

Beyond Rol – An alternative solution for measuring benefits of GIS

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Measuring and calculating qualitative or intangible benefits derived from GIS implementations is one of the biggest challenges associated with showing the value geographic information brings to organisations. In British Waterways a recent internal audit highlighted the lack of any measures and required the generation of a “corporate measure of, and desired target value for, business benefit for GIS”.

Jonathan Marshall recently presented a paper at the AGI annual conference. His speech presented a method developed for use within British Waterways and derived from accepted academic theory for measuring ‘intangibles’. The scorecard approach developed is both flexible and easily tailored to include measures and metrics of importance at a project, programme or organisation level for measuring and articulating benefits of GI.

The big issue is that many GIS benefits are reported as being ‘intangible’ and quoted as being impossible or too difficult to measure. Many people and organisations have found the very concept of measuring Rol on a GIS system as being daunting or near impossible.

However, in 2006 an Rol measurement was undertaken at British Waterways across the whole GIS function. This became less meaningful when at 360% Rol we stopped looking and calculating the benefits!

The difficulty of establishing a financial element to all benefits for inclusion within the Rol calculation can be both time consuming and costly in its own right. While the financial element is important, there is also the need to easily measure and include non-financial elements like alignment to vision, user satisfaction, customer service etc.

The investigation into measuring intangibles and the perceived difficulties in not being able to measure them has shown that these challenges are not unique to the GI industry. Furthermore there are a wide variety of models that have been proposed that offer potential help in resolving these difficulties.

Based on the research undertaken on measuring benefits and the concept of intangibles along with the theory and use of existing scorecard type models a solution for measuring and reporting on the business benefit of GIS in BW has been devised (as shown in figure 1).

The advantage of the proposed scorecard is that it is easily tailored to meet current and future requirements. It can be expanded, the measures changed or targets and relative importance altered as needed.

The above is an extract of the full paper which is available for free download in GeoConnexion website (http://www.geoconnexion.com/geouk_articles.php)

Note1 - British Waterways is a not-for-dividend public corporation responsible to Defra in England & Wales and to the Scottish Government in Scotland. The organisation cares for 2,200 miles of canals, rivers, docks and reservoirs across

Figure 1: BW business benefit scorecard for GIS

GIS business benefit scorecard					
Scorecard Period:			Contact:		
Date Completed:					
Category	Objective	Target	Importance	Actual Score	Weighted Score
Finance	Positive Return on Investment across the whole GIS function	>100%	10		
	Individual project costs within budget	100%	9		
Customer Services	Users satisfied with GIS service	>80%	9		
	Helpdesk – average response time from call to fix	>93%	8		
	Project delivered on time	>90%	7		
	No. of suggestions/improvements actioned	>70%	7		
	System uptime – availability of ArclIMS	>90%	8		
Business Process	Quality of data alignment between GIS and SAP	>80%	10		
	Compliance with GIS business process	>80%	10		
	Change requests processed with SLA	>80%	8		
	Data & systems aligned to support business priorities	>80%	8		
Innovation & Growth	GIS employee job satisfaction	>78%	8		
	GIS employee retention (stability index)	<13.5%	8		
	Learning hours per GIS employee (per year)	>35	7		
	Satisfaction with opportunities to learn & acquire GIS skills (all employees)	>70%	7		
Overall Score					

Britain. Rich in heritage, abundant in wildlife and teeming with activity, inland waterways are as popular today as they've ever been. Half the population lives within five miles of one of our waterways and an incredible 11 million people use them every year as part of their everyday life – as a short-cut to work, for walking the dog or simply for taking time-out and watching the boats.

... We must learn to speak business

This is an edited version of the paper Sigma Seven's Andrew Coleman gave at the 'Making the Business Case for GIS' stream at the AGI GeoCommunity '09 conference.

There's a buzz around the GI industry that says we're on the edge of a breakthrough into the mainstream. After 40 years it would be about time. But there are three little nagging worries about this that won't go away. To start with, GI is already mainstream: do I even need to mention Sat Nav? The problem for many GI visionaries is, I think, that it is not going main-

stream in the right way. Talking to some, you get the feeling they don't approve. A lot of business software already has simple mapping built in but that's not viewed as 'real' GIS.

More of a concern is my second worry: no-



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one knows how big the market for geospatial information systems really is. Surely there are huge untapped markets of business, public service and commerce for products like ours? It all sounds promising. But we don't really know. Nor, I fear, have we worked out how to break into new markets.

Knowing your market and how to reach it is fundamental to everyone's business. In Sigma Seven we want to find new customers for GeoField and spread the word. But what exactly is the word? Most of the language of the Geospatial Industry is quite exclusive and technical. Even the name 'geospatial' doesn't help. It is hardly on the tip of everyone's tongue.

