



THE USE OF SOCIAL NETWORK ANALYSIS IN MOBILE OPERATOR MARKETING

A WHITE PAPER CONTAINING CASE STUDY EXAMPLES

INTRODUCTION

Social Network Analysis (SNA) has received much attention in the telecoms media (ref) as a technology with the potential to dramatically improve marketing returns. This document explains how telecoms operators can benefit from this new technology in churn reduction, viral marketing and other areas. It also addresses key factors for a successful introduction of Social Network Analysis into a mobile operator.

MARKETING CHALLENGES FOR MOBILE OPERATORS

Broadly speaking the role of the marketing function in a mobile network operator is to:

- ◆ Acquire as many new customers as possible
- ◆ Keep customers as long as possible
- ◆ Maximise the revenue from each customer

Throughout the world these challenges remain remarkably consistent – from the USA to central Asia via Europe, most mobile operators see churn as the #1 operational marketing KPI.

Strategically, most mobile operators are trying to develop other revenue streams – for example mobile data and DSL - to allow continued growth and shareholder returns as competition, regulatory pressure, market saturation and disintermediation of the mobile operator value chain continue to challenge margins.

This white paper discusses the contribution that SNA can make towards achieving these goals.

THE GROWING IMPORTANCE OF INFLUENCE IN MARKETING

The influence of one's friends has always been recognised as a factor in consumer decision making, but recently has received increased attention from marketers. The



chart in fig. 1¹ highlights the key role of recommendations by friends in the making of consumer decisions.

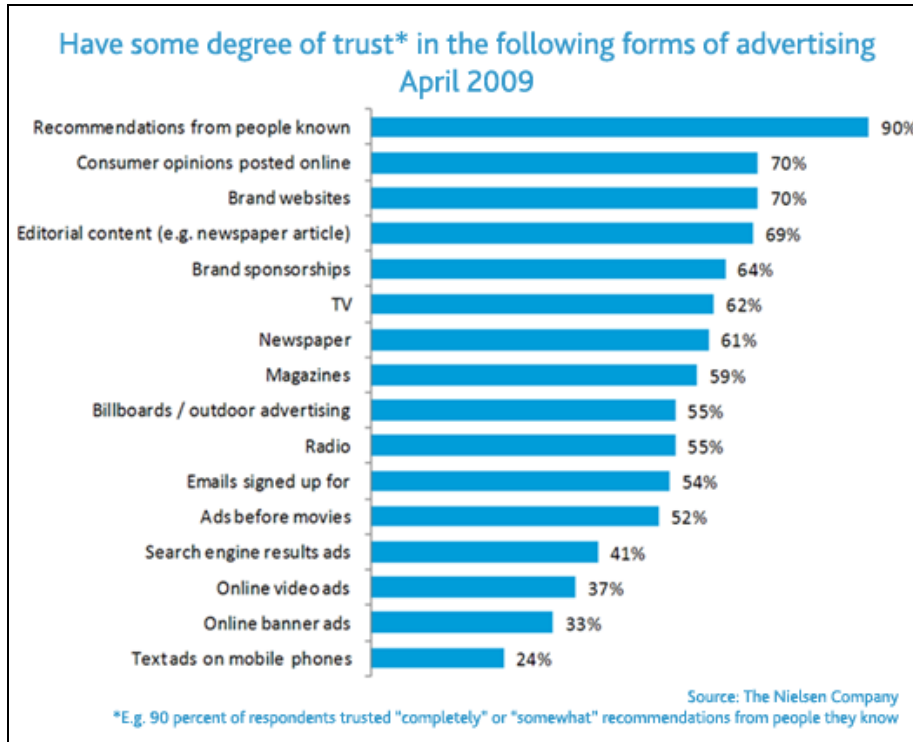


Fig. 1: results from Nielsen global survey, 2009.

This may be due to:

- ◆ The increase in the number of choices that we, as consumers and employees, must make due to the increasing complexity of life [New York Times ref.??]
- ◆ A new level of consumer cynicism about advertising messages
- ◆ New communications media (mobile phones, email and latterly web 2.0), allowing fast, low-cost peer-to-peer sharing of information within large numbers of people across great distances

In addition to these factors driving the growing importance of peer-to-peer influence is the fragmentation of media. No longer can half the country be reached by advertisements midway through the main evening news or a weekend TV chat show.

For all these reasons, understanding influence is an important part of marketing.

