An Expert Paper

Data: From growth to commoditisation to special niches, with variable quality and pricing

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If the past 5 years were characterised by the rapid and lucrative expansion of the geospatial data market, the next 5 years will be remembered for the hangover of raised expectations and commoditisation, amplified by the global economic slowdown.

The resulting cost pressure on data producers will inevitably lead to some market consolidation, e.g. in the aerial imagery market. This is likely to be accelerated by Microsoft and Google getting into data capture themselves.

In order to escape narrowing margins, data producers will increasingly offer value-added services or products on top of their core datasets.

In order to maintain or grow market share, data producers will also have to compete on price.

The combined effect of all the above will result in increased competition in all market verticals, potentially leading to further consolidation and/or commoditisation and, some might argue, a loss of data quality.

This negative effect will be somewhat offset by the lowering costs of data acquisition (cheaper technology; crowdsourcing), but clearly not entirely.

Crowdsourcing via Web 2.0 location-based technologies is becoming increasingly feasible for commercial applications, and will complement (but not replace) traditional data capture. The same holds true for the crawling and (geo) parsing of open web content.

Data users are also increasingly able to produce their own data and thus compete with, or complement, offerings from traditional data producers. OpenStreetMap is a case in point but similar data capture models already exist in other niche areas e.g. the crowdsourcing – and quality rating – of public points of interest such as pubs and leisure facilities. This way of working will eventually appear in all markets, and even in some scientific applications.

Whilst this unstructured and non-comprehensive way of data gathering feels counterintuitive to seasoned mapping and data professionals, teenagers are growing up in a world where vast amounts of variable-quality information is the norm, and this generation will feel a lot more comfortable dealing with such data when they enter the workplace.

Finally, as the competition between professional and high quality mapping providers intensifies (OS, UKMap, People's Map, OpenStreetMap), the cost of mapping to the end user will have fallen by 2015, perhaps considerably.

All this is good news for data users but less so for data producers. However:

- In many commercial and governments markets there will always be a need for authoritative, complete and accurate data, attracting premium prices. These sectors should, to a degree, be protected by the data commoditisation & democratisation manifesting itself especially in consumer markets.

- High quality data will remain essential in markets strongly driven by legislation (e.g. Land & Property, Environment, Finance) or where particular domain expertise is required (e.g. Science, Risk Management, Engineering, Insurance).

- Large corporates will also continue to generate their own quality data where this represents competitive advantage (e.g. Utilities, Energy) which in turn will rely on quality base data – again offering opportunities.

What about 3D?

There is no reason why 3D should be any different to 2D, i.e. there will be large-scale commoditisation, and there will also be smaller niche markets that remain lucrative.

Considering that the capture of an extra dimension also costs extra money, the market size will probably always remain constrained by the dominance of 2D.

It should be noted however that cheaper technologies will also become available to produce 3D, e.g. entire city models can be stitched together from crowdsourced tourist snaps using tools such as PhotoSynth.

Government Policy & Business issues: Don't hold your breath

The GI industry in the UK is greatly influenced by, and highly sensitive to, the trading models adopted by bodies such as Ordnance Survey, Royal Mail, British Geological Survey, Environment Agency or the Coal Authority.

There will be commercial opportunities whatever policies and licensing regimes these organisations adopt in the future: If public bodies ease up, there will be new opportunities to innovate on top of public sector data; if they don't, there will be opportunities in creating alternatives to those very data sources.

Depending on which policies are pursued, however, there will be winners and losers – which explains the many vested interests in the debate.

Owing to these vested interests it is unlikely that major changes or disruptions will occur.

Adjustments are more likely around the fringes, e.g. making data freely accessible to non-profit organisations.

There could of course be scenarios where some of these bodies are fully nationalised or fully privatised, but with so many political and economical uncertainties dominating the agenda, it is not worth speculating on the outcome.

Some progress can be expected on the issue of derived data rights though, leading to more innovation on top of public sector information.

"Core reference geographies" (Barr & Roper, AGI 2009) would be a great step forward for the effective functioning of UK plc but, as long as these don't exist, there are also limited commercial opportunities to provide part-alternatives.

More fundamental change in the UK public sector, if it is going to happen in the UK, is perhaps more be likely as a result of EU legislation (inspired e.g. by the 'base registration' legislation in the Netherlands).

By 2015 INSPIRE will have taken a foothold although it is still unclear what implications this has commercially. For other reasons outlined above, however, the cost of mapping to governments and citizens should have fallen in any case.

Technology: Fading into the background, with focus shifting onto data and usability

Interoperability standards (e.g. OGC) will have faded into the background by 2015 – a sign of success.

Cloud computing and Web 2.0 technologies lower the entry barrier to small start-up businesses to enter the geospatial market, helped by the lowering costs of data acquisition technology, incl. crowdsourcing.

GIS, GPS and other location-based technology will continue to evolve but, just like word-processing long reached its functional ceiling a long time ago, the same is happening to geospatial technology: a sign of maturity.

By 2015 technology will have faded into the background and become totally transparent to the user. People will take their fully GPS and map enabled mobile phones for granted, so the focus will be on data and usability.

Markets: Getting more crowded & competitive

Land & Property: With Google for example entering the property listings market, commoditization in some segments is likely. Demand for authoritative and quality search information will remain, however, also partly supported by legislation.

Environment: EU & UK legislation is a big driver for new geospatial products, e.g. in order to deal with climate change. From carbon management to energy efficiency and flood risk, there should be commercial opportunities across the board but as a result this market is also getting quite crowded and competitive already.

Utilities, Energy: This sector is dominated by large corporates with in-house capability to create their own high quality data, using base mapping sourced from 3rd parties. Commercial opportunities remain in this sector as quality data still delivers competitive advantage and therefore higher prices, also supported by the need for regulatory compliance.

Finance (incl. Insurance): There is a renewed demand for risk management products, especially after the credit crunch. This industry sector probably poses the biggest growth opportunities for the geospatial industry, especially where these are coupled with the Environment sector (see above), but as a result this market is also getting quite crowded.

Central and local government will be reeling from budget cuts, and their focus over the next few years will be on value for money. Commercial opportunities to serve this market remain, but the focus will perhaps shift to money-saving rather than value-adding solutions.

As technology and standards fade into the background, it will be easier to port geospatial solutions from one market to another.

If Google, Microsoft or Yahoo ever decide to go deeper into market verticals rather than concentrate on generic and global offerings, good luck to us all!