



Insight commercial case studies

Sector: **Public Sector**

Insight

Centre for Data Analytics

Data analytics can improve government services

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Guiyang Municipal People's Government
(Guizhou Province, China) uses social network
analysis to better understand and deliver
services to its citizens

Executive Summary

Challenges

Guiyang is the capital of Guizhou province of Southwest China and is home to over four million people. The challenge was to better understand their citizens' needs so they can improve the delivery of their services. This required:

- Social network analysis of the user base
- Segmentation of the user base
- Searching through databases containing millions of records

What Insight Delivered

Insight conducted a research project to bring its expertise in data analytics in the area of Social Network Analysis and Customer Segmentation to deliver:

- A state-of-the-art review report detailing the use of social network analytics for customer segmentation
- Community-finding integration software
- Development of a working prototype for customer segmentation

Measurable Impacts

The project helped to improve how services are targeted at the right communities and also to improve how citizens can access these services and support systems:

- Improved segmentation and needs analysis for communities
- Improved targeting of community services and supports
- Improved services delivered to citizens



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Background

Organisations and governments don't always take advantage of the customer information available to them. In fact, much of the customer data contains relational information that can be used to extract a social network analysis of the user base. This is a set of connections between people, which may correspond to a social relationship, such as friendship or a business partnership. Analysis of social links can yield many important insights into the customer base that allows government agencies and businesses to better target services or to understand the behaviour of their customers with respect to the services they offer.

One important and useful application is customer segmentation. The social network can be used to segment the user base into sub-groups, which may correspond to high-value customers, or communities of people who share some common aspects. Customer segmentation can in turn be used to develop services that are more tailored, or personalized to the target needs. For example, businesses that identify high-value customers can use this information to target interventions that ensure that customers remain fully satisfied with their service. Equally, government services may also benefit from having more detailed knowledge of the citizens who use their services.

Solution and Outcome

Computational techniques for the analysis of social networks have matured greatly in the last ten years, such that these techniques can now be applied on large-scale social networks consisting of millions of people, with millions of interrelationships. Insight has developed novel technology on finding communities in large-scale social networks. In particular, identifying overlapping communities, where each individual may be assigned to more than one community. Being one of the few research groups in this area that focus on overlapping communities, Insight has built a technology that allow companies to consider individuals in the context of the different communities they may belong to. For example, an individual in a business context may have very different needs to the same individual in a family context.

Insight developed a solution that integrates industry standard tools into an easy-to-use application, allowing businesses to deeply explore the relationship structure of their databases, as an important step towards focused, targeted, personalized service provision.

Guiyang Municipality, Guizhou

For further details see www.gyftz.gov.cn

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"The government of Guizhou wants to develop its big data industry and sees Ireland as a natural partner". Helen Chen