¹ <http://blog.nielsen.com/nielsenwire/consumer/global-advertising-consumers-trust-real-friends-and-virtual-strangers-the-most/>



INFLUENCE WITHIN MOBILE OPERATOR MARKETING

While almost all consumer decisions are influenced by other people, in most mobile phone markets (one exception is Austria), there is an additional factor at work – cheaper on-net calling. This gives the consumer an economic incentive to be on the same network as her friends, which in turn creates normative pressure within the group to share the same mobile network.

SOCIAL NETWORK ANALYSIS – THE SCIENCE OF COMMUNITIES AND RELATIONSHIPS

The scientific discipline of Social Network Analysis (SNA), although in existence for around a hundred years, has recently come to the attention of marketers in their quest to understand how to market to influencers in society. The International Network for Social Network Analysis defines SNA as:

“Social network analysis is focused on uncovering the patterning of people's interaction.”²

Community-related SNA parameters include the size and density of a social group, its stability, and its homophily (the degree of similarity between its members). Individual SNA parameters can include connectedness, social role, traffic role and many others.

The discipline has come to the attention of the general public e.g. through movies (six degrees), popular books (Gladwell's 'Tipping point') and the game 'six degrees of Kevin Bacon'³. None of this, however, helps marketers beyond providing an empirical understanding of viral marketing in general.

MOBILE CDRs AND SNA

For every mobile phone call or message, a billing record is created. These Call Detail Records (CDRs) allow mobile operators to account with each other for cross network traffic and to charge customers for service. In the year 2000 an Irish entrepreneur observed that in a country with high mobile phone penetration, one's mobile phone

² Source: <http://www.insna.org/sna/what.html>

³ Online at <http://oracleofbacon.org/>



calling patterns largely reflect one's social links. This led to the radical idea of applying SNA principles to mobile call records in order to provide quantitative influencer marketing data on a massive scale across the entire mobile customer base. Notwithstanding the technical challenges, initial results proved the validity of the concept. This led directly to the foundation of Idiro Technologies. Idiro is now a world leader in helping mobile operators to do better marketing through the application of SNA insights.

A crucial step in Idiro's development was the insight that academic SNA metrics, while interesting, do not in themselves provide actionable marketing insights. Therefore it has been necessary to develop specific applications to address the needs of marketing and CRM in mobile operators.

SNA AND MOBILE CUSTOMER CHURN

Mobile customer churn is contagious. This is very easy to prove by building a social network map of a mobile operator's customer base and overlaying churners in successive periods. This exercise shows that churn is much more likely to occur within the social groups of those who churned earlier than in the general population.

PREDICTION CONTAGIOUS CHURN

Contagious mobile customer churn can be predicted. Using algorithms developed and refined over many years, Idiro can predict which customers will be influenced by their cherner friends to subsequently churn. Idiro SNA Plus, Idiro's SNA suite for mobile operator marketing, gives strong accuracy levels and a low overlap with the results from traditional churn modelling methodologies. As a result, Idiro churn prediction can add a lot to the overall accuracy of a mobile operator's churn prediction, as is shown in the following example:

