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Three Essays on Social Networks and Entrepreneurship

By Jason Greenberg

Sloan School of Management—Massachusetts Institute of Technology

Abstract
There is increasing interest in how social networks impact various aspects of entrepreneurship. Most research presumes that information is the resource flowing across networks that drives results. I study three primary types of social relationships (i.e., parent-child, among founders, and founder-helper) to determine what flows across these ties that drives outcomes in the process of entrepreneurship. The results suggest that across the entrepreneurial process networks are important media for resource transmission. However, networks have disparate content and implications depending on the nature of the social relationship and stage of the process.

Introduction

It would be no exaggeration to say that interest in social networks and social capital has exploded. The same is true for research regarding entrepreneurship broadly defined. There has also been considerable research that considers how social networks impact entrepreneurship. Despite this interest and attendant scholarly attention there is still much that remains to be explained. First, there is still considerable disagreement about what social capital is. The same is the case regarding entrepreneurship. Second, it is still far from clear how and why social capital derived from networks yields benefits in the process of entrepreneurship.

This ambiguity is problematic. Because many resources including financial capital, physical capital, and various forms of social capital are exchanged across social relationships, presuming that information is the source of competitive and comparative advantage can lead to erroneous conclusions about what resource is truly responsible for entrepreneurial success.

In this dissertation I analyze three distinct forms of social relationships to determine which form(s) of social capital is associated with specific outcomes in the process of entrepreneurship. In each case I focus on "first-order" social relationships (i.e., the (aspiring)

entrepreneur's direct connections) because research increasingly suggests that they are the primary avenues through which advantages flow. For example, among the most consistent conclusions in research regarding entrepreneurship is that the children of entrepreneurs are, on average, two to three times more likely to become entrepreneurs themselves. Why this is true, however, is a subject of ongoing debate. In one chapter of my dissertation I investigate what flows across the parent-child relationship that makes the children of business owners more likely to become business owners themselves.

In a second chapter I focus on a second key relationship in entrepreneurship and a fundamental question every group of aspiring entrepreneurs must consider: *who* should be included on the founding team and *what* each member brings to the venture. The "who" question necessitates consideration of the social ties linking founders (e.g., family members, friends from home/work, strangers). The "what" question concerns the tangible and intangible resources brought to the nascent organizational group by the founders.

Prior research has demonstrated that the initial social composition of founding teams has significant implications for venture success and development. Stinchcombe's famous liability of newness thesis argues that new organizations are more likely to fail because they must rely upon relations among strangers. Strangers, in turn, are less likely to trust one another, which makes it more difficult to accomplish key tasks and resolve conflicts. Network theories consistent with Schumpeter's view of entrepreneurship as novel combination highlight the benefits of including strangers on a founding team; to wit: they help access a wider and more diverse array of resources. Using representative longitudinal data of individuals in the process of starting a business in the US (the Panel Study of Entrepreneurial Dynamics II), I determine if, in which

ways, and why startups including strangers, friends, or family members accomplish business-relevant milestones, achieve viability, or fail.

In the final chapter I consider a third key social relationship in the founding process—the relationship between founders and the individuals that work for them or offer them advice on a contingent basis. In this chapter I provide direct evidence regarding what specific resources (e.g., financial capital, physical capital, information, introductions) flow across different types of social ties. For example, what types of resources family members provide compared with those provided by friends or individuals who were strangers prior to the startup.

I discuss the findings of my dissertation work in more detail below. Before doing so, however, I believe it is useful to take a step back to consider how social networks yield capital that is social in nature, which facilitates the identification of entrepreneurial opportunities and/or the mobilization of resources required to start and ultimately succeed in entrepreneurship.

