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Catching your customers – a Thomas Cook case study focusing on real world business models

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Abstract

- The need for "Joined-up" Analysis – why a single channel[1] approach to customer and network customer analysis will only give you part of the picture

- How GI can help us move from CRM[2] to CVM (Customer Value Management)

- Customer information is a strategic asset – maximising the value of GI and GIS

- Overview of real world models

This paper argues that retailers need to adopt a cross-channel approach to customer and network analysis. It describes 'Joined-up analysis', where GIS is but one of a number of tools, and illustrates how value can be added by merging online with offline data.

Many retailers have the challenge of selling products and services through a variety of distribution channels to a geographically dispersed and demographically diverse customer base. Increasingly complex consumer behaviour dictates that a strategic approach to CVM must be built from a sound understanding of all the relevant factors. Commercial interest needs ever increasingly sophisticated modeling[3].

The paper looks at some of the techniques used by Thomas Cook and illustrates how it is using GI to help it move from CRM (Customer Relationship Management) to CVM (Customer Value Management). The paper raises some issues on customer segmentation and the challenges for spatial modelling and also highlights some perceived weaknesses in data. Finally, the paper reflects on why many organisations fail to optimise the return on investment from their GIS. Whilst this is essentially a paper about Customer Centricity, many of the issues raised will also be relevant to delegates from the public sector.

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[1] Channel refers to the means of distribution, in this context traditional retail outlets as opposed to call centres, Internet, mobile devices and digital TV that are seen as less tangible. The new "channels" offer retailers more opportunities to interact with customers

[2] "Customer Relationship Management (CRM) refers to the concept of moving ownership of the customer up to the enterprise level and away from individual departments and channels. These departments are responsible for customer interactions, but the enterprise is responsible for the customer" (Gartner Group)

[3] Using spatial models to solve difficult retail location problems (Mark Birkin and Martin P. Clarke)

Introduction

Travel is a very rich sector for geographic and geodemographic analysis. It is, by definition, associated with geographic variables – place of residence, place of work, departure point and destination whilst propensity to travel and frequency is very much influenced by life-stage and affluence as are when, where and how the purchase is made. Furthermore, the choices that customers make about the destination country, resort and even hotel property reveal much about their lifestyle. This data adds great richness to customer insight, which can then be used to add value to both the customer and the organisation.

Thomas Cook is one of the leading multi-channel leisure travel retailers in the UK offering access to its products and services across six platforms[4]. We also have considerable experience and expertise in cross-channel business analysis using Business Intelligence tools (BI), web analytics and GIS, which have been used in a number of innovative ways, some of which will be discussed in this paper.

Anywhere that there is a link with a place, there can be a link with GI. If organisations were more aware of the value of the customer insight that could be revealed from combining GI with BI (Business Intelligence), and if GIS suppliers thought beyond the GIS, then the perceived high cost of licences may look very different. It's all about adding value to your customers and to your stakeholders. Yes, there are problems to be overcome, but these can be surmounted and the end result can make the effort highly lucrative.

The need for "Joined-up" Analysis

There are two aspects to "Joined-up" Analysis in the context of this conference. The first concerns the understanding of cross channel customer behaviour, whilst the second considers an organisation's fundamental approach and organisational structure.

A multi-channel business faces a number of challenges in merging its customer contact details, transactional database, customer relations, web logs and store data but despite this the prize of truly customer centric data enriched with GI is well worth the effort. The business benefits are significant.

How do you even begin to merge online with offline data? Surely there are gigabytes of data, most of which is anonymous? This is a typical line from a website where just one element from a page was served, in this case a banner advert:

212.00.00.0.in-addr.btopenworld.com - - [16/Jun/2002:21:45:52 +0100] "GET /home_banner_124.gif HTTP/1.1" 200 12371 "http://www.ready2holiday.co.uk/mainframe.htm" "Mozilla/4.0 (compatible; MSIE 5.5; Windows 95; BTinternet V8.4)"

What do we know about this customer or user? Not a lot apart from the fact that they are accessing the site using BT Openworld, Internet Explorer 5.5 on Windows 95.

But what if the user (who is identified by his IP address or proxy server in this case 212.00.00.0 was already a shop customer. His activity on line would then be of significant interest to you. For example this user is clearly interested in buying a beach holiday in Cyprus:
http://search.lycos.co.uk/cgi-bin/pursuit?query=best+beaches+in+cyprus.

Whilst this user is interested in a late deal:
http://msxml.infospace.com/uk.dogpl/dog/results?otmpl=dog\webresults.htm&&qkw=last+minue+deals+abroad.