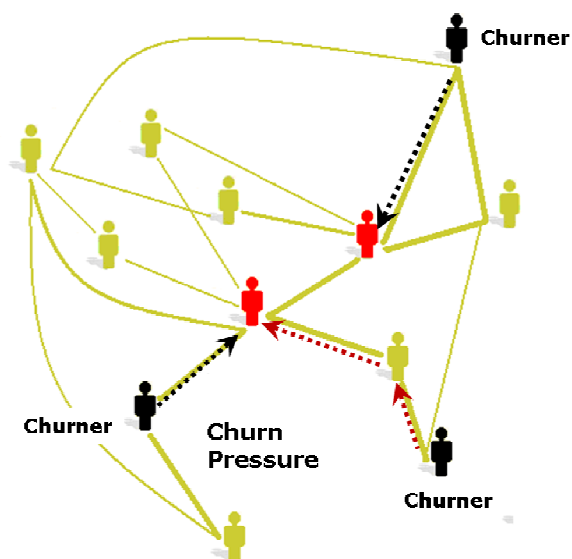


Fig. 2: Churn contagion



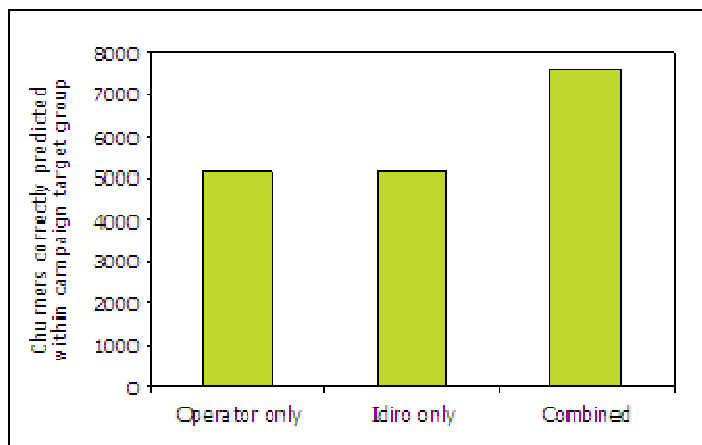


Fig. 3: Improvement in churn prediction from Idiro SNA Plus

IDENTIFYING INFLUENCERS FOR CHURN

Churn is contagious, but the effect that individual churners have on their friends varies enormously. Some churners will cause a large number of their friends to follow them as churners, whereas others (with a similar monthly spend) will have a negligible effect on those around them. This level of influence can be predicted prior to churn. Idiro coined the term 'Churn Influence' to describe the level of influence a mobile customer is predicted to have. Fig. 4 shows how in one European mobile market, churners with a high Churn Influence Score caused on average 1.4 friends to churn, whereas those with the lowest score had barely any effect on their neighbours.

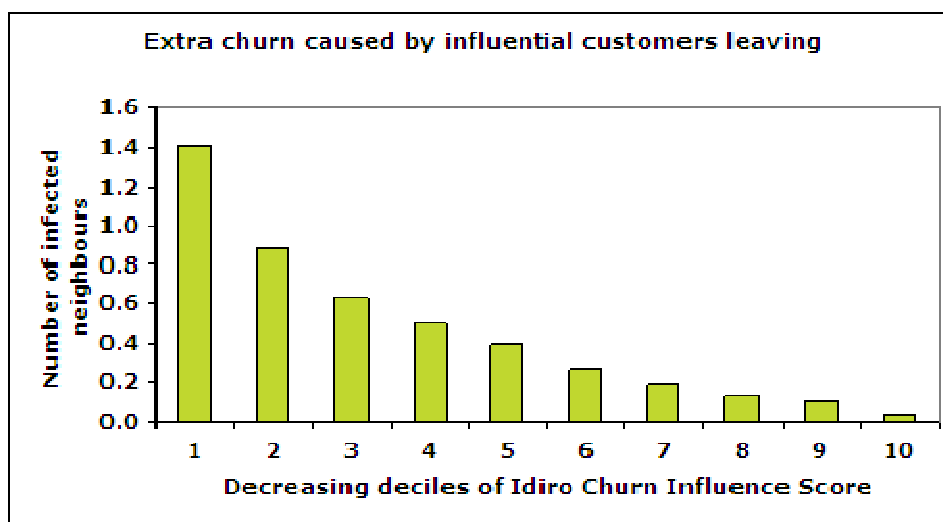


Fig. 4: Contagious churn caused by customers with different Churn Influence scores

Churn Influence Scores are typically provided for the mobile operator's entire active customer base. Mobile operators use these scores for:



- ◆ Targeting customers for retention offers such as contract renewal
- ◆ Softer 'act of kindness' campaigns such as free concert tickets or small gifts
- ◆ Loyalty programmes

The most sophisticated operators incorporate Churn Influence into overall customer lifetime value models.

SNA AND CROSS-SELL / UPSELLING

All of our commercial decisions are, to a greater or lesser extent, influenced by those around us. Some purchases, like DSL broadband, will typically cause few friends to purchase a similar product from the same vendor. The Apple iPhone, by contrast, typically has a strong impact on the user's friends. Some examples from Idiro's wide experience are shown in fig. 5.

