Zwakke Banden, Goede Banen?

Mijn Arbeidslevensloop

Netwerken

Zelfstandig naamwoord

Werkwoord

The Strength of Weak Ties[1]

Mark S. Granovetter
Johns Hopkins University

Analysis of social networks is suggested as a tool for linking micro and macro levels of sociological theory. The procedure is illustrated by elaboration of the macro implications of one aspect of small-scale interaction: the strength of dyadic ties. It is argued that the degree of overlap of two individuals' friendship networks varies directly with the strength of their tie to one another. The impact of this principle on diffusion of influence and information, mobility opportunity, and community organization is explored. Stress is laid on the cohesive power of weak ties. Most network models deal, implicitly, with strong ties, thus confining their applicability to small, well-defined groups. Emphasis on weak ties lends itself to discussion of relations *between* groups and to analysis of segments of social structure not easily defined in terms of primary groups.

A fundamental weakness of current sociological theory is that it does not relate micro-level interactions to macro-level patterns in any convincing way. Large-scale statistical, as well as qualitative, studies offer a good deal of insight into such macro phenomena as social mobility, community organization, and political structure. At the micro level, a large and increasing body of data and theory offers useful and illuminating ideas about what transpires within the confines of the small group. But how interaction in small groups aggregates to form large-scale patterns eludes us in most cases.

I will argue, in this paper, that the analysis of processes in interpersonal networks provides the most fruitful micro-macro bridge. In one way or another, it is through these networks that small-scale interaction becomes translated into large-scale patterns, and that these, in turn, feed back into small groups.

Sociometry, the precursor of network analysis, has always been curiously peripheral—invisible, really—in sociological theory. This is partly because it has usually been studied and applied only as a branch of social psychology; it is also because of the inherent complexities of precise network analysis. We have had neither the theory nor the measurement and sampling techniques to move sociometry from the usual small-group level to that of larger structures. While a number of stimulating and suggestive

[1] This paper originated in discussions with Harrison White, to whom I am indebted for many suggestions and ideas. Earlier drafts were read by Ivan Chase, James Davis, William Michelson, Nancy Lee, Peter Rossi, Charles Tilly, and an anonymous referee; their criticisms resulted in significant improvements.

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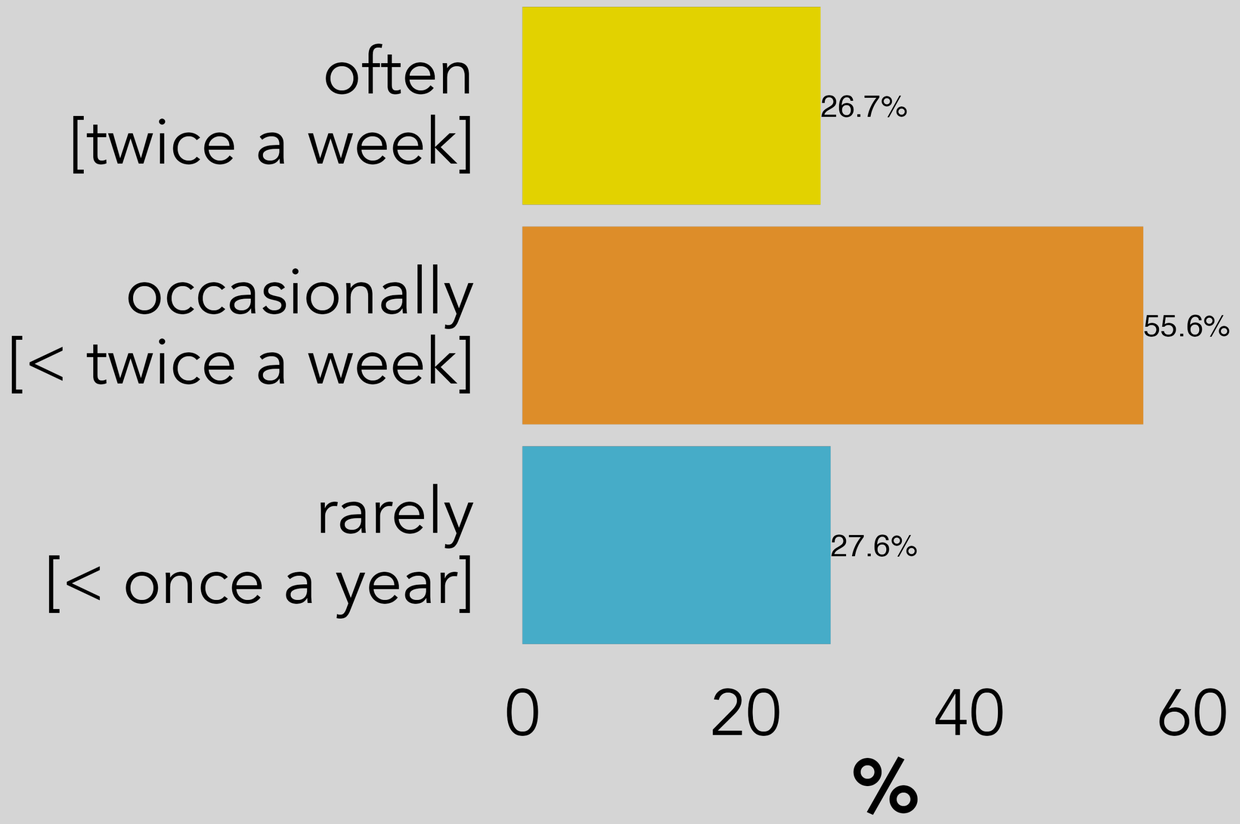
50% of recent job changers found job through tie

