TOUCHED BY AN ANGEL?:
ENTREPRENEURS SEEKING AND
OBTAINING PRIVATE EQUITY FINANCING

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When the young Alexander Graham Bell needed money in 1874 to complete his early experiments on the telephone, bank officers
thought that the idea of a telephone was a foolish one. The consensus was that the nation had a workable communication system in the form of the telegraph and the concept of individuals communicating across great distances through speech was considered to be a bit extreme. Besides, Mr. Bell did not have a company with any tangible assets to provide collateral. Recognizing an opportunity, Boston attorney Gardiner Green Hubbard and leather merchant Thomas Sanders of Salem, Massachusetts, helped out. Later, these same two individuals put up the equity capital to start the Bell Telephone Company in Boston, Massachusetts.1

INTRODUCTION

Angel financing is defined as “[i]nformal venture capital-equity investments and non-collateral forms of lending made by private individuals . . . using their own money, directly in unquoted companies in which they have no family connection.”2 It “is one of the most common, but least studied methods, to finance new ventures.”3 The National Venture Capital Association assesses it at $100 billion in the United States, while the institutional venture capital market is less than half this size at $48.3 billion.4 Internationally, as of 2001, the volume of formal venture capital investment was estimated at 0.2% of gross domestic product (GDP), whereas the share of informal investment was on average 1% of GDP in the thirty-seven countries participating in the Global Entrepreneurship Monitor.5

Angel financing plays a critical role in the financing of emergent businesses. For growth-oriented new ventures, angel financing fills the critical juncture between informal cash infusions from early enthusiasts such as “friends, fools and family” and later financing from formal institutional investors such as venture capital firms, which, because of their high transaction costs, do not engage in

4. Id.
small investments. In addition, business angels usually have entrepreneurial backgrounds and are known to be hands-on investors, contributing their skills, expertise, knowledge, and contacts in a variety of informal and formal roles to their investee businesses.

Despite their importance, much of what is known about angel investors is incomplete and not well understood, in part because data are difficult to obtain. Those studies that have looked at the mechanism of angel financing focused mostly on the supply side, using an agency theory or social psychology lens to explore different aspects of the investment process, such as deal generation, screening, valuation, deal structure, monitoring, and exit. Very few studies have looked at the demand side, or the factors that distinguish entrepreneurial firms that receive equity funding from those who do not. Thus, there is a need for research that explores the informal venture capital from an entrepreneur’s perspective.

The purpose of this exploratory study is to fill this gap by investigating the characteristics of entrepreneurs who seek and secure angel financing. More specifically, we ask two questions: (1) what are the characteristics of entrepreneurial new ventures that seek informal equity financing?; and (2) what are the characteristics of entrepreneurial new ventures that obtain informal equity financing?

To address the two research questions, we examined all investment proposals submitted to an angel financing network based in the Northeast over a two-year period. Following the multi-stage selection process implemented by informal equity providers, we focused on the characteristics of the entrepreneur and his new venture that are associated with increased likelihood of being funded. Our preliminary findings indicate that entrepreneurs who seek angel financing tend to be male and well educated, and their new ventures have predominantly business-to-business models that

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6. Harrison & Mason, supra note 2, at 95.
10. Harrison & Mason, supra note 2, at 100.
boast a variety of sources of competitive advantage. While the median investment sought is around $1.5 million, angel investors funded new ventures seeking lower amounts of investment, coupled with higher revenue and profit projections.

The rest of our paper is organized as follows: after a brief review of the literature on angel financing and the relationship between entrepreneurs seeking informal equity financing and the capital providers, we present our methodology and research design. We next report and discuss our findings. The study concludes with some implications for future research and managerial practice.

I. Angel Investors and the Ventures They Fund: An Overview

Financing provides the lifeblood of a new venture. A weak financial structure can create problems in all areas of a firm’s operations: delays in research and development, ineffective marketing, and inability to hire qualified personnel. Adequate capitalization, on the other hand, buffers against the liabilities of newness and smallness, and allows the owners to continue product development and to pursue market opportunities. Financial capital input levels, therefore, are strong determinants of a new venture’s survival prospects and growth. For technology-based entrepreneurial ventures, in particular, an MIT study found that established companies “more often fail because they run out of money than because the technology has problems.”