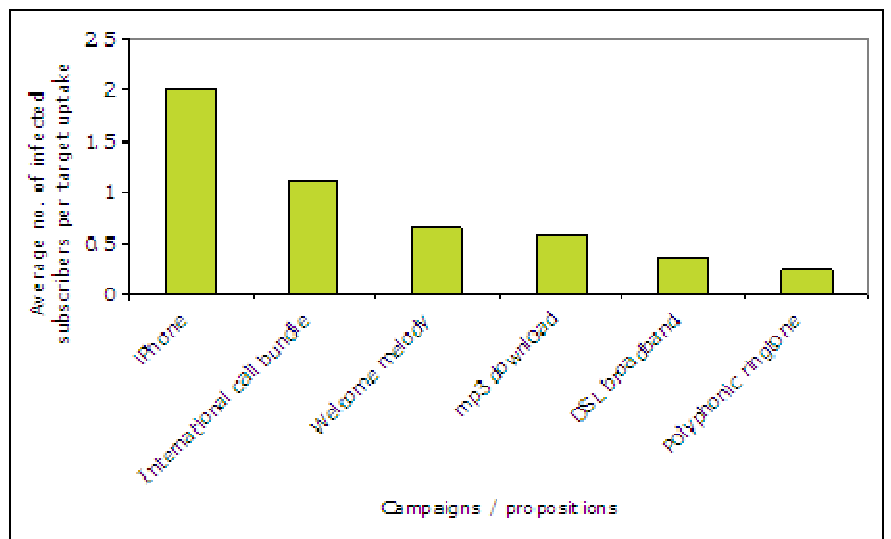


Fig. 5: Variation in the level of virality of campaigns / propositions

Fig.6 shows the benefit of deploying Idiro SNA Plus in a campaign to upsell 3G handsets. In this case the operator was aiming to drive uptake within the community of the target group. However, SNA can equally be used to drive uptake within the target group, by targeting friends of existing users.

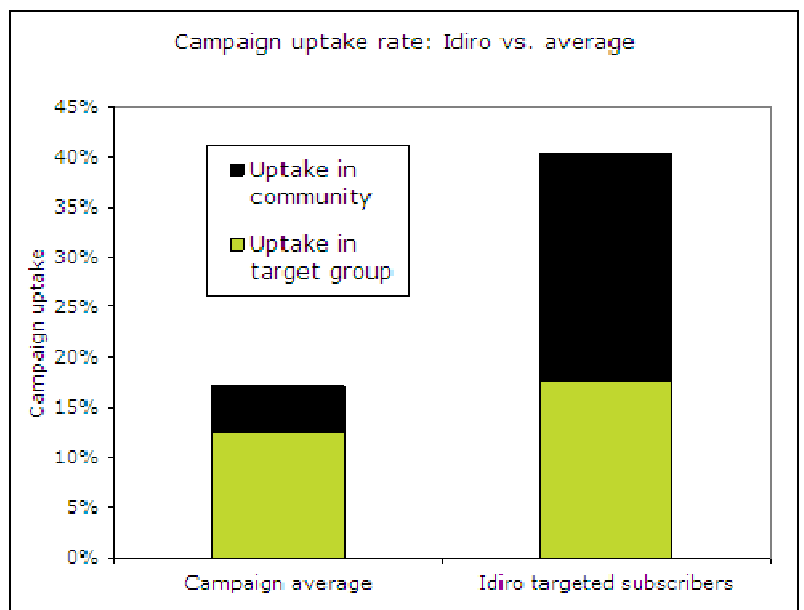


Fig. 6: Improvement in churn prediction from Idiro SNA Plus

The actual level of virality of any cross-sell / upsell campaign



will depend on a number of factors:

- ◆ The market – e.g. economic factors
- ◆ The campaign
- ◆ The mobile operator’s brand perception
- ◆ The target group
- ◆ The most important factor is normally the proposition itself.

Idiro works with its mobile operators to identify the best opportunities for viral cross-sell / upsell marketing campaigns. Idiro SNA Plus will deliver a target customer list for optimum virality. In addition, Idiro will work with the mobile operator to optimise the campaign for virality.

SNA FOR CUSTOMER ACQUISITION

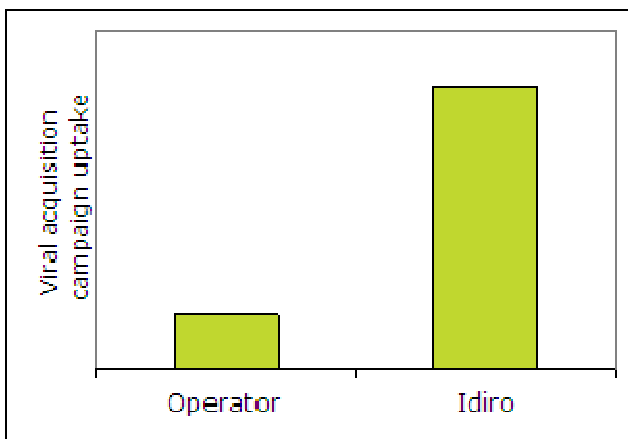


Fig. 7: Using SNA delivers 5x improvement in acquisition campaign uptake

An operator’s churner is their competitor’s new acquisition, and the choice of new operator to which a churner moves is strongly affected by one’s friends. Whether for winback or new customer acquisition campaigns, SNA can have a strong benefit in this especially challenging area of mobile operator marketing.

