Harvard
Business
Review

Job Search

Which Connections Really Help You Find a Job?

by Iavor Bojinov, Karthik Rajkumar, Guillaume Saint-Jacques, Erik Brynjolfsson, and Sinan Aral

December 01, 2022

sdominick/Getty Images

Summary. Experiments involving 20 million people generated a surprising finding: moderately weak connects — and not strong connections — are the most useful in finding a new job. To be more specific, the ties that are most helpful for finding new jobs tend to be moderately... **more**

Whom should you connect with the next time you're looking for a job? To answer this question, we analyzed data from multiple large-scale randomized experiments involving 20 million people to measure how different types of connections impact job

mobility. Our results, published recently in Science Magazine, show that your strongest ties — namely your connections to immediate coworkers, close friends, and family — were actually the least helpful for finding new opportunities and securing a job. You'll have better luck with your weak ties: the more infrequent, arm's-length relationships with acquaintances.

To be more specific, the ties that are most helpful for finding new jobs tend to be *moderately* weak: They strike a balance between exposing you to new social circles and information and having enough familiarity and overlapping interests so that the information is useful. Our findings uncovered the relationship between the strength of the connection (as measured by the number of mutual connections prior to connecting) and the likelihood that a job seeker transitions to a new role within the organization of a connection.

The observation that weak ties are more beneficial for finding a job is not new. Sociologist Mark Granovetter first laid out this idea in a seminal 1973 paper that described how a person's network affects their job prospects. Since then, the theory, known as the "strength of weak ties," has become one of the most influential in the social sciences — underpinning network theories of information diffusion, industry structure, and human cooperation.

Despite the longevity and influence of Granovetter's hypothesis, there has never been a definitive causal test using large-scale data. This is because people's networks evolve simultaneously with their jobs, making it extremely difficult to run the large-scale experiments needed to test the theory. It is also for this reason that most studies in this area have resorted to correlational analyses, making it hard to know if it was actually because a tie was weak that someone got a job or because of confounding factors like their seniority or the fact that their company was growing rapidly.

Our work addresses this gap using data from the largest professional networking platform in the world: LinkedIn. In particular, we leveraged a standard part of modern recommender engines: A/B testing. As the AI models that drive these recommendation algorithms are constantly improved, new versions are rigorously tested using randomized experiments to ensure that they work well for all users. Given the scale of digital platforms, these experiments tend to be massive, running on tens of millions of users.

We analyzed data from multiple experiments of this kind on LinkedIn's "People You May Know" algorithm, which recommends new connections to LinkedIn members. The worldwide experiments, spanning five years, randomly varied the composition of connection recommendations in the networks of over 20 million people, during which time two billion new ties and 600,000 new jobs were created. By chance, these tests varied the prevalence of weak and strong ties in recommendations, and it was exactly this variation that we leveraged.

Our causal analysis confirmed that weaker ties increased the likelihood of job transitions the most, providing the first large-scale causal test for the weak ties hypothesis and suggesting several updates to the theory with important real-life implications:

First, when it comes to finding a new job, *moderately* weak ties are the most useful and the strongest ties are the least. For instance, compared with extremely weak ties with one mutual friend, a new tie with 10 mutual friends nearly doubles the probability of changing jobs!

Second, while weak ties are important, on average, they are especially vital in industries with high degrees of IT and software adoption, integration of machine learning and artificial intelligence (AI), and robotization. That is most likely because the state of the art in these industries tends to evolve rapidly and

keeping up with all the developments is critical for success. That is why weak ties that provide access to diverse communities with a broad exposure to new technological and methodical developments are so valuable.

Finally, our findings suggest that weak ties are even more important in industries that are friendly to remote work. As the world is transitioning to a hybrid or work-from-anywhere future, creating and cultivating weak ties will become even more essential for career success.

The takeaways for job seekers are clear: You should actively manage, broaden, and diversify your digital social network as weak ties can materially impact your job prospects, job mobility, promotions, and even wages. For workers in digital industries or roles where the technology is rapidly evolving, weak ties provide novel information and bridges to new communities and opportunities. Those doing remote work must especially take note, because such arrangements make water-cooler conversations and unplanned run-ins with new people difficult.

But job seekers aren't the only ones impacted by these results. Managers are too. Our findings highlight the value of an expansive and open network when trying to source and hire top, diverse talent. An enormous amount of recruiting and hiring now happens through digital platforms such as LinkedIn is vital. Understanding how they work and the utility of algorithms such as "People You May Know" will maximize managers' reach and ability to hire quality talent. By looking beyond the usual suspects within his or her close circle and expanding job searches to the frontiers of his or her networks could land a manager a new star employee. This, in turn, may drive innovation, a key engine of corporate and economic growth.

Beyond job seekers and managers who are hiring, our work highlights the importance of actively managing algorithms. Today, many parts of organizations and the digital economy are

impacted and, to some extent, governed by AI. These algorithms have the power to promote economic access, improve efficiencies, and even redesign firm's operating models. That is why AI requires careful managerial oversight and long-term analysis of the causal impact of deploying these algorithms to millions of people. As an example, LinkedIn has built internal tools to track and address the unintended impacts of every new feature on its platform.

As our work shows, when used effectively, social media platforms like LinkedIn can increase economic value for employers and employees through algorithms that help connect people with the right contacts. So, whether you are a job seeker, manager, or recruiter, be thoughtful and open about growing your networks online and think twice before you ignore a connection recommendation from the "People You May Know" algorithm. Your second-degree network — the connections of your connections — is a portal to a whole world of opportunities.

Iavor Bojinov is an assistant professor of business administration and the Richard Hodgson Fellow at Harvard Business School. He is also a faculty affiliate in Harvard's Department of Statistics, the Harvard Data Science Initiative, and the Laboratory for Innovation Science at Harvard. He previously worked as a data scientist and led the causal inference initiative at LinkedIn.

Karthik Rajkumar is an applied research scientist at LinkedIn.

Guillaume Saint-Jacques previously led the computational social science team at LinkedIn and was the technical lead of the company's experimentation science team.

Erik Brynjolfsson is the Jerry Yang and Akiko Yamazaki Professor and a senior fellow at the Stanford Institute for Human-Centered AI (HAI), and is the director of the Stanford Digital Economy Lab. He also is the Ralph Landau Senior Fellow at the Stanford Institute for Economic Policy Research (SIEPR), professor by courtesy at the Stanford Graduate School of Business and Stanford Department of Economics, and a research associate at the National Bureau of Economic Research.

Sinan Aral is the David Austin Professor of Management, Marketing, IT, and Data Science at the Massachusetts Institute of Technology, director of the MIT Initiative on the Digital Economy, and author of *The Hype Machine: How Social Media Disrupts our Elections, our Economy and our Health — and How We Must Adapt*.

Recommended For You

Frontline Work When Everyone Is Angry

How to Disagree with Someone More Powerful than You

What to Do After Being Laid Off

6 Ways to Reenergize a Depleted Team