While institutional venture capital financing has been glamorized in the press and in academic research as the primary source of outside equity finance, statistics indicate that only one to two percent of all new ventures obtain financing from venture capital firms. In addition, venture capital firms are typically interested in making large investments to established businesses that have a

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track record of performance, making it difficult for younger, less established businesses to obtain this type of financing.16

Angel investors fill a critical gap in the new venture financing landscape. Angel investors are wealthy individuals who invest in small firms in amounts that are typically too small to be of interest to professional venture capitalists.17 In dollar amounts, angel funding is most commonly sought when a new venture needs more than $25,000 but less than $1.5 million.18 Angels usually invest in early-stage businesses, both for the potential of high returns—an early-stage successful deal can give ten times or more return on investment—and for the enjoyment that they receive helping entrepreneurs launch their new ventures.19 Angel investing is found in most developed economies. In terms of number of ventures funded, it is estimated that angels invest in ten to twenty times more companies than venture capital firms.20

A growing volume of academic research is exploring different aspects of angel investors’ decision-making processes. Applying an agency-theory lens, Wong found that “angels [seek to] reduce expected agency costs by forcing entrepreneurs to hold a larger stake in the firm. . . . In addition, angels use informal methods such as investing in closer geographic proximity and syndicating investments with other angels to mitigate risks.”21 Wiltbank applied a model of venture financing from formal venture capital to explore angel investor outcomes and found that investment in earlier stages and more participation post-investment was related to fewer negative exits.22

Relatively less is known about the entrepreneurs who seek and, more importantly, obtain angel funding. On the question of who seeks private equity financing, Eckhardt, Shane, and Delmar suggested that “the likelihood that a firm founder will seek external funds . . . increases with the founder’s positive assessment of the

venture.” 23 On the question of who obtains angel funding, Prasad, Bruton, and Vozikis argued that the proportion of the entrepreneur’s initial wealth invested in the project indicates to potential investors both the project’s value and the entrepreneur’s commitment to the project. 24 Linde and Prasad, in interviews with twenty-five angel investors in the Boston/Route 128 and Silicon Valley areas, identified the five most important decision-making criteria, namely: geographic proximity, high-growth industry potential, high-growth venture potential, personal attributes of the entrepreneur and the management team, and track record of the entrepreneur and the management team. 25 Similarly, Sudek, in his participant observation study of an angel network located in Southern California, identified the top criteria to be the trustworthiness of the entrepreneur, quality of the management team, enthusiasm of the entrepreneur, and the exit opportunities for the angel. 26

Angels’ decision-making criteria appear to be comparable around the world. For example, a study of Australian angel investors revealed that rate of return was the most important financial criterion, while the management team, the growth potential of the market, the uniqueness of the product, and the deal structure were the most important non-financial investment criteria. 27 Angel investors in the United Kingdom also place the quality of the management team as their top investment criterion. 28 Similarly, Feeney, Haines, and Riding in their study of the decision-making processes of 194 Canadian private investors found the overall business opportunity and the principals of the company as the key investment criteria. 29

In sum, seeking equity is most often associated with the founder’s positive assessment of the new venture’s potential, while

23. Eckhardt, Shane & Delmar, supra note 11, at 223.
successful equity acquisition is most often associated with management aspects, such as quality of the team, capabilities, experience, and staying power.

II. Methodology

A. Data Collection

Data from the study came from the investment proposals (n = 221) submitted to a large angel financing network located in the Northeast over a two-year period (2005-2006) and the documented decisions made by the group. In addition, we collected data about the funding outcomes for the new venture cohort from a variety of secondary sources. Data on all companies were cross referenced with the Angel Capital Association groups in the region in which the company was based. We also checked the company websites and business news sources XConomy30 and bNet31 for press releases pertaining to financing.

To be considered for angel financing, a venture typically submits a business prospectus to an angel financing group and, if chosen, makes a presentation about its business idea. From this initial document, decisions are made by the angel group to reject the proposal or seek further information about the new venture in a preliminary small group meeting. If the screening committee of the small group of investors is impressed by the prospectus and the information gleaned from the preliminary meeting, the entrepreneur presents her fledgling business to the entire investment group. From there, the group members indicate their willingness to engage in an enhanced due-diligence process, culminating in their potential investment in the business idea. Thus, angel investment groups engage in a four-part decision-making process: (1) desk reject the initial idea; (2) presentation of the idea at a preliminary small group screening meeting; (3) presentation of the idea at the larger group meeting; (4) more due diligence with the objective of potentially investing in the business (see Figure 1).