In today’s saturated mobile markets, new customer acquisition is never easy but with Idiro SNA Plus it becomes more feasible. Fig. 7 shows how Idiro SNA Plus delivered a 5-fold increase in uptake of a new customer acquisition campaign in Eastern Europe.

OTHER APPLICATIONS OF SNA

Because of the importance of the community in consumer decision-marking, SNA adds value in most areas of targeted marketing. For example, a social network fingerprint of a customer can be established, which can then be used to track rotational churners.



Also, advanced SNA techniques can also be used to identify families and households within a customer base. This is useful for cross-selling fixed-line solutions such as DSL, or in marketing family tariffs.

IMPLEMENTING A SNA SOLUTION

Implementing a SNA solution is straightforward. An SNA solution from IdirO can be delivering results within four weeks, given the right focus.

THE BUSINESS CASE

The business case for implementing an SNA solution is usually built from one or more components:

- ◆ Reduction in churn: when the SNA-based prediction is combined with the operator's own model results, predictive accuracy increases and churn reduction follows.
- ◆ Retaining influential customers: If customers with a high 'churn influence' score are retained, then their friends are retained *at no additional cost*. This element often represents the single biggest benefit of implementing a SNA solution.
- ◆ Increased uptake of services or of new customer acquisition: SNA-based viral marketing delivers increased uptake, which is valued either as extra uptake and the ARPU associated with it, or reduced campaign spend to achieve the same uptake.

Idiro can provide a standard business case template based on the input of numerous mobile operator customers.

KEY SUCCESS FACTORS

Idiro has been involved in mobile operator SNA implementations for over seven years. The following are some critical areas of focus for a successful trial and a speedy implementation of SNA with a strong ROI.

- ◆ **Cross-functional cooperation.** The most successful SNA implementations projects tend to have close cooperation between the marketing analytics team and the marketing operations / campaigns / segments team(s).
- ◆ **Key people:** A project manager and sponsor (both part-time roles) should be appointed to work on the SNA implementation. IdirO will spend time with



these key staff to ensure all project actions are understood, agreed and scheduled.

- ◆ **Successful introductions of new technology require organisational / cultural change, which isn't easy:** A successful implementation leading to a strong ROI depends on getting a number of subtle organisational factors right (operational, process change, measures, etc.). When an SNA project under-delivers, this is nearly always one of the causes.
- ◆ **Ensure the new capability is used, not forgotten:** Finally, it can take time before the use of IdirO SNA becomes 'business as usual' in marketing campaigns. Keep the focus on SNA for the first few months.

CONCLUSION

Mobile network operators are facing into saturated, increasingly regulated, and increasingly competitive markets. Social Network Analysis offers a new type of basis for competitive advantage: IdirO's mobile operator customers can approach their marketing not just as individuals or as segments, but in the context of their community. The benefits are clear: lower churn, higher VAS uptake, increased customer acquisition - and the impact of SNA can be easily measured.

Successfully implementing an SNA solution requires particular skills, in particular a close co-operation between segment/base marketing and analytics, led by an active sponsor. However, the rewards of SNA in mobile operator marketing, as IdirO customers have found, are a significant competitive advantage.



FURTHER INFORMATION

Idiro's award-winning Social Network Analysis service comprises a number of modules, covering key areas of mobile operator marketing. These are:

The Idiro Social Model	The powerhouse underpinning Idiro SNA
Idiro Retention	Predicts churners and influencers who can impact churn
Idiro Viral Marketing	Targeting reports for use in cross-sell / up-sell campaigns. Fully customised
Idiro Acquisition	Brings the science of SNA to member-get-member campaigns
Idiro Families	Identifies families/households, and their leaders
Idiro Fingerprinting	Identifies rotational churners (spinners)

To discuss how Idiro SNA Plus can benefit your marketing, contact Clare Curtin, Marketing Executive, Idiro Technologies, on +353 76 670 9533 or at clare.curtin@idiro.com or via our website www.idiro.com.

