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Reveal More Value in Your Data with Location Analytics

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Executive Summary

In nearly every industry, executives, managers and employees are increasingly using maps in conjunction with enterprise applications such as business intelligence (BI) and CRM. Companies seek every opportunity to gain an edge, and often it's to be found in the data at their fingertips.

Approximately 80% of an organization's data has a location component. By ignoring or under-utilizing this data, organizations overlook rich and pervasive information that could help them operate more efficiently and competitively. Savvy companies are generating new insights and unearthing new opportunities by mapping location-specific data.

This paper explains how organizations can leverage the location components of their corporate data to visualize, model and analyze business information in new ways.

The Value of Location in Business

The world now understands the power of a digital map, largely due to the consumerization of web mapping and the mass adoption of smartphones and tablets with default mapping apps. This consumer behavior is quickly spreading into the professional world.

Increasingly, senior executives, business professionals and knowledge workers are turning to mapped data to make better business decisions. Professionals seeing trends and patterns from their mapped business information want to better understand the underlying data. TechTarget and Esri conducted a survey in 2012 and found that managers and executives commonly use mapped data for a range of reasons[1], including:

- Asset management
- Business intelligence (BI)
- Customer relationship management (CRM)
- Enterprise resource management
- Field workforce management
- Operational awareness
- Real estate planning
- Risk management
- Supply chain management

[1] TechTarget/Esri, *Location, location, location: Key to Improved Analytics*, 2012

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Location Analytics Provides More Than Visualization

Viewing data on a map is a useful and valuable exercise, but it's just the tip of the iceberg. The growing awareness of the value of location-based data is driving both acceptance of and demand for location analytics solutions.

Location analytics adds mapping, data enrichment, and spatial analysis capabilities to business analytics packages and enterprise systems with no custom integration efforts. It enables organizations to visualize and analyze the relationship between corporate data — such as revenues and inventory — and location-specific data — such as sales territories, city boundaries and store locations — in the form of maps. In essence, it answers the "where" of business questions.

How is Location Analytics Used?

Location analytics adds mapping, data enrichment, and spatial analysis capabilities to business analytics packages and enterprise systems with no custom integration efforts.

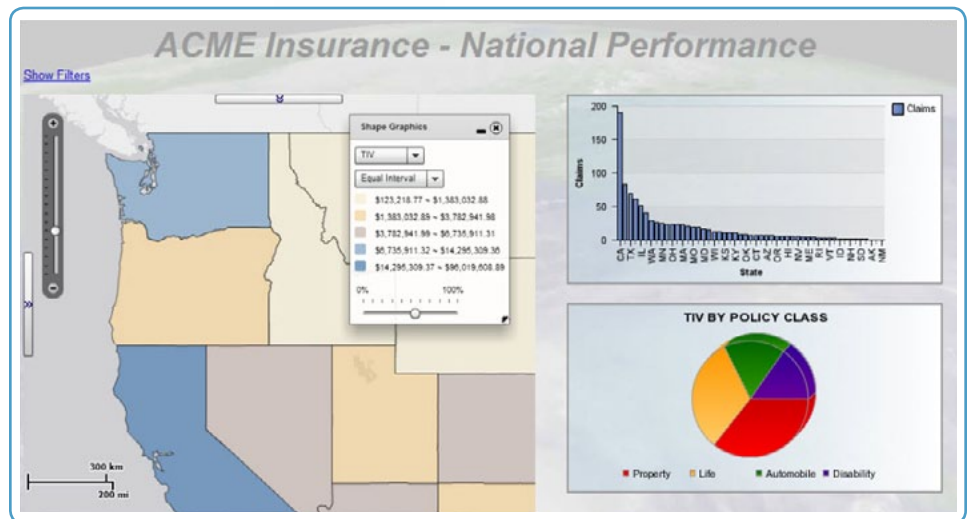At its core, location analytics is enabled by three key elements:
- Dynamic, interactive mapping
- Sophisticated spatial analysis
- Rich, complementary data

Used together, these elements help organizations gain a better understanding of their data and their businesses to make more informed decisions.

One very simple yet powerful use of location analytics is found in dynamic, interactive analyses from tying data in a map to existing spreadsheets. As users drill down into the data through a map, the spreadsheet updates — or as users drill down into a spreadsheet, the map updates — to reflect what they are seeing. This leads to many "Aha!" moments, as users discover that understanding "where" often answers "how" and "why."

Location analytics adds spatial capabilities — mapping visualization, spatial analytics and data enrichment — to important information systems such as BI and CRM software.

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Imagine needing to ascertain the true trade area of a store because of competition or cannibalization. By spatially enabling its CRM, a business can answer a question like, "Where exactly do 80% of our revenues come from?" It can also determine which customers are within a specific drive time of a location. Moreover, it can assess the impact of opening an additional location or increasing the footprint of current locations.

