more) public service content to be distributed across the long tail of social networks

In general, most social networks currently support very little public service content. However, networks have considerable potential for allowing self-emergent bottom-up groups to form around and create public service content,

and for creating distribution opportunities for public service content in editorially-led networks. It is worth noting that many aspects of social networking have been integrated into other online media properties, often referred to as 'Web 2.0'.

In the long term, there are potential public service benefits in the metadata and communication archives generated and retained by social networks (e.g. messages on profiles could provide information on the cultural zeitgeist).

2. Media aggregation and sharing

Aggregation plays an important role in the online market, assisting in the process of sharing and discovering content. To date, media aggregation has mainly focused on video and picture sharing, with users mixing professionally produced content with user-generated video and pictures. There are also sites which aggregate audio content such as podcast aggregator Odeo.

Social media aggregation is dominated by a small number of US companies such as Google which owns YouTube and Yahoo! which owns Flickr. In addition, some media aggregators focus on particular niches (e.g. religion-focused video aggregator GodTube and comedy-focused video aggregator Funny or Die). Both general and niche media aggregators typically offer social features such as rating systems, user comment areas and sharing tools.

Media uploading is proliferating and many other types of sites now encourage users to upload content and pictures, potentially fragmenting the market.

Most of the popular content on the larger aggregator sites is entertainment-based and has limited public service value.

3. Social recommendation and bookmarking

Social recommendation sites rely on users to filter links and content (movies, music, books, news, web pages) that are of interest to themselves and to the wider community.

Social bookmarking sites focus on aggregating links, allowing users to store, organize, share and search bookmarks of web pages. Often utilizing user-assigned tags, popular sites such as Del.icio.us, Digg and Ma.gnolia are becoming increasingly popular as replacements for browser-based bookmarking systems which can not be easily organised (i.e. no tags) and are limited to one PC/location and one user.

Social recommendation sites focus on media shared by a community. For example, MyStrands allows community members to recommend music they like to one another and BooksImpact supports book recommendations.

The amount of public service content available on social recommendation and bookmarking sites fluctuates as users add to their collections. However, the major bookmarking sites provide many links to sites containing content which could be considered as public service content.

4. PSBs

The BBC and Channel 4 enable some user-generated and user-uploaded media aggregation within their larger sites (e.g. the BBC's Video Nation, Four Docs on Channel 4). However, these offerings tend to be small scale.

In addition, the PSBs have begun to launch social networks around programme brands. For example, Channel 4 launched a social networking site called Islandoo in September 2006 which was initially dedicated to casting reality

television participants for its programmes such as Shipwrecked. In September this year it opened up to allow any TV producer, film director or model scout to advertise their casting opportunity and find new talent for free. The site allows users to upload user-generated video and create profiles. Similarly, the BBC has a social community offering called Collective which is designed to encourage members to take part in discussions and debates, and publish reviews (topics prompted by BBC Collective editors which present a selection of articles on the latest albums, films, books as well as full music tracks, film clips and media downloads). There appears to be a small amount of user-generated public service content on Collective, and the site is in the process of being closed.

4.15 Teens

4.15.1 Overview

Nature and extent of PSC	Strength of funding	Ease of discoverability

Nature and extent of PSC

The strongest aspect of provision is the online teen magazines such as MyKindaPlace and ElleGirl, and teenage verticals in general portals such as ivillage's gURL. These sites are primarily aimed at teenage girls and provide a degree of public service content in the form of lifestyle advice, such as encouraging safe sex. In addition, the BBC has launched BBC Switch in October 2007, a programme brand and online portal aimed at the 12-16 market, which includes a ground-breaking interactive broadband drama called Signs of Life and a range of user-generated content, social networking functionality, and magazine content.

