

The Experience of KXEN with Telekomunikacja Polska

At the end of March 2009, KXEN, the data mining automation company, entered the SNA market with the launch of KSN, a new module of the large KXEN's data mining software suite. The objective of KSN is to analyse connections between customers of telecommunications providers, banks, retails and other sectors in order to improve the results of marketing campaigns, through a better knowledge on customer behaviour and interactions.

KSN performs three main tasks:

- Extracts many social networks from transaction and relational data
- Creates many social variables from the social network. These variables describe the role, and the social pressure and influence, of each customer within specific communities of users
- Exploits social networks' variables to define predictive models in an easy, fast and automatic way.

The internal benchmarks of KSN revealed the extremely good scalability of the product. Using an extract of CDR with 2.6 billion lines and 130 million links, KSN could build the Social Network in 1 hour 15 minutes. Positive initial feedback drove KXEN to engage with telecommunications providers in order to assess the value of KSN in real-time situation.

DETECTING COMMUNITIES WITHIN TELEKOMUNIKACJA POLSKA'S SUBSCRIBER BASE

One of KXEN's users, Telekomunikacja Polska (France Telecom Orange Group), has used KSN to assess the value of SNA in empowering customer retention strategies. Telekomunikacja Polska is the largest fixed-line provider for voice and broadband services in Poland.

The objective of the project was to explore and define effective ways to predict churn starting from CDRs' derivatives (Call Data Records). The prediction of churn was based on four main types of analysis: churn measurements, psychographic analysis, geographical churn analysis and SNA. The first two look at changes in customer's usage in order to predict possible churn. The geographical churn analysis looks at churn dynamics in geographical neighbourhoods.

Social Network Analysis was used to detect communities and identify their structures. Using a 64bit AIX Server, KSN was able to smoothly work on CDR derivatives in order to prepare links and detect communities within the subscriber base in two hours. The communities were structured in networkers, bridges, leaders and followers. Networkers are the backbone of the network with a high number of connections within and without their community. Bridges are connecting elements between different communities. Leaders have

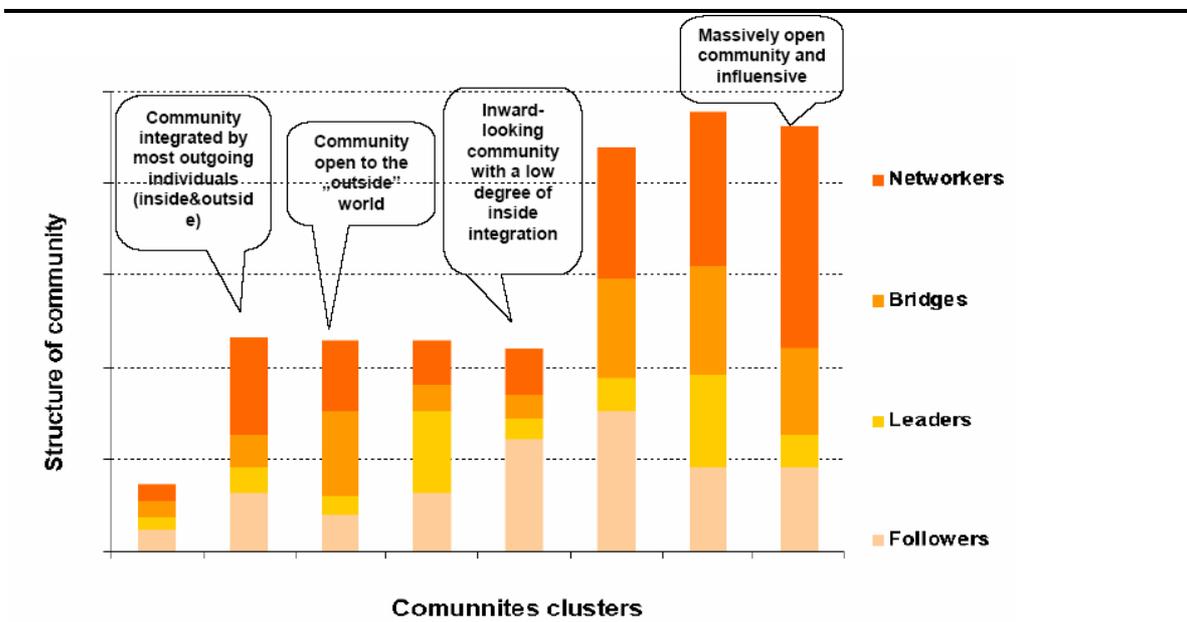
high connectivity within the community. Followers are the least connected within and without the community.

Micro-communities potentially can be evolved into macro communities which, at each succeeding stage of aggregation, reveal additional and valuable “meta-community insights”.

“Our experience with KSN indicate that Telekomunikacja Polska’s entire subscriber base can be classified in twelve “meta-communities”, at a national level” – explains Jarosław Kosiński, Corporate Project Manager at Telekomunikacja Polska SA

Chart I shows Telekomunikacja Polska’s communities based on KSN community detection.

CHART I
Telekomunikacja Polska’s Communities Based on KSN Community Detection



Source: Telekomunikacja Polska S.A.

Communities are defined based on the different distribution of the four roles of customers within the communities. Community structures can differ one from the other: from the very simple (most frequent – on left hand side’s of the Chart) to broad and complex ones (less frequent, on right hand side’s of the Chart).

Community detection and subscriber base segmentation were then validated by ad-hoc research based on interviews with subscribers. According to Jarosław Kosiński, the results of the research confirmed that the roles of subscribers within the communities drawn with SNA were coherent with the social profiles of the interviewees. Moreover, some of these SNA roles seemed to be more comprehensive than their archetypes drawn from KSN community detection.

The role of subscribers within the communities, as well as the other social variables created by KSN, were then used to rebuild the churn prediction model. The results were very promising. The contribution of social network analysis improved the accuracy of the churn predictive model by 47 per cent. Telekomunikacja Polska is of the opinion that KSN can

improve the power of predictive models and increase the efficiency of retention campaigns. All this was done with an easy user interface and short elaboration times.

Source: This Case Study is an extract from the Frost & Sullivan Market Report: Exploring the Use of Social Network Analysis (SNA) in the Telecommunications Industry

ABOUT KXEN

KXEN, The Data Mining Automation Company™ delivers next-generation Customer Lifecycle Analytics to enterprises that depend on analytics as a competitive advantage.

KXEN's Data Mining Automation Solution drives significant improvements in customer acquisition, retention, cross-sell and risk applications. Our solution integrates predictive analytics into strategic business processes, allowing our customers to drive greater value into their business. Find out more by visiting www.kxen.com.

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