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[4] 660 retail shops, Direct telephone booking through 4 call centres, Internet, WAP enabled technology, interactive TV and broadcast TV

There is so much added value content available on the Internet that if the user does not find what he or she is looking for on your site, there are plenty of other sites which will deliver. Once you have lost the customer from your value chain on one occasion, you risk losing either share of wallet or all of their lifetime value.

If you have a mechanism, which links your off-line customers with their web site activity the above examples may both be sales leads or indicators of potential churn. If your regular customer did not buy that holiday from you did he buy it elsewhere?

What you need to do will depend on your strategic objectives and whether you are site centric or customer centric. If you are truly customer centric you will want to understand what your customers are doing online. Website visitors are anonymous unless you can specifically identify them. Capturing a cookie[5] is only a start but user registration, pop-up surveys, competitions and capturing email address all offer better value.

Once you have developed a web analytics capability, you can use this intelligence in CRM, and indeed e[6]CRM. Thomas Cook takes this one stage further by redefining CRM.

How GI can help us move from CRM to CVM (Customer Value Management)[7]

- Focus on our customers' needs

- Understand our target customers well

- Deliver what those customers want

- Comprehensive analysis of cross-channel customer behaviour

- Single database

- Personalisation

- Propensity models for cross-selling and expanding share of wallet

- Link to customer contact strategy, Direct Marketing and eCRM

- Customer retention

- Customer reactivation

- Linking on-line with off-line data and store / centre attributes

- Enhance customer satisfaction and loyalty by better predicting what the customer will want next

Where this analysis takes place, the organisational structure and culture and whether an organisation is internally or externally focused are important factors, which impact the Return on Investment from GI and GIS.

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[5] A cookie is a small piece of information saved on an Internet user's hard disk when he or she visits a website that issues cookies. Cookies contain a variety of information, including the website that issued them. They link the web site activity to a unique ID number assigned to the cookie.
[6] Electronic CRM
[7] See Cross Channel Framework in Appendix

Customer information is a strategic asset – use it

GI can be a waste of money! With no disrespect to suppliers of data and software, and as an advanced user of and arch proponent of GI and GIS, I feel entitled to make that statement; but I don't believe it for one minute. What is clear is that GI kept within GIS or the GIS Department is certainly a waste of money and many organisations fail to derive maximum value from their investment.

Why is this? GIS has a wealth of data behind it which is often under utilised. Many users are not aware, or choose to ignore, that data can be exported from a GIS and imported into other applications, enhanced and imported back into the GIS. This offers huge potential for Customer Insight, which is often overlooked. The trick is to throw data around between applications and to use GI learning and data in BI (Business Intelligence), Knowledge Extraction and in-house models and vice-versa.

"It's how you tell 'em that counts"

Once upon a time, there was a man who knew everything about his Company and its customers. He drew lots of pretty maps, but no one quite knew what he did. People often said "so what?" to his analysis. Skills other than GIS are important[8] - not just BI and other analytical skills but also presentation, communication and influencing skills. Analysis should also address real world business questions. Outputs need to be turned into business solutions and customer insight needs to be rapidly disseminated to decision makers, but it's what happens after the analysis that really matters. The importance of a balance of skills should not be underestimated. Mapping skills are simply not enough in the twenty first century. As the saying goes "it's how you tell 'em that counts".

People absorb more than 80 percent of what they learn through the sense of sight. This means if you show people something visual, they are far more likely to remember it. Simple persuasive graphics have far more impact than detailed cross-tabs. A picture is worth a thousand words but, nevertheless, the words that accompany it are all important. Less is more, but every word counts. Being able to develop GI analysis to answer a business question, to summarise the findings succinctly in terms that senior management can understand, to draw conclusions and to make recommendations are what really makes the difference. It is important for analysts to be able to relate to senior management, who often have very different needs, in the different parts of the business. This can be a challenge but it does needs to be done. Understanding the needs of your customers is an important step that is often overlooked by analysts. Small surprise when half of the recipients of the analysis come back with comments like "I don't understand this", "That's not right because …", "If only you'd spoken to me before you circulated this".

GI beyond GIS

New technology is blurring the distinctions between GIS and Business Intelligence tools, yet at the same time creating exciting new approaches to GI. New generation Business Intelligence tools are starting to incorporate mapping with very powerful analytics bypassing the GIS Department. As a result of this GIS purists in the commercial world may risk being marginalised unless they keep abreast of these developments and continually adapt their skills base to add value to their employers and their customers.

Business decision makers generally don't have access to GIS, but imagine a world in which your key people access Management Information with geographic and demographic views in a Business Intelligence tool through a web interface on their desktop. Senior management would have access to GI without even needing to know what a GIS is. Does this strengthen or weaken the role of the GIS specialist?