For each proposal submitted, we were given data on the outcomes of the multistage selection procedure: desk rejected,

30. See www.xconomy.com/about/ (last visited May 15, 2009) ("Xconomy is dedicated to providing business and technology leaders with timely, insightful, close-to-the-scene information about the local personalities, companies, and technological trends that best exemplify today's high-tech economy.").

31. See www.bnet.com (last visited May 15, 2009) (describing itself as "The go-to place for management").
Figure 1. Flow Chart of Angel Investors' Decision-Making Process

- Initial Prospectus
- Desk Reject
- Present to Small Group
- Reject by Small Group
- Present to Large Group
- Reject by Large Group
- Possible Investment
presented at a screening session, presented at a meeting of the whole investment group, or funded. Since new ventures submit proposals to multiple angel groups, and angel groups refer new ventures for funding and sometimes syndicate investments, we also, as described above, sought information about funding outcomes outside of the focal investment group.

The investment proposals were between one and five pages in length and offered unstructured narratives of the entrepreneur and the new venture. They typically included information on the qualifications of the entrepreneur and the founding team, the nature of the business, the amount of capital sought, and the intended use of the funds, as well as a variety of additional product, market, and financial information.

B. Data Coding

To generate the dataset, two trained research assistants independently coded the investment proposals, following a specific coding scheme developed by the principal investigators, which consisted of sixty-four categories. These included the characteristics of the entrepreneur and the founding team, the nature of the business opportunity, the product-market positioning of the business, the social and technological resources of the new venture, and the financial projections of the business. Coding inconsistencies, which occurred infrequently, were resolved by one of the three study coauthors.

C. Analytical Procedure

To address Research Question 1 (What are the characteristics of entrepreneurial new ventures that seek informal equity financing?), we calculated the frequencies of different characteristics of the entrepreneur and his new venture. To address Research Question 2 (What are the characteristics of entrepreneurial new ventures that obtain informal equity financing?), we cross-tabulated the frequencies of these characteristics by stage of selection (desk rejected, presented at screening, funded by focal angel investment group, funded by any angel group). At this very early stage of empirical investigation, and taking into consideration the substantial amounts of missing data in some of the categories, we opted out of applying analysis of variance or other advanced statistical techniques and, instead, examined the data qualitatively for any dis-
cernable patterns. This analytical approach should be kept in mind in the interpretation of the results.

III. RESULTS

A. Research Question 1: The Characteristics of Entrepreneurs Who Seek Private Equity Financing

Research Question 1 explored the characteristics of entrepreneurs who seek private equity financing. In this preliminary investigation, we focused on the demographic characteristics of the founders, the type of entrepreneurial new venture, the proprietary and collaborative sources of competitive advantage, and the financial profile of the new venture.

1. Demographics

Four out of five entrepreneurs seeking private equity financing were men (over eighty percent). In fact, barely over three percent of the applicants were women or women-only founding teams, and only 3.6% were mixed teams. As could be expected, applicants boasted high levels of development of their human capital. Well over half of the entrepreneurs had a graduate education, and 57.9% had prior business experience, including 17.2% with entrepreneurial experience. Surprisingly, only two-thirds of the entrepreneurs seeking angel financing included information on the founding team in their investment proposals.

2. Type of New Venture

Over four-fifths of the entrepreneurial new ventures were business-to-business ventures, and over half of them offered products rather than services. Both United States-based and foreign ventures submitted investment proposals, but most of the new ventures were locally based, falling within a 130-mile median distance from Boston. In the vast majority of the cases (86.9%), the investment proposals described the introduction of the product as an opportunity to fill an existing gap in the market.

3. Sources of Competitive Advantage

In terms of proprietary intangible resources, between twenty and thirty percent of the new ventures had either been awarded a patent or had a patent pending. In addition, five percent of these ventures had trademarks. As far as collaborative advantage, or advantages stemming from well-formed interorganizational relations,
close to a quarter (24.9%) of the new ventures had established relations with their customers and one in five had entered into an alliance with another company.