frequency of contact with tie that got you your job?



Social Networks and Labor Markets: How Strong Ties Relate to Job Finding on Facebook's Social Network

Laura K. Gee, *Tufts University*

Jason Jones, *Stony Brook University*

Moira Burke, *Facebook*

Social n ties are
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Philip Babco , Kelsey Jack,
George Nor merous semi-
nar participa paper. A spe-
cial thanks t w and Dean
Eckles. Cont ee@tufts.edu.
Information concerning access to the data used in this article is available as supplementary material online.

[*Journal of Labor Economics*, 2017, vol. 35, no. 2]

Submitted April 27, 2015; Accepted January 13, 2016; Electronically published January 26, 2017

> a user is *less* likely to eventually join the same workplace as an individual weak tie but collectively weak ties are more important than strong ties because they are numerous

Science

REPORT

SOCIAL NETWORKS

A causal test of the strength of weak ties

Karthik Rajkumar[1], Guillaume Saint-Jacques[1], Iavor Bojinov[2], Erik Brynjolfsson[3,4], Sinan Aral[5]*

The authors analyzed data from multiple large-scale randomized experiments on LinkedIn's People You May Know algorithm, which recommends new connections to LinkedIn members, to test the extent to which weak ties increased job mobility in the world's largest professional social network. The experiments randomly varied the prevalence of weak ties in the networks of over 20 million people over a 5-year period, during which 2 billion new ties and 600,000 new jobs were created. The results provided experimental causal evidence supporting the strength of weak ties and suggested three revisions to the theory. First, the strength of weak ties was nonlinear. Statistical analysis found an inverted U-shaped relationship between tie strength and job transmission such that weaker ties increased job transmission but only to a point, after which there were diminishing marginal returns to tie weakness. Second, weak ties measured by interaction intensity and the number of mutual connections displayed varying effects. Moderately weak ties (measured by mutual connections) and the weakest ties (measured by interaction intensity) created the most job mobility. Third, the strength of weak ties varied by industry. Whereas weak ties increased job mobility in more digital industries, strong ties increased job mobility in less digital industries.

The Strength of Weak Ties (*1*) is one of the most influential social theories of the past century, underpinning networked theories of information diffusion (*2*, *3*), social contagion (*4*, *5*), social movements (*6*), industry structure (*7*), influence maximization (*8*), and human cooperation (*9*, *10*). It argues that infrequent, arms-length relationships, known as "weak ties," provide more new employment opportunities (*11*), promotions and greater wage increases (*12*), creativity (*13*), innovation (*14*, *15*), productivity (*16*), and performance (*17*) because they deliver more novel information than strong ties. Weak ties are thought to provide access to diverse, novel information because they connect us to disparate and diverse parts of the human social network (*18*–*24*). In addition to productivity, performance, innovation, and other benefits, weak ties are thought to be specifically well suited to deliver new employment opportunities because they provide novel labor market information, making job mobility a centerpiece of the original weak tie theory.

Recent large-scale correlational investigations of the weak tie hypothesis, however, have uncovered a seeming "paradox of weak ties," suggesting that strong ties are more valuable than weak ties in generating job transmissions (*25*, *26*). Though these are the largest, most direct empirical examinations of the weak tie hypothesis to date, because the work is not experimental the authors rightfully acknowledge that their results "may not be the true causal effect of tie strength on the probability of a sequential job." More generally, two empirical challenges have prevented robust causal tests of the weak tie theory to date: First, a lack of large-scale data linking human social networks to job transmission makes measurement of the relationship between weak ties and labor market outcomes difficult. Second, network ties and labor market outcomes are endogenous, making the causal link between weak ties and job placement elusive. Individuals' labor market outcomes are likely to be determined by and to simultaneously determine their social networks. The evolution of social networks and job trajectories are also likely correlated with unobserved factors such as effort, ability, and sociability, which confound empirical identification of the link between weak ties and jobs.

