

Location, location

By Louella Fernandes, Principal Analyst, Quocirca Ltd

The global digital age has had a profound impact on consumer access to maps, which are becoming an intrinsic part of everyday life. We are all familiar with web based mapping applications such as Google Maps, Yahoo Maps or Microsoft Windows Live Local, as well as the Google Earth or Microsoft Virtual Earth platforms. Along with GPS devices for leisure applications, in-car navigation and the emergence of mobile phones and handheld devices that offer GPS services, we are being exposed to a wealth of location-based information.

The influx of these web-based mapping services and pervasive GPS data is bringing geography to the masses and also stimulating the corporate appetite for exploiting location technology. Today, companies are generating large volumes of data, almost all of which has at least some geographic dimension – such as a customer name linked to an address, or the real position of an item in the supply chain. This data is captured and processed through myriad business applications such as CRM and ERP systems. When this is combined with the growing use of RFID tagging and GPS technologies to track business assets and events in real time, it is clear that understanding the value and impact of location on business performance has never been more important. It can help you understand:

- Where are my best performing stores?
- Where are my most profitable customers?
- Where are my competitors or suppliers?
- What is the potential revenue opportunity compared with investment costs necessary to enter a new market?

Yet, despite the proliferation of data that companies generate today, the potential value of the location dimension is often overlooked. By understanding how location affects their customers, products and services, businesses can gain deeper insights to improve performance. This is the foundation of location intelligence, which is a combination of software,

data, services and expertise that enable an organisation to detect patterns, risk and opportunities that may be overlooked in traditional CRM, ERP and BI systems.

Traditional data warehouses, the core component of a business intelligence environment, typically contain data about customers, products, revenues, sales and time periods. But whilst they are useful for understanding patterns or trends, these data warehouses only scratch the surface of the analytical insights they could deliver.

By incorporating geospatial data (that is, data related to location or geography), organisations can benefit from a new level of analysis. A spatially enabled data warehouse integrates customer, product and other business data with location data for analysis. It helps users visualise and understand how customer, product and other business data is impacted by geography. Database vendors such as IBM, Oracle and Microsoft have been quick to recognise the power of location data, offering extended spatial capabilities for their database products.

Value

Knowing who your customers are and where they are located, combined with demographic and lifestyle data, will allow your organisation to be more efficient in its customer relationship management processes.

Whether you are targeting the best new prospects for direct marketing, identifying your most profitable existing customers for cross-selling, or reducing the churn of your existing customer base, knowledge of geographic information can help in identifying 'hot spots' of activity or trends.

For instance, the following questions can be explored using location intelligence:

- Who are my most profitable customers and where do they live?
- Can I target similar prospects in this geography – or can I identify similar

geographies from the data I already hold?

- What are the business population, residential population and average annual income within one mile of a proposed site?
- What competitive choices do my customers have in a given geographical area?
- What are the customer retention rates in various regions and how do service levels within that region (for example, power outages in the case of utilities) impact customer churn?

Location intelligence solutions extend beyond simply visually representing data on a map. By combining the analytical features of databases with the geographic capabilities of maps, predictive models can forecast future customer response based on historical customer response patterns.

For example, historical customer or retail store sales data, together with demographic and traffic drivetime data (isochrones), can feed into a predictive model to score new locations or customers for sales potential, cross-selling, targeted marketing or customer churn.

And the importance of location is not limited to the real world. Although the internet was once considered borderless, businesses are recognising that understanding the location of their web visitors has an impact on advertising and marketing, compliance, fraud protection and security.

As online sales continue to account for a bigger share of overall sales for many companies, they can use such data to offer an improved personal, relevant and convenient online experience that can help attract new business and maintain existing customer loyalty.

By integrating internet geolocation data which identifies where the web use is located, together with historical sales and demographic data, businesses can address real-time online marketing such as personalised content, targeted cross-selling and localised advertising.

Geospatial data

Accurate and relevant data lies at the heart of a location intelligence system. This data is a

combination of internal proprietary data and external reference data.

Proprietary business data is information that is specific to the company, already stored in databases or used in planning or running business operations. Examples include geo-coded customer, supplier or store location data, sales boundaries and dynamic information such as vehicle locations. External data sources, used in addition to the internal business data, can significantly enhance your insight into your current and prospective customers. This enables you to perform more comprehensive customer analytics.

Ready-to-use geospatial data sets are provided either directly by the location intelligence vendor or through third-party partners. Country and street maps, postcode boundaries, demographic data such as census information and lifestyle data are all examples of third party data.

Key issues

Deciding what data and where to source it from can be a challenging and time-consuming task.