Exposing New Data Insights Across the Organization

The ability to interact with data through mapping enables people to find and understand patterns that weren't obvious in tables or charts. Once an enterprise system has been spatially enabled with location analytics, geographic insights can be readily discovered.

For instance, the real estate planner for a retailer can use mapped data to make better decisions about where to open — or close — a store. The finance department can combine spatial data and spreadsheets to better understand profitability by region. Marketing departments can use BI systems to pinpoint the best customers and answer pressing questions such as: Which messages resonate best in each region where we do business? Where are the highest concentrations of people who look and behave like our best customers?

A risk management analyst can see where geographic features like mountains, rivers or freeways are impacting business and visualize data results on a map to discover where the company has gaps in coverage or should be allocating more resources.

> Location analytics bridges siloed data dispersed across an organization, empowering businesses to make strategically aligned decisions based on complete and consistent data.

Dispelling Myths

In spite of the clear value of tapping into location-based data, many business executives, managers and users cling to misconceptions about location analytics. They think that it is:

- Too complex
- Too expensive
- Dependent on geographic information systems (GIS)
- Comparable to using online mapping apps and tools
- A "nice to have"

New Technology Simplifies Mapping

In the past, mapping was a complex process requiring specialized expertise to implement and administer maps. Today's location analytics technology enables business users to far more easily bring maps into their environment and use them for strategic analysis. In fact, according to Deloitte, today's analytics tools are easier to use, allowing everyday users to more readily and intuitively explore complex data in a visual manner.[2]

[2] Deloitte, *Tech Trends 2012: Elevate IT for Digital Business*, 2012

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Solutions Exist for Every Budget, Every User

As map generation has moved out from under the purview of GIS analysts and is more commonly handled by knowledge workers in every department, vendors have responded with a variety of solutions available at all price points.

For some, an online, software-as-a-service subscription model makes the most sense, saving the costs of implementing and maintaining hardware and software. Others may be drawn to a combination of on-premises hardware and cloud-based software. In such cases, custom APIs, tailored to expose key metrics and decision criteria to a broader audience, make location analytics accessible across an organization.

Is Location Analytics Separate from GIS?

Geographic information systems (GIS) technology is the underlying technology of location analytics. Historically, access to spatial analytic tools has been reserved for GIS specialists. Today, by applying location analytics to enterprise systems, non-GIS professionals can easily incorporate location-related data into their analyses and decision-making processes.

The fact is that specialized GIS knowledge is not required to use location analytics tools. Location analytics enables anyone to investigate and understand the performance of their organization by using familiar tools like Microsoft Office or BI dashboards.
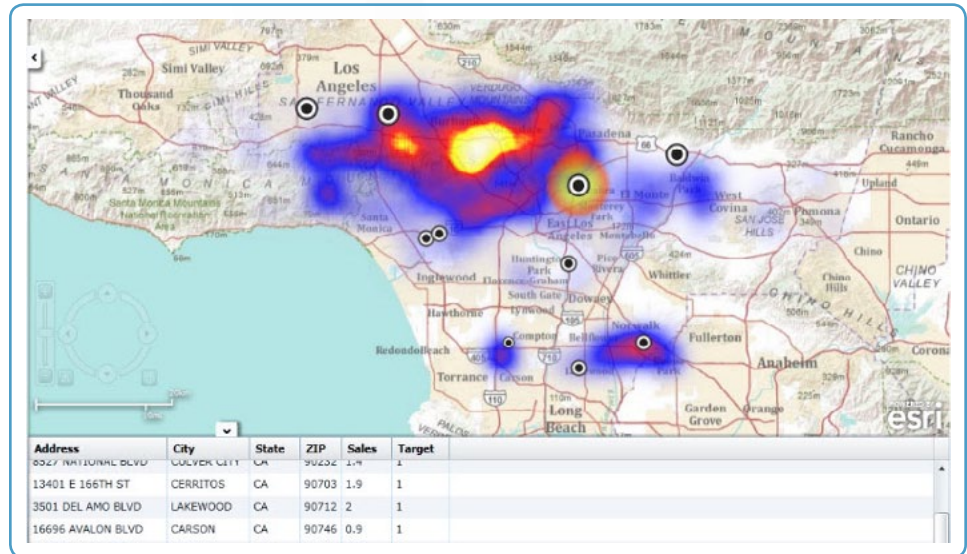
Location analytics reveals trends, opportunities and patterns otherwise hidden in traditional reporting tools.

Enterprises Need More than Online Tools

Accustomed to using online maps in their personal lives, some businesspeople think free online tools are sufficient in the workplace. However, with so much value locked in their data, organizations cannot afford to be bound by the limits of online tools that were not designed to enable exploration of location-related data in a business context. Instead, enterprises need robust applications designed specifically to help businesses visualize and analyze location-specific data within their corporate data.