4. Financial Profiles

In their investment proposals, the entrepreneurial new ventures stated ambitious growth agendas, with median projected revenue in year five of over $38 million and projected profits in year five of over $13 million. The median private equity investment sought was approximately $1.5 million. Somewhat surprisingly, only forty percent of the entrepreneurs seeking private equity financing included detailed five-year financial projections, and only one in four stated the estimated number of years to exit.

B. Research Question 2: The Characteristics of Entrepreneurs Who Obtain Private Equity Financing

Research Question 2 focused on the characteristics of the entrepreneurs who obtained angel funding. Very few of the investment proposals submitted for funding were selected for private equity financing by our focal angel group. In fact, seven out of ten investment proposals were desk rejected, one of the three that passed the desk-rejection stage was additionally screened out during the preliminary screening, so that only two out of ten investment proposals were selected for presentation at the regular group meetings. Finally, only three of the 221 entrepreneurs who had sought angel financing were able to actually secure funds from the focal angel investment group, a very low 1.36%.

This, however, is not to suggest that the new venture cohort did not secure funding from other sources. We were able to track the funding outcomes for seventy-seven out of the 221 entrepreneurial ventures who submitted proposals to the focal angel group. Twenty-eight of them (over one-third) had obtained some angel financing. Out of these twenty-eight ventures, eighteen were funded by angel groups only, six had secured funding from both angels and venture capitalists, while four had obtained financing from angel groups in addition to other (most often government) sources. Sixteen other ventures were funded by venture capitalists; four were funded by government agencies; and two were financed by corporate capital. Since our primary interest in this paper is in the characteristics of the entrepreneurial ventures that obtain angel
financing, below we present the results for only this group of twenty-eight businesses.

1. Demographics

Only one of the entrepreneurs who obtained angel financing was a woman. While the education credentials of those who obtained financing were similar to the accomplishments of the initial pool of candidates, only three-quarters of them had prior industry experience and one in four had prior entrepreneurial experience.

2. Type of New Venture

There was a variety in the types of new ventures selected for angel financing. Most of the ventures were business-to-business, with only one in five having a business-to-consumer model. While not all of the new ventures were locally based, the median distance from Boston was well within driving range (25.6 miles).

3. Sources of Competitive Advantage

Most of the twenty-eight ventures selected for angel financing identified a proprietary or collaborative source of competitive advantage. Thus, over fifty percent of the new ventures had established relationships with suppliers or customers, and one in four had set up an interorganizational alliance. Three-quarters of the new ventures had secured intellectual property protection in the form of a patent, patent pending, trademark, or a copyright.

4. Financial Profile

Both the average expected revenues and expected profits of the companies that received funding were higher compared to the overall pool of candidates. Projected revenues stood at a median of over $50 million, and projected profits in year five exceeded $27 million. At the same time, the amount of investment sought was lower than the average for the pool at $900,000 (see Table 1).

IV. Discussion

In this preliminary investigation of the investment proposals and outcomes of angel investment, we arrived at three principal findings, which we discuss below.
A. *Entrepreneurs Who Seek and Obtain Angel Financing Are Still Predominantly Male*

This finding echoes the results of a long line of prior research, which laments the limited access of women to sources of institutional equity financing. For example, "[o]f the approximately 1900 companies that received [institutional] venture capital in 1997, less than 2.5% were woman-owned." One explanation may stem from the predominant industry choices of female entrepreneurs, which are heavily concentrated in the service and retail sector, and the relatively small size of their businesses. These industry choices "appear to be mismatched with the industry preferences of [equity]," which are likely to avoid the diseconomies involved in disproportionate monitoring and due diligence associated with certain populations. An alternative explanation suggests that women may not be involved in the male-dominated social networks, which can gain them access to equity capital.

B. *Entrepreneurial New Ventures that Seek and Obtain Angel Financing Follow a Predominantly Business-to-Business Model*

This finding is similar to evidence from the venture capital industry, which suggests that venture capital firms invest predominantly in industries of high growth potential such as computer software, hardware, and services; medical, health, and biotechnology; and communications.