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[8] The author is an advanced user of GIS, BI and web analytics in the Customer Strategy and Value Team at Thomas Cook and has over 20 years of retail experience.

Business people love to think in terms of averages. Performance of stores is often seen simplistically is either up, down or flat; these are the good performers and these are the ones whose performance "needs managing". BI + GI may well reveal that traditionally held wisdom has been incorrect. What if the good performing stores are actually under performing, and the poor performers are actually performing well in a difficult market? In addition to Business Intelligence tools, the new breed of Knowledge Extraction tools can reveal patterns hitherto unseen of the contribution of geographic and demographic variables to variance in performance. Experience has shown that these tools can be incredibly powerful and may result in competitive advantage.

Given the trend to more open sharing of information business wide, GIS users need to consider the impact of these new tools on their area of expertise. They may need to acquire new skills

Don't run your GIS in a vacuum or silo[9]. Given increasing customer sophistication and cross channel behaviour, a combination of new and old metrics is required. The challenge is to turn a mass of raw data into actionable knowledge. If you operate in the multi-channel "space" and start with the customer and not the technology, you are likely to end up with an enterprise wide "Centre of Excellence" where GIS is important but only one of a number of important tools and skills. The Thomas Cook Customer Strategy and Value Team has become a pillar of knowledge about the business, and is recognised as such throughout the organisation.

Today's sophisticated customers think and act cross-channel. So, does it make sense to continue to do customer and network analysis in silos? Does it work? Well it does to a degree, but also, in our experience, not only does it sub-optimise, it also creates unnecessary internal conflict and duplicates analysis, which often produces different conclusions. Fight the competition, not each other!

Real World Models

The following is intended to give a flavour for some examples some of which will be illustrated at this Conference.

- Market Representation Model

- Network planning

- Channel management[10]

- Customer profiling and targeting

- Retail Foreign Exchange EMU model

- Optimisation model

- Loyalty scheme "Privilege Club"

- Customer segmentation

- Cross sell propensity

- New experience e.g. buying a cruise

- Understanding variations in performance attributable to geographic and demographic factors

- Setting "SMART[11]" targets based on market profile

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[9] Corporate "silos" e.g. Finance, Marketing, GIS, Dotcom, Retail, Direct etc.
[10] Optimising the mix of distribution channels and how they interact with each other and the customer

Customer segmentation

Customer segmentation enables you to "Treat Different Customers Differently" according to their actual value, potential value, needs and cross channel behaviour. Why do we need to do this?

- The average customer doesn't exist

- Average products don't sell well

- Being everything to everybody does not give differentiation

All customers are different. There is no such thing as "the average holiday"; there is, however the holiday that is "right for me."

Customer segmentation is a process whereby individual consumers are identified as part of distinct and identifiable groups of consumers with similar characteristics. GI including geodemographics and lifestyle data would be important discriminators. This was developed using cluster analysis based on bespoke consumer research identified segments based on:

Socio-demographic profiles	Kids, age, affluence …
Travel needs states	What do you want from your holiday?
Product choice	What product did you book?
Travel frequency and time	How often and when did you travel?
Booking behaviour	How did you book and when?

This was then extrapolated to reflect the total market. It gives Thomas Cook a very robust segmentation of the total UK market and its customer base. Segments were then prioritised to decide which segments to focus on.

The following fictitious scenario, which looks at the likely behaviour of two hypothetical customer segments[12], is intended to illustrate some of the issues.

Segment 1
Typically, buy one summer and one winter holiday. The summer holiday may be a late booking. Likely to be older and more affluent ABs. The relationship with the travel agent is important to this group. Local food and culture are also important.

Segment 2
Typically, buy just the summer holiday, which is far more likely to be booked early. Price is the main driver for this group of suburban young families.

The channel propensity[13] of these groups are quite different with segment 1 doing research on the Internet.

It might be seen that segment 1 is far more discerning in their choice of shopping centre, preferring not only stronger centres but also those which better reflect their lifestyle. Factors such as the depth and

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[11] Specific, Measurable, Achievable, Realistic, Time bound
[12] These segments are fictitious and are not actual segments used by Thomas Cook in CRM. They are used here merely to illustrate some of the issues.
[13] The probability that customers will purchase or contact the organisation through one channel e.g. Internet rather than another

breadth of retail offer, environment, car parking and security are important to this group in addition to the traditional proximity to place of residence or work and centre attractiveness relative to alternative shopping centres. Further, there may well be differences in the mode and point of access to the centre (private or public transport) and movement within the centre. Segment 1 may be attracted more to aspirational and niche retailers with segment 2 being attracted to value retailers and mainstream retailers convenient to public transport nodes as well as out of town stores.