At its heart, the various strands of social network analysis ("SNA") provide a simplified yet elegant representation of what sociologists refer to as social structure—the myriad connections that link individuals to others in social, geographic, and institutional space. (Social structure is the "master metaphor" in sociology analogous to economists "market" mechanism). For this reason it is not surprising that quantitative findings in social network analysis are consistent with sociological theory and research that predate the advent of modern SNA analytical techniques. For example, higher status individuals—those who receive the deference of other high status actors (e.g., individuals, corporations) without always returning it—tend to do "better" than lower status actors. Research also suggests that better connected individuals tend to perform better lending credence to the belief that who you know is as important as what you

know. Finally, some of the most influential SNA research shows that actors can benefit when they know something or someone that others do not directly know (brokerage), or can access resources that others around them cannot via “bridging” ties—connections that link an entrepreneur to markets or groups that others cannot access directly themselves. Recent research by prominent scholars now suggests that the benefits of brokerage are “local” in nature. This means that brokerage advantages (but not necessarily status) require that one be directly connected to the disconnected parties to mediate and derive value from competing interests. This finding—that “first order” network connections appear to be most important—is a key reason why I focus on such connections in my dissertation.

Entrepreneurship, Networks, and Social Capital

The process of entrepreneurship (in all its many splendid and not-so-splendid forms) involves an actor(s) who unearths, evaluates, and endeavors to exploit some opportunity. This broad definition implies questions about *why* certain actors are more likely to become entrepreneurs than others; *how* they engage in it; and *what* are the consequences of it for the actor(s); and the areas (e.g., communities, countries) in which they engage in it or live.

Social capital (an asset that has collective origins), in turn, is believed to manifest in different ways. First, social capital may entail the transmission of unique information. In this sense networks are information conduits or pipes. Second, brokerage opportunities—the ability to mediate between disconnected individuals or companies in a network—may constitute entrepreneurial opportunities in and of themselves. Third, social capital can entail various combinations of obligations, expectations, or trust. The essential point of all of these conceptions of social capital is that social structure has implications insofar as what an individual comes to internalize as important and worthy of pursuit, as well as the things they have to do in exchange

for what she gets from others. In this sense, social capital—to push the pipe metaphor a bit—also shapes the very size and strength of the pipes across which information flows and is filtered. Finally, networks can create social capital by serving as “prisms” that may refract status that can be leveraged to some beneficial end such as VC funding. In this sense networks are valuable because others who do not necessarily know your ability or trustworthiness make inferences by observing the people you are connected to. If you are connected to high status or trustworthy individuals or affiliations people will presume that you too are likely of high status and are trustworthy. In summary, the social capital that drives entrepreneurship may entail information transmitted across ties; brokerage between or among actors; specific values, expectations, or beliefs that are transmitted, internalized, and enforced; or status that are inferred by one’s network affiliates. Clearly, it may also entail various combinations of these elements.

Viewed from the information perspective, those social actors with beneficial social structural positions that afford access to new or heterogeneous information are at higher risk of pursuing entrepreneurship because of comparative opportunity identification advantages. Conversely, it has been argued that being excluded from such networks—as some have argued is the case for women—may have a negative effect on the likelihood of pursuing entrepreneurship. This argument can also apply to other groups such as African Americans who are underrepresented in self-employment.

This assessment, in turn, implies that the source and type of information is important. All else equal new information is likely preferable. But more often than not new information comes from weaker ties that may prove less reliable and easily acted upon than information flowing across stronger ties. This makes intuitive sense: while one is more likely to hear something new

from an acquaintance of an acquaintance, it is also true that, generally speaking, one is more likely to trust and be able to act upon information provided by one's father, for example.