C. *Traits of Entrepreneurs Who Seek Private Equity Financing*

Our findings are in line with Eckhardt and his coauthors who argued that "[t]he likelihood a firm founder will seek external funds for a venture increases with the founder's positive assessment of the venture," while "[t]he likelihood that a firm founder will receive external funds for a venture . . . increases with objective measures of the venture's performance." Similarly, empirical evidence from the activities of angel investors in different countries, such as

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32. Patricia G. Greene et al., *Patterns of Venture Capital Funding: Is Gender a Factor?*, 3 *VENTURE CAPITAL* 63, 68 (2001).
33. *Id.*
34. *Id.*
the United Kingdom,37 Australia,38 and Canada,39 all suggested the industry and the new venture's growth potential to be among the key priorities of angel investors. Notably, in addition to detailed financial projections, the companies selected for funding also included information on their management teams. Thus, these companies also addressed the other major criterion for private equity investment, namely, the quality of the management team.40

V. LIMITATIONS AND DIRECTIONS FOR FUTURE RESEARCH

Our preliminary investigation is not without limitations, which must be kept in consideration when interpreting the study's findings. To begin, we were only able to secure access to the investment proposals submitted to a single investor group, thus limiting the generalizability of the study. Keeping in mind that access to angel investors is notoriously difficult to gain,41 future research should augment our findings by studying other angel groups nationally or internationally. In addition, the unstructured proposals had missing data in many of the coding categories, preventing more detailed statistical analysis. Finally, our dataset included initial proposal and final outcome, but no data on the quality of the entrepreneur's presentation at the angels meeting. Thus, important human capital intangibles such as enthusiasm or trustworthiness, identified as key factors in the angel investors' oftentimes personal (gut) assessments of the entrepreneur,42 were not captured in our data collection. Future research should augment data from the formal investment proposals with observation and even interview data in order to glean a more in-depth understanding of the factors associated with successful acquisition of private equity funding.

VI. PRACTITIONER IMPLICATIONS AND CONCLUSIONS

Limitations notwithstanding, our study offers important insights both to aspiring entrepreneurs and to public policymakers. To entrepreneurs seeking to obtain angel funding, our findings suggest that a more structured approach to the preparation of investment proposals is needed. More specifically, an effective

37. VAN OSNABRUGGE & ROBINSON, supra note 28, at 115.
38. Hindle & Wenban, supra note 27, at 178.
40. LINDE & PRASAD, supra note 25, at 32; Sudek, supra note 26, at 96-97.
41. Wong, supra note 3, at 2.
42. LINDE & PRASAD, supra note 25, at 33.
investment proposal must include the sources of competitive advantage and the milestones in the growth trajectory of the new venture, coupled with information on the expertise and commitment of the management team.

In addition to providing valuable information to entrepreneurs who are presenting their business ideas to angel groups, our findings also have public policy implications. Governmental organizations that are interested in helping young firms identify, and then obtain, external financing can apply the findings from our research study in trainings and small business development initiatives. Importantly, by encouraging women to actively seek angel financing, many more entrepreneurial new ventures will be given the opportunity to realize their full growth potential. Given a goal of increasing the number of new ventures that survive and grow, our study is an important first step in understanding the interrelation between the entrepreneurs who seek angel funding and the decision-making dynamics of angel investors. In doing so, this study can potentially help young firms obtain critical early-stage financing.
<table>
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<th>Obtained Angel Financing</th>
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<tr>
<td></td>
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<td>%*</td>
<td>Mean</td>
<td>Median</td>
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<td>%**</td>
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<td>6</td>
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<td>130</td>
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**INTERORGANIZATIONAL RELATIONSHIPS**
- Customers: 55 (24.9%), 10 (35.7%)
- Suppliers: 22 (10%), 5 (17.9%)
- Alliances: 47 (21.3%), 6 (21.4%)

**INTELLECTUAL PROPERTY PROTECTION**
- Patents: 51 (23.1%), 7 (25%)
- Patents Pending: 62 (28.1%), 10 (35.7%)
- Trademarks: 56 (25.3%), 2 (7.1%)
- Copyrights: 11 (5%), 2 (7.1%)
### Financial Data

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### About the Founders

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<td>Founded Other Companies</td>
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<td>45</td>
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* of total number of cases (n = 221)  
** of total number of cases (n = 28)