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Mapping of Data Is Essential

Don't know **1.6%**
Unimportant **9.3%**
Essential **33.0%**
Nice to have **56.0%**
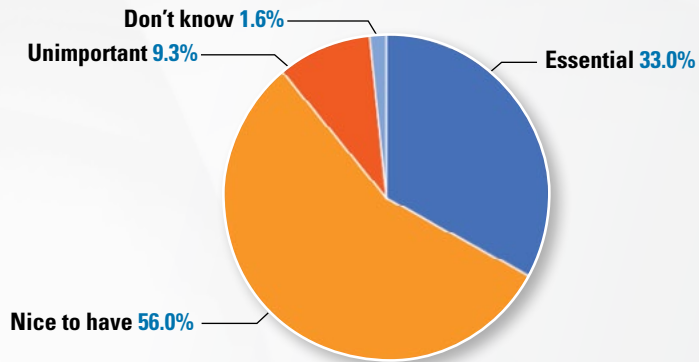
The role of mapping in business intelligence activities

Although viewing data on a map can provide unique insights, most businesses still consider their use "nice to have" vs. essential. In today's competitive business world, organizations need to take advantage of every opportunity to extract more value from the 80% of their data with a location component.

Seven Key Characteristics of an Effective Location Analytics Solution

Businesses can choose from a variety of location analytics solutions. In conducting their due diligence, they will be best served looking for a solution that satisfies the following criteria:

1. **Compatible with skill sets of analysts and users.** People don't have the time or desire to "learn" software; they just want it to work. Minimizing training and ramp-up time is crucial. Organizations will benefit most by seeking a solution that enables users to easily create and share maps throughout their organization or by department.

2. **Work within everyday tools and workflows.** Successful integration of location analytics into essential enterprise systems depends on it being non-disruptive to business people's workflows.

   The best solutions allow users to generate and/or incorporate maps into the office tools they're already using to make sense of data and answer business questions, such as Microsoft Office and SharePoint. By enabling everyday users to take advantage of location analytics from directly within these familiar tools, organizations enhance their ability and capacity to better answer questions.

3. **Support for a range of analyses.** Empowering non-analysts to conduct their own analyses is a key benefit of using location analytics. Look for a solution that enables everyday users to conduct site selection, revenue, and territory and market analysis, among other analyses.

4. **Support for a range of platforms.** Enterprises need to make analytics available on the variety of devices used by their employees. The ideal solution will work on web, mobile, desktop and server platforms.

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5. **Advanced query, editing, modeling and reporting capabilities.** While location analytics makes it possible for businesspeople with no specialized training to tap into location-related data, it's critical to cater to professional analysts. These users need power and flexibility to perform ad hoc queries or create sophisticated models, and they require solutions that support their needs in an intuitive manner.

6. **Provided by a credible vendor.** Because empowering everyday users with location analytics is a somewhat new concept, a number of new companies have introduced solutions. As with any critical business purchase, seek a solution provider with longevity and financial stability, a demonstrated track record of helping clients succeed, and a history of enhancing its offerings to keep pace with changing technologies and market needs.

7. **Solution support.** At a minimum, enterprises need to work with a vendor that offers phone and online support. Ideally, the solution provider will offer on-site professional services, and it should also be able to walk users through features via live chat and dedicate an account manager who serves as a direct connection for assistance. Vendors with longevity and a successful product can also provide access to a robust online community and user groups that afford opportunities for networking with and tapping into the best practices of peers.

Conclusion

As organizations increasingly rely on data to establish a competitive edge, they are seeking ways to make use of all the data at their disposal. A vast majority of that data includes a location component, offering an opportunity for businesses to visualize and analyze information in more insightful ways.

To reveal the full value of this data, forward-thinking organizations are turning to location analytics, which adds mapping and geographic intelligence capabilities to mission-critical enterprise business systems. Leading location analytics solutions are intuitive, designed to work seamlessly in business environments, and support the range of analyses and users found in today's enterprises.

To learn more about Esri Location Analytics, visit www.esri.com/locationanalytics.

About Esri

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Since 1969, Esri has been giving customers around the world the power to think and plan geographically. The market leader in GIS technology, Esri software is used in more than 300,000 organizations worldwide including each of the 200 largest cities in the United States, most national governments, more than two-thirds of Fortune 500 companies, and more than 7,000 colleges and universities. Esri applications, running on more than one million desktops and thousands of Web and enterprise servers, provide the backbone for the world's mapping and spatial analysis. Esri is the only vendor that provides complete technical solutions for desktop, mobile, server, and Internet platforms. Visit us at www.esri.com.

Learn more about integrating Esri mapping solutions with your enterprise applications.

Contact an Esri specialist at Biinquiries@esri.com to get started.

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