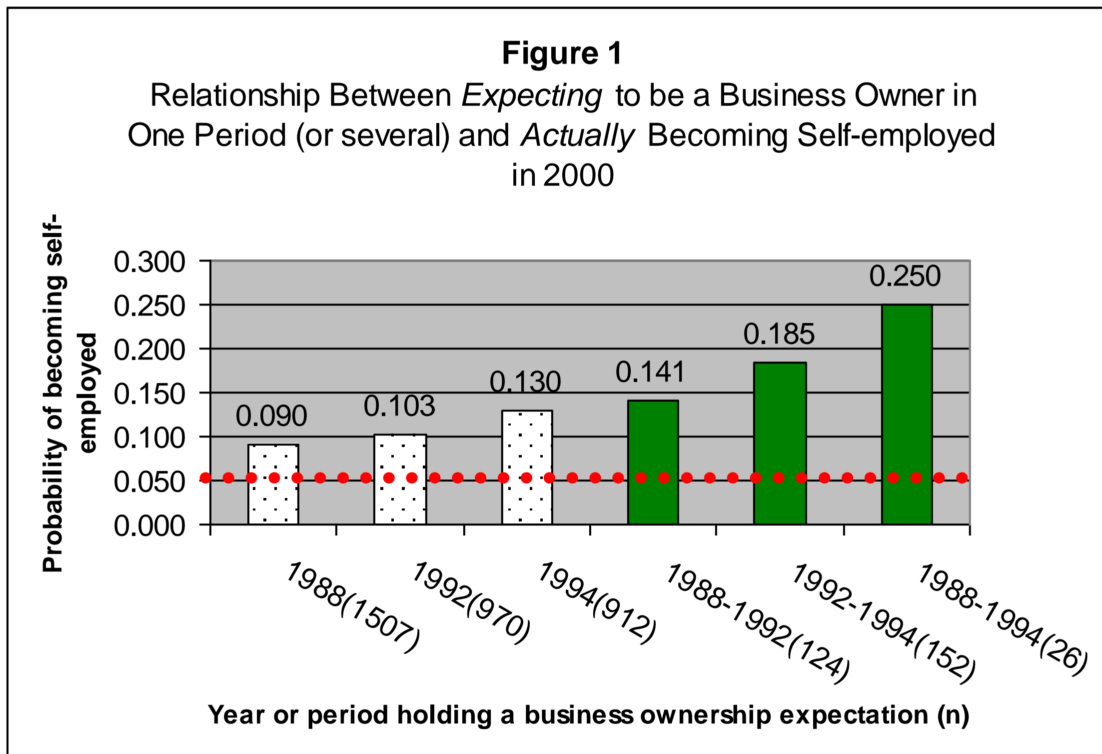
Despite network analysis's promise to help explain various dimensions of entrepreneurship, many questions remain. Among others, it is still not clear what actually flows across network ties that yield benefits. Prior focus has been on information. Indeed, the analytical methods often used to derive network data often explicitly ask for social relationships that result in information to the exclusion of other resources. However, many resources often flow across network ties. Presuming it is information is thus problematic if the "substance of advantage" flowing across these ties that result in performance benefits is something other than information. The three chapters of my dissertation provide evidence to determine what substance of advantage drives outcomes in the entrepreneurial process. I discuss them below.

Which Mechanism Explains the Intergenerational Transmission of Business Ownership?

Prior research conducted across different eras and various countries has consistently shown that the children of business owners are more likely to become business owners themselves than are children whose parents were never business owners. Using a large dataset that follows several thousand Americans over 12 years, I find that parental business owners shape their children's expectations for work. In particular, the children of business owners are far more likely to expect to become business owners themselves than are children whose parents work for someone else in adolescence.

As demonstrated in Figure 1 below, I also find that these business ownership expectations in adolescence and young adulthood significantly predict who is likely to enter self-employment years later. For example, the overall rate of self-employment in the sample is about 6% (indicated by the red dotted line). The rate is about 50% higher for those individuals who

indicated that they expected to become business owners in 1988 (when most respondents were in early adolescence)—roughly 12 years prior to actual entry into self-employment. The results also suggest that for many these expectations change over time (i.e., some respondents expect to become business owners in one period but later expect to pursue some other line of work). However, the more robust these expectations are, the more likely the individual actually becomes self-employed years later. Note that these results remain after accounting for a wide array of alternative explanations through the use of sophisticated regression analyses.



Source: 1988 – 2000 National Education Longitudinal Survey
Note: The relationships presented are absent any controls. Dotted line denotes overall sample average.

Having established that parents shape their children's expectations towards business ownership and the fact that these expectations are an important driver of actual entry into self-employment years later, the next question is what flows across the parental-child tie that explains the association. My analysis suggests that it is *not* financial capital or human capital. The

findings do suggest that children whose fathers are business owners—and accurately perceive their fathers to be business owners—are far more likely to develop overconfidence in their earnings abilities. This overconfidence, in turn, is one important reason why the children of business owners are more likely to become self-employed themselves. Another possible reason is that parents' entrepreneurial values flow to their children. Overall, these results are consistent with the notion that social capital in the form of norms and values are important resources that flow across the parent-child tie that drives business ownership expectations and actual entry into self-employment. This research also presents the novel finding that overconfidence in earnings is fostered by parental childrearing practices. This is an important discovery given increasing interest and research in behavioral economics that consistently finds that overconfidence is an important bias influencing economic choices such as stock market investment, corporate strategies, as well as entrepreneurial choices.