To date the terminology that dominates the industry has been driven by the vendors and the Geo-specialists. If you think about it, most of the traditional GI language tells you what it is, but not what it does. GI mostly talks to GI.

In any sector, investment in GI often requires senior management or board level approval. We have to sell the benefits – the value proposition – to these people. And this has been difficult in the past. So what language do ordinary non-specialists use to describe what we would call GI?

A quick survey of the leading business journals reveals a stark truth. In the Financial Times archive of all articles and features from 2004, 'geospatial' appears just seven times. 'GIS' fares even worse with just four hits in

six years. We're even less visible in the Economist with six mentions in 13 years! Compare this with the recognition of another 40 year old database technology – ERP (Enterprise Resource Planning) - which has 156 hits over the same period. And these journals do cover emerging technology: Satellite Navigation gets 459 mentions and Social Networking 1897.

To be fair, initiatives such as this GeoConnexion Executive Suite section and the occasional article in the wider media are beginning to address this problem. However, my personal view is that either GIS isn't the central strategic solution it thinks it is, or everyone else is using a different name. The language of the industry is not that of our customers. Where is the common ground between GIS and CEO? And that brings me to the third disquieting thought: just because everyone suddenly wants digital maps, GI solutions and services, it doesn't follow that they're going to buy them from us. We wouldn't be the first market to be overtaken by new entrants with lower costs and a better feel for the new customers.

Unless we in the GI Industry are willing to change our language, our attitude and our offerings, we're in dire danger of not being invited to our own party.

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The light bulb moment

By Dr. Richard Waite, Managing Director, ESRI (UK) www.esriuk.com

A colleague of mine shared a story about his experience at a recent GIS conference, where he found himself sitting next to the CEO of a very large UK organisation. He didn't know much about GIS and wasn't entirely sure why he was there. At first, he just sat and listened. Then, part way through the presentation, he became very animated. "It was as though a light bulb had been switched on," he said later. This CEO had suddenly realised what GIS could do for his business.

Many senior executives in organisations across the country are realising the potential of Enterprise GIS. Whether they stumble across it themselves or have it thrust upon them by a well-meaning GIS team, business leaders are understanding that GIS can deliver the business improvements they need in order to ride out this recession.

So what is Enterprise GIS? Enterprise GIS spans the entire organisation and supports a multitude of different but connected business processes. People often think of GIS as a specialist, back office technology, however the full benefits of GIS are only achieved when it is deployed across an organisation, linking all IT systems and underpinning operations. In this environment, GIS acts as a key enabler to help manage disparate data sets, enrich systems and improve business processes.

Enterprise GIS has the power to help organisations discover hidden patterns in customer behaviour, identify cost savings and answer previously unthinkable questions. Rather than just producing maps, businesses can

use geographic information to find answers to complex issues about allocating resources, planning tasks, assessing risk, managing logistics and much more. However, this will only be possible if an organisation's data is geo-referenced as part of an enterprise-wide approach to GIS.

For GIS to move to the enterprise level in most organisations, two paradigm shifts have to occur. Firstly, businesses need to think differently – to consider location as well as time and recognise that the 'where' is as fundamental to their planning and processes as the 'when'. For example, a utility company may currently perform maintenance on its sub-stations based on the anniversary of their installation date. This company could, however, use GIS to plan its maintenance schedule according to the locations of sub-stations and send maintenance teams to groups of sub-stations that are close in proximity to each other. In this way, it reduces duplication of effort, minimises travel time, reduces costs and environmental impact.

The second paradigm shift is the one that I started with. It's convincing the CEO. Before Enterprise GIS can be rolled out effectively, GIS has to be understood and valued by senior executives and then put at the very heart of the organisation. GIS needs to be taken out of departments and recognised as an enterprise technology. Only then will organisations be able to realise the true value of a location-driven approach.



Upbeat for 2010 and Beyond

Geospatial Information Systems Market Set to Grow Substantially Over Next Five Years

GIS/Geospatial industry worldwide growth is forecast to slow to 1%, down from 11% in 2008 and a whopping 17.4% in 2007 according to a just released study by Daratech, Inc., a Cambridge, Massachusetts market research firm. However, industry CEOs interviewed by Daratech were unanimous in their belief that growth consistent with the robust 11% compound annual growth rate of the past six years would return in 2010. The report also shows, interestingly the relative positions of the major players in the industry in 2009. Full report is available at www.daratech.com

Another recent report from ARC Advisory Group (www.arcweb.com) seems to bear out this analysis forecasting 50% growth over the next five years. Much of the growth will come from the utility industry which tends to be "non-cyclical" and is less affected by the ups and downs of the general economy. Utilities as we have reported elsewhere over the last months are set for ongoing investment in GIS as they seek to upgrade to "smart grids" and get better control over assets using more sophisticated, web-based systems with ever larger servers and improving high data handling capability. For more information on this study, please visit www.arcweb.com/res/gis

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