However, beyond the lifestyle magazines and the BBC, the teenage market is not well catered for. Channel 4's 'Teen Life' site contains a limited amount of advice on common teenage health problems, with little engaging multimedia content and no sense of user communities. The games sites that attract the highest traffic, such as Runescape and MiniClip, do not carry a significant body of games that could be described as public service content, and there is no sustainable body of high quality educational games aimed at teenagers elsewhere. Social networks such as Bebo and Piczo, which account for over half of the time that teenagers spend online, do not carry any significant body of public service content, although arguably the social networking tools and the ability to engage with teenagers from other territories can service public purposes going forwards. There are a number of education, advice and support sites aimed at teenagers that are produced by charitable organisations or government, but the majority of these sites are unlikely to reach a significant audience because they are stand-alone brands in a fragmented market, and not sufficiently engaging compared to the commercially produced sites.
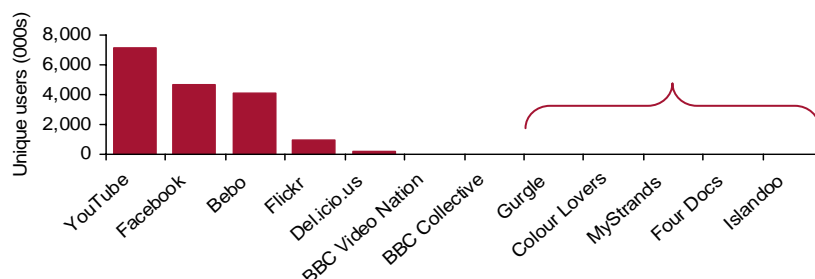
Strength of funding

The teen entertainment and lifestyle sites have a well-established commercial model, leading to a wide range of provision both in the UK and internationally, but there is no sustainable commercial model for the production of online games, and the public subsidy content that is aimed at teenagers appears to be grant-based and time-limited

Discoverability

Discoverability for this category is low overall, beyond the high profile commercial publisher brands. The limited body of high quality public service content that does exist is difficult to find amidst the high volume of low quality content. Even on the websites of the PSBs, teen content can be hard to find. Channel 4's T4 content does not appear in the results of searching the Channel 4 website for "teen".

Unique users

Source: Nielsen Netratings, August 2007

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4.15.2 Review of provision

There are four main categories of teens sites which primarily deliver against Purpose 1 (*informing our understanding of the world*).

Categories of teens web sites

Categories of web site	Description	Examples	Nature and extent of PSC
Entertainment and lifestyle	• Entertainment – news, gossip, music and film • Lifestyle – fashion, health • Advice and support	• My Kinda Place, gURL • ElleGirl • TIC, Generation Why	◑
Social networks	• Social networking sites	• Bebo, Piczo	◔
Games	• Online games	• Runescape, MiniClip	○
PSBs	• Children's offerings from the public sector broadcasters	• Channel4 Teen Life • BBC Switch	◔

Key: ● High   ◑ Medium   ○ Low

1. Entertainment and lifestyle

The teen entertainment and lifestyle vertical is well served by commercial publishers that are either extensions of offline brands such as ElleGirl, teenage verticals in general portals (gURL), or online brands such as MyKindaPlace. These sites contain a mix of celebrity gossip and popular culture, and lifestyle content such as fashion, sex, health and agony aunts; there is a range of content in the lifestyle sites in particular that delivers against public service purposes, such as encouraging safe sex and healthy eating. MyKindaPlace was chosen to run a range of editorial content for the NSPCC's 'Don't hide it' campaign in May 2006, a major initiative against child sexual abuse.

In addition there are a number of education, advice and support sites aimed at teenagers that are produced by charitable organisations or government: Teen Information on Cancer is a powerful example of an online campaign that makes good use of rich media. However, the majority of these sites are worthy but either unlikely to reach a significant audience because they are stand-alone brands in a fragmented market, or not sufficiently engaging compared to the commercially produced sites.

2. Social networks

Teenagers spend over half of their online time using social networks such as Bebo and Piczo according to Nielsen data. The major networks tend to be large-scale international businesses pursuing predominantly advertising-funded business models. They provide teenagers with a wide range of tools focused on communication, self-expression and

content-uploading and sharing - arguably, these tools, and the ability to engage with teenagers from other territories, can service public purposes.