Who Should You Include on a Founding Team?

Among the most fundamental questions an entrepreneur must ask herself is whether she should go it alone or develop the business with others. If she decides to start a business with others, she will inevitably face by two additional questions fairly quickly, namely: *who* should she include in the business and *what* each owner offers. The first question invariably leads to questions about social relationships. Should the entrepreneur start the business with someone she knows, perhaps a family member or friend? Should she start a business with someone she does not know? Prior research suggests that one's social networks and demographic characteristics are very strong determinants of who is included on a founding team. Perhaps not surprisingly, prior research shows that most multi-member early-stage founding teams are made-up of spouses. The second question demands that the entrepreneur consider what each potential partner brings to the venture.

There is strong received wisdom regarding the *"who"* question. Many folk sayings warn against "mixing business with pleasure." Sociological research also heralds the value of relationships with individuals who have different contacts and access to resources. Spouses or friends tend to know the same people leading to redundancy in their contacts. A stranger offers the possibility of accessing a whole new set of contacts and thus resources.[1] On the other hand, individuals are far more likely to trust people they know and distrust those they do not know. This is especially true in the context of starting a business, which invariably entails risk and uncertainty to begin with. So who should be included on a founding team? Friends? Family? Strangers? What about their prior work experiences and resources?

My research, based on a representative sample of individuals in the process of starting a business, yields the following conclusions. First, including individuals with prior entrepreneurial experience increases the odds of accomplishing business-relevant startup tasks, as does including founders who can provide funding and "sweat equity." Surprisingly, including strangers on a founding team does not impair the startup's ability to accomplish business-relevant milestones such as assessing market opportunities and establishing relationships with key suppliers. There is also no evidence that these founding teams with strangers are more likely to dissolve. On the other hand, there is consistent evidence indicating that starting a business with friends from home is a bad idea. Such ventures are less likely to accomplish the tasks they need to, and are far more likely to dissolve. Finally, the research suggests that ventures that have formal agreements are far more likely to achieve business-relevant milestones and, ultimately, become viable businesses. Consistent with prior research, I speculated that this is the case because formal contracts enable founding team members to clearly articulate each founder's rights and

[1] Imagine your Facebook network. It is likely that your good friends and family are linked. When you meet someone outside of these circles, however, you likely gain access to a new set of contacts and their contacts.

responsibilities. Establishing these understandings early would seem to minimize misunderstandings and conflict that can derail ventures.

What Do Non-equity Helpers Offer Founders in the Startup Process

When starting a business one is likely to call upon others for assistance. The last section dealt with those instances in which a founder gives up equity for this assistance. However, in an even broader set of cases entrepreneurs draw upon their network connections for assistance without offering equity. But absent equity, what resources will contacts provide?

In this chapter I find that the type of social relationship determines who provides what resources. I suggest that these different patterns in resource provision can be explained by considering the value and nature of the resource transmitted. In particular, family members are more likely to transfer more valuable resources that are finite in nature (i.e., rival) and the use of which can be restricted (i.e., excludable).

Using data from the Panel Study of Entrepreneurial Dynamics II, I find that friends followed by family members are most likely to serve as non-equity helpers. Strangers, in turn, are a fairly infrequent source of resources (less than 8% of the total). When strangers do offer assistance, they are most likely to provide training (37.84%) or information or advice (33.78). Strangers are rarely a source of financial assistance (2.7%). Family members, in turn, are the sorts of helpers most likely to offer financial assistance (77.32%) whereas friends are the most likely source of information and advice (52.29%). Overall these results suggest that different social relationships afford access to different types of resources. Entrepreneurs who include helpers from different spheres of their lives—family members, friends, and strangers—are likely to have access to a broader range of resources and expertise required to start and succeed in starting a business.