There are many data providers promoting their own products. These include the location intelligence vendors and the third-party vendors who create the data in the first place.

Using a data consultancy provider that is vendor-neutral can help define and source the data to address the relevant business requirements. Some issues to address when choosing data include:

- Return on investment – what is the balance between your investment in reference data and the return from using this data?
- Accuracy and currency – how up-to-date is the data?
- Data content – is it polygons (for example, boundaries) or point data (co-ordinate locations)?
- What attributes does it contain? For example, the actual spatial data could be a store location and the attribute data could be store name, size, turnover, etc.
- Updates – how often is the data updated or checked?

- Licensing – how is the data licensed, and how are updates charged for and provided?
- Format – is the data available in formats for the location intelligence system you use?

For the most commonly used UK, European and worldwide data the following are the largest providers of third-party data:

- Governmental sources for census and demographic data – Ordnance Survey (UK only), Royal Mail (UK only), TeleAtlas and Navteq.
- Equifax, UK Changes and CACI can provide geospatially aligned information on customer types (eg, Acorn lifestyle-tagged postcode data)
- Others, such as Fair Isaac, can provide fraud detection services based on multiple layers of intelligence, including geospatial heuristics.

Getting started

The key steps when considering implementing location intelligence are:

- **Establish where location is relevant to your business.** Assess where and how location information is used in your business. What are your critical business decisions that involve location? Understand the different user profiles and their information needs.
- **Evaluate location intelligence products and technologies.** Determine criteria for evaluating vendors and their solutions. For example, do they offer complete end-to-end capabilities such as desktop mapping, external reference data, advanced analysis and reporting? Do they offer ease of deployment? Is the product scalable so that once it has been proven, it can be rolled out quickly to more users?
- **Conduct a data audit.** The successful implementation of any location intelligence solution is dependent on the data it uses. Carry out an audit of the spatial data within your organisation to establish what spatial data is already stored. Is it up-to-date? Consider how frequently your organisation will need to receive updates – automatic refreshes

ensure that the most up-to-date geospatial data is available. Is it cost-effective? Identify the external reference data that is relevant to your business (eg, census information, customer purchasing patterns, postcode and street boundaries).

- **Spatially enable enterprise data.** This process involves identifying if the raw data that is stored in the data warehouse has a geographic element, and adding fields for longitude and latitude (and elevation, if applicable). So, for example, this coordinate information could be added to customer records, prospect databases or to information on store locations or distribution outlets. At this time, custom boundaries can be created to identify sales territories or delivery boundaries. For example, through geocoding, an insurance company could determine the precise geographic location of properties from a customer address list and map this in conjunction with information such as flood plain boundaries.

Conclusion

Businesses continue to be challenged to gain intelligence from the huge volumes of data they capture and manage. You can gain a deeper understanding of the different characteristics of your customers and prospects by enhancing the profiles of these existing contacts with location data.

This can ensure you provide more targeted communications, products and services, as the need to improve customer acquisition and build customer loyalty becomes ever more important.

A Quocirca white paper on location technology is available at

www.quocirca.com/pages/analysis/reports/view/store250/item4482/

About Quocirca

Quocirca is a primary research and analysis company specialising in the business impact of information technology and communications (ITC). With world-wide, native language reach, Quocirca provides in-depth insights into the views of buyers and influencers in large, mid-sized and small organisations. Its analyst team is made up of real-world practitioners with first hand experience of ITC delivery who continuously research and track the industry and its real usage in the markets.

Through researching perceptions, Quocirca uncovers the real hurdles to technology adoption – the personal and political aspects of an organisation's environment and the pressures of the need for demonstrable business value in any implementation. This capability to uncover and report back on the end-user perceptions in the market enables Quocirca to advise on the realities of technology adoption, not the promises.

Quocirca research is always pragmatic, business orientated and conducted in the context of the bigger picture. ITC has the ability to transform businesses and the processes that drive them, but often fails to do so. Quocirca's mission is to help organisations improve their success rate in process enablement through better levels of understanding and the adoption of the correct technologies at the correct time.

Quocirca has a pro-active primary research programme, regularly surveying users, purchasers and resellers of ITC products and services on emerging, evolving and maturing technologies. Over time, Quocirca has built a picture of long term investment trends, providing invaluable information for the whole of the ITC community.

Quocirca works with global and local providers of ITC products and services to help them deliver on the promise that ITC holds for business. Quocirca's clients include Oracle, Microsoft, IBM, Dell, T-Mobile, Vodafone, EMC, Symantec and Cisco, along with other large and medium sized vendors, service providers and more specialist firms.

Details of Quocirca's work and the services it offers can be found at
<http://www.quocirca.com>