Although some major social networks, notably Bebo and MySpace, are starting to commission original content, there is relatively little teen-focused public service content at present. However, teenagers do actively use social networks to discuss public service content provided by other companies - for example, the PSBs are increasingly marketing and distributing teen-focused content on social networks.

3. Online games

There are a number of games portals that target the teenage market, including the casual games portal MiniClip and the teenage boys' site Runescape. Whilst these sites attract heavy usage, they do not deliver public service value because the sites do not offer significant educational games content.

There does not appear to be a significant body of educational gaming content aimed at teenagers.

4. PSBs

In October 2007 the BBC launched BBC Switch, a programme brand and online portal aimed at the 12-16 market, which it has target over many years through a number of initiatives. BBC Switch includes a ground-breaking interactive broadband drama called Signs of Life (produced by Endemol), and a range of user-generated content and social networking functionality, including an option for Signs of Life players to save and share the results of the personality test as widgets that appear on their social networking page. In addition, Switch includes an online girls' magazine called Slink, and 'The Surgery', which will offer teenagers assistance about personal issues and health.

Channel 4 have a limited teen offering, 'Teen Life': this contains limited advice on common teenage health problems, but little engaging multimedia content and no sense of user communities.

5 Appendix A: citizen's questions

We wrote 3-5 questions for each genre designed to help put us in the frame of mind of the citizen looking for content online. The questions were used in discoverability tests (e.g. searching for relevant terms in search engines) and in 'sense-checking' the types of sites included in the typology.

Arts, culture and heritage

- How does art reflect and influence UK culture?

- I saw a picture I liked the other day – can I find out more about it?

- What is modern art all about?

- I'd like to learn about the UK's past

Business and commerce

- What is my supermarket's record on promoting ethical values?

- I have a new idea – how do I copyright it and turn it into a business?

- Is there funding available to help me start my small business?

- Am I entitled to a refund for a product if it doesn't work?

Children 5-12

- Where can I find more CBeebies to keep my daughter entertained?

- Are there any online games that will teach my kids things without them knowing the they're learning?

- Which online communities are safe for children?

Community and social action

- What difference can I make to global warming?

- Which animals are on the endangered species list?

- Are there other new mothers in my neighbourhood?

- I am against the demolition of the town hall. What do other people in my community think?

- What volunteering opportunities are there in my area?

Enabling tools

- How can I put a map on my web site?

- Can I add photos to my news feeds?

- What is the time in Osaka?

- Can I collaborate on a spreadsheet online?

- How many litres are there to a gallon?

Entertainment and lifestyle

- I just moved into a new home and I need to know how to fix a leaking sink – where can I find out how to do this?

- What does it take to produce a radio programme?

- What does the UK contribute to entertainment in terms of online video, television, film and radio?

- What happened to that great TV show I used to watch when I was a kid?

- Which international films have educational value?

Health

- My friend is suffering from depression – how can I support them?

- I have been diagnosed with Y/prescribed Z and want to find out more about it

- How good is my local hospital?

- How can I lose weight / quit smoking?

- I'm a 50 year old woman and want to get fit – what should I do?

Information, search and reference

- What's the time in Spain?

- When will the tide rise in the Solent?

- What is the capital of Malaysia?

- Who was the main character in Joseph Heller's *Catch-22*?

Learning and education

- I need a lesson plan – where can I quickly find something reliable and high quality?

- How can I improve my reading skills (as an adult)?

- Which school is best for my children?

- How do I obtain a formal qualification in healthcare?

Local, regional and national

- What is the latest news in my local town / village?

- Is the council repairing the hole in our road?

- Can I pay my parking ticket online?

- Where are the local areas of interest?

News and comment

- What happened in the UK while I was skiing last week?

- Will the monks' protest in Burma bring lasting change?

- What is another perspective on this story?

- What's new in my area?

Politics and government

- Who is my MP?

- How do laws get passed?

- What is the current terror threat status?

- Why might we need electoral reform?

- What is UK government policy on Iraq?