Some concerns on data

This paper has already discussed some issues around customer segmentation, but there are other issues, which retail modellers, in particular, face. "Generalisations produce notional geographies in which area is characterised by uniform market behaviour.[14]" This suggests that a generic model along the lines $Sij = Ai \, Oi \, Wj \, f(cij)$ is an over simplification of increasingly sophisticated customer behaviour. It has yet to be seen whether a spatial interaction model can ever be sophisticated enough to handle the complexities of today's multi-channel customer and customer segmentation, which pose significant challenges for spatial modelling.

Does this invalidate the use of a gravity model? Probably not, in the view of the author, as long as you understand its limitations and seek to build in some of the learning in however "fuzzy" a manner. Quote: "the more one thinks about imprecision and the need to model and represent it, the more the problems with the current mathematical approach and precise science seem to become apparent. There is seemingly an increasing need to come to terms with the pervasive imprecision of the real world" (Stan Openshaw[15]). Time will tell whether other techniques including agent based modelling[16] have a role to play.

Is there a place for Fuzzy Logic given all the data and modelling techniques, which do exist? Based on personal experience, I would argue yes. In any event there are very much diminishing returns to data acquisition. Once you have identified the main drivers, for which you do need data (if your organisation can afford it), there is thereafter increased and often unnecessary cost for little incremental value. If data does not exist, simply "make it up", but do so based on some reasoned logic or empirical observation. To do this may well open your eyes as to what can be achieved for very little outlay.

There can be no doubt, but that we have access to some superb GI data in the UK. Equally, you may see, depending on the sector you operate in, that available data doesn't totally meet your needs. Two examples are worth citing here – centre attractiveness and the impact of work based demand.

Traditional measures of Centre attractiveness tend to reflect multiple retailer presence, yet commuters on their way to and from work, office workers in their lunch break, shoppers and leisure users all have very different motivations. Moreover, when shoppers are in different "modes" e.g. specific visit to store "x", window-shopping or visiting a number of stores their movement in and around the centre may be very different. To what degree are these factors accounted for in your decision models, or indeed should they be?

Many retailers benefit from proximity to food outlets, take-aways, coffee shops, pubs and restaurants. These exert a significant pull on shop and office workers in the immediate vicinity, particularly in the lunch break. It can be seen that some centres in metropolitan areas are far more attractive than their size would otherwise suggest. The work of the Research of the Centre for Advanced Spatial Analysis

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[14] See Goss, J. (1994) 'Marketing the New Marketing'. In Pickles, J. (1994) Ground Truth: The Social Implications of Geographic Information Systems
[15] Openshaw, Stan and Christine Openshaw. (1997) Artificial Intelligence in Geography
[16] http://www.casa.ucl.ac.uk/~david/Publications/AnAgent.pdf

(CASA) Town Centres Team[17] in developing a methodology in this area at UCL should be applauded. The data will shortly be made available.

Work based demand can be built into Demand Estimate Models based on Special Workplace Statistics data, however current area levels are too large to offer maximum value. New data from Census 2001 should enable a far more realistic allocation of work-based demand, although access to Social Class to give an indication of the value of the flows in this new data is highly desirable.

Conclusions

- There are big business benefits from "Joined-up Analysis"

- GI + BI can add huge value

- Different customer segments behave very differently

- Market models need to reflect these differences

- You need to start with the customer, not the technology

- GIS professionals need to widen their skills-base to keep abreast of technology

- The analysis is often the easy bit

- Making something change based on the findings can be far more challenging

This paper has intended to argue that there is huge GI value beyond the GIS. A Customer Centric organisation to needs a customer focused cross-functional analytical team where GIS is only one of a number of analytical tools using GI. This will increase the exposure of GI to decision makers, increase the return on investment from GI and GIS, broaden the skills of your team and add value to your business and to your customers.

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[17] http://www.casa.ucl.ac.uk/towncentres

Further Reading

Driving Operational CRM with Cutting Edge Analytics KXEN

Retail Geography and Intelligent Network Planning (Mark Birkin, Graham Clarke and Martin P. Clarke)

Goss, J. (1994) 'Marketing the New Marketing'. In Pickles, J. (1994) Ground

Truth: The Social Implications of Geographic Information Systems

Town Centre Statistics Through The Internet (Mark Thurstain-Goodwin and Muki Haklay)

Agent Based Pedestrian Modelling see: http://www.casa.ucl.ac.uk/~david/Publications/AnAgent.pdf

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Thomas Cook - from CRM to CVM
Customer Value Management