We address these two empirical challenges and provide an experimental causal test of the weak tie theory with data from multiple large-scale randomized experiments on LinkedIn, the world's largest professional social network. The experiments randomly varied the prevalence of strong and weak ties in the professional networks of over 20 million LinkedIn members by adjusting the platform's People You May Know (PYMK) algorithm, which recommends new connections to members (Fig. 1A illustrates the experimental design). LinkedIn's PYMK algorithm is an ensemble machine learning model comprising the following: (i) a model for estimating the propensity of an ego (i.e., a focal member) to send a connection invite to an alter (i.e., a member the focal member is not currently connected with), (ii) a model estimating the alter's propensity to accept an conducted in 2015 that had over 4 million experimental subjects and created over 19 million new connections. We collected edge-level observations of tie strength and job transmission outcomes for each tie created during this experiment. We then analyzed a larger second wave of node-level PYMK experiments that took place worldwide in 2019. The second wave spanned every continent and US state, had more than 16 million experimental subjects, created ~2 billion new connections and recorded more than 70 million job applications that led to 600,000 new jobs during the experimental period (Fig. 1, B and C). The data were collected both at the node level (in 2019), where each observation corresponds to a unique LinkedIn member, and at the edge level (in 2015), where each observation corresponds to a unique tie between two LinkedIn members (see Fig. 1A for a description of how we compiled the edge- and node-level datasets).

We analyzed labor market mobility by measuring both job applications and job transmissions. Job applications are simply the number of jobs LinkedIn members applied to on the platform in the three months after an experiment. In accordance with the literature (*25*, *26*), we consider a job transmission to have occurred when three criteria are satisfied: First, user A reports working at company c at date D_1. Second, user B reports working at that same company c at a later date D_2, with D_2 and D_1 being at least one year apart. Third, user A and user B were friends on the social network at least one full year before D_2. In the weak tie literature, when these three criteria are met, a tie is considered a "sequential job" tie, which represents the state of the art in measuring relational job mobility.

We measured tie strength by its two leading indicators: the intensity of the interaction between two people and the number of mutual connections they had in common. We measured interaction intensity by counting the number of interactions LinkedIn members had with one another through bilateral messaging. We measured mutual friendship by counting the number of friends any two connected individuals had in common when their tie was

[1]LinkedIn Corporation, 700 E Middlefield Rd, Mountain View, CA 94043, USA. [2]Harvard Business School, Soldiers Field, Boston, MA 02163, USA. [3]Stanford University, 353 Jane Stanford Way, Stanford, CA 94305, USA. [4]National Bureau of Economic Research, 1050 Massachusetts Ave., Cambridge, MA 02138, USA. [5]Massachusetts Institute of Technology, MIT Sloan School of Management, 100 Main St., Cambridge, MA 02142, USA.
*Corresponding author. Email: sinan@mit.edu

> The experiments randomly varied the prevalence of weak ties in the networks of over 20 million people over a 5-year period, during which 2 billion new ties and 600,000 new jobs were created. The results provided experimental causal evidence supporting the strength of weak ties

Netwerken [werkwoord]

Definitie I:

het actief streven naar het vergroten van het aantal personen in het netwerk die in de toekomst nuttig kunnen zijn

Definitie II:

de post-hoc toekenning aan vriendschappelijke interacties die hebben geleid tot een vorm van samenwerking

NEWS

Centraal Bureau
voor de Statistiek

Waar ben je naar op zoek?

‹ Home

Drie kwart van de ondernemers ervaart personeelstekort

24-8-2023 00:00

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NEWS

metro

Sophie Rietmulder · Arbeidsmarkt · 11 mrt 2025, 14:22
Leestijd: 2 minuten

Ruim 400.000 vacatures open: deze sectoren schreeuwen om personeel

Foto: ANP XTRA KOEN VAN WEEL

De arbeidsmarkt in Nederland blijft krap. In het laatste kwartaal van 2024 stonden er 404.000 vacatures open en voor elke 100 werklozen waren er 108 openstaande vacatures, zo blijkt uit cijfers van het Centraal Bureau voor de Statistiek (CBS). De verwachting is dat deze situatie voorlopig niet zal veranderen.


if you do something
you love
you never work
a day in your life

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Scriptie Prijs