Recreation and sport

- What are the rules of rugby?

- Where is my nearest boxing club?

- What's a good training regime for a man my age?

Science and technology

- How can I help to stop global warming?

- What are the main arguments in the theory of evolution?

- How can I protect the personal information on my computer?

- How does broadband work?

- How does the UK contribute to scientific / technological advancement?

Social networks and aggregators

- Where can I post my video so that other people can comment on it?

- What science sites are people recommending?

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- Where can I find user-uploaded podcasts?

- What's cool on the web today?

- How can I arrange an online support group for deaf people?

Teens

- Am I gay?

- Should I squeeze my spots?

- What clothes hide my size?

- I fancy my friend, should I do anything about it?

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6 Appendix B: Review of enabling tools

There has been rapid growth in the development of online software and APIs over the past 18 months, driven by a thriving commercial market and developer community. These tools do not constitute public service content in their own right, but can be used to deliver against public service purposes, such as providing open access to national archive data.

Categories of enabling tools:

Categories of web site	Description	Examples
APIs	• Source code interfaces that web applications provide to support requests for services to be made from other sites • Piping facilities and Mashup creators	• Google Maps API • OpenSocial API • Del.icio.us API • Yahoo! Pipes
Browser-based software and utilities	• Software, delivered through a browser • Includes single-purpose utilities, widgets, weblog platforms and customisation tools	• Google Documents • PayPal • DropSend • Wordpress • Bloglines
PSBs	• BBC science and technology news service and range of programme based science features • Channel 4 science and technology resource	• BBC Backstage

1. APIs

APIs are source code interfaces that web applications provide to support requests for services made from other sites. The tools in this category are not applications in themselves, although they may stem from, and grant access to, application functions. For example, the Google Maps API provides access to Google Maps for third-party applications, allowing them to 'overlay' information on top of maps rendered by Google. This allows for the creation of more interactive and functional search and reference sites, such as the property site OnOneMap. Simpler APIs allow web sites to show the number of postings per hour on Digg, or to retrieve photos from Flickr. There are currently at least 500 popular APIs and piping tools available online and that number is growing rapidly[11].

More complex 'piping' or 'mashup-maker' offerings in this category allow the stitching together of many APIs without the explicit use of code. Yahoo! Pipes is the leader in this respect, allowing users to combine, for example, product recall notices from national newspapers with pictures of the product from Yahoo! Image Search and geographic information from Yahoo! Maps.

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[11] Most public APIs are listed at http://www.programmableweb.com/apis/directory - mashup and pipes services are not included here

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2. Browser-based software

The software in this category ranges from small widgets such as metric to imperial conversion utilities, payment processors and email attachment senders through to more sophisticated tools, such as blogging platforms (e.g. Blogger, Wordpress) and complex on-demand applications (e.g. Google Documents).

The market for small, single-purpose applications/widgets is large, but highly fragmented. For any given function, such as providing a weather-widget, there may be hundreds of viable alternative programs. There is a rapidly growing category of on-demand applications that are delivered through a browser (or 'software as a service')[12]. Most of these sites offer part of their services for free (e.g. Basecamp, Get a Cashboard). Some offer completely free services (e.g. Google Documents) and others support free services with in-line advertising (e.g. Microsoft Office Live). Many of these applications offer considerable value to the consumer or citizen – Google Apps is already a powerful-enough solution to cater for most individual's document management requirements – but they do not serve public service purposes as currently defined. However, as with APIs, there is an enormous potential to turn these applications to public ends – setting up a patient-care group through Yahoo! Groups, for example.

3. PSBs

The BBC is the only PSB that has invested in making online tools available. Its open API development workshop, BBC Backstage, has been progressing slowly, with some user contributions to the code. However, it does not appear to be a funding priority for the corporation and its achievements to date (a programme archive API and 7-day scheduler) are limited.

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[12] The OpenDirectory project lists nearly 500 at http://www.dmoz.org/Computers/Internet/On_the_Web/Web_Applications/, although it includes Games in its definition

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