

Chapter 7

How Do Entrepreneurs Benefit from Their Informal Networks?

B. Sharada and Parameshwar P. Iyer

7.1 Introduction

Entrepreneurship has been defined as the process by which new organizations come into existence (Vesper 1982; Gartner 1988). Entrepreneurship is the process of assimilating various resources for creating a product or a service that can serve the need of the customer. Entrepreneurship or firm building encompasses various activities, such as opportunity recognition, building a business plan around that opportunity, and putting together the various factors of production.

Several studies have tried to understand the various factors that lead to success in entrepreneurship. One of the factors studied is the Social Capital and the Social Network of the entrepreneur. Social networks of entrepreneurs help them lower the cost of access to resources (Cromie et al. 1994). They also act as a channel for the flow of various resources. Since no single individual has all the resources that are required to build a firm, the success of a new venture also depends on the social networks of the entrepreneur and his core team (Premaratne 2001). It has been seen that selective and strategic networking helps entrepreneurs overcome resource constraints more effectively (Joyce et al. 1995). The relationships of the founder entrepreneur with his family, friends, relatives, and acquaintances would matter in the various stages of the firm growth. We would like to study if the entrepreneur's

B. Sharada (✉) · P.P. Iyer
Department of Management Studies, Indian Institute of Science,
560012 Bangalore, India
e-mail: sharadab@mgmt.iisc.ernet.in; b.sharada@gmail.com

P.P. Iyer
e-mail: piyer@mgmt.iisc.ernet.in; piyeriisc@gmail.com

link with entrepreneurial networks, alumni networks, and ex-colleague networks help him derive benefits. The benefits that have been considered in this study to assess the usefulness of the networks are mentoring, information, visibility, contacts, technical help, and reputational endorsements.

7.2 Literature Review

7.2.1 *Social Capital and Social Networks*

Several studies have tried to study the elements of the entrepreneur's personality. Many studies have also delved into understanding the actions, behaviors, and assets that contribute to success in entrepreneurship. One of the factors that have been studied is the Social Capital and the Social Network of the entrepreneurs. Social capital is the sum of the actual and potential resources embedded within, available through, and derived from the network of relationships possessed by an individual or social unit (Nahapiet and Ghoshal 1998). Social capital thus comprises of both the network and the assets that may be mobilized through that network (Nahapiet and Ghoshal 1998). It also consists of friends, colleagues, and more general contacts through whom you receive opportunities to use your financial and human capital (Burt 1992). It is a resource that actors derive from specific social structures and then use it to pursue their interests. Social capital has also been defined as the sum of the resources, actual or virtual that accrues to an individual or a group by virtue of possessing a durable network of more or less institutionalized relationships of mutual acquaintance and recognition (Bourdieu and Wacquant 1992). It is the ability of actors to secure benefits by virtue of memberships in social networks or other social structures (Portes 1998).

The concept of weak ties and strong ties, bridging and bonding ties, arms length ties and embedded ties, structural holes and network closure are important for the study of Social Capital. Weak ties are primarily ties with acquaintances while strong ties are ties with family, close friends, etc., with whom we share a closer bond. Having more weak ties can be more beneficial when seeking diverse and new information. People with more weak ties in comparison to strong ties found jobs more easily (Granovetter 1973). Bridging ties are those that actors make with other actors who are not similar to the focal actor, while bonding ties are those that an actor makes with other actors similar to him in a lot of respects. Bridging ties promote diversity while bonding ties help in having close and secure ties (Putnam 1995). Arms length ties are relationships that are cool, impersonal, and motivated by profit seeking while embedded ties embed their commercial transactions in social attachments (Uzzi and Lancaster 2003). Structural holes are brokerage opportunities that can help in controlling the flow of information between two groups. Structural holes create a competitive advantage for the individual whose network spans the holes (Burt 1992). Structural holes separate nonredundant

sources of information i.e. they are more additive than overlapping (Burt 2001). According to Coleman (1988), network closure within the group or density within the group is required because it enhances trust, norms, authority, and sanctions that enable social capital to deliver its advantages. Network closure creates advantage by lowering the risk of co-operation while brokerage creates advantage by increasing the value of co-operation.

7.2.2 Benefits from Social Capital/Social Networks

In this study we analyze the benefits that could accrue from informal networks of an entrepreneur from the perspective of ‘Social capital theory’. Social networks play an important role in reducing the cost of access (Cromie et al. 1994) to resources necessary for entrepreneurial activity. Birley (1985) showed that entrepreneurs’ personal networks have positive performance effects.

A key benefit is that social capital provides networks that help in the discovery of opportunities (Birley 1985; Greene and Brown 1997; Uzzi 1999). Study by Birley (1985) showed that the main sources of help in assembling the resources of raw materials, supplies, equipment, space, employees, and orders were the informal contacts of family, friends, and colleagues. Individual social capital also has an effect on entrepreneurial discovery (Davidsson and Honig 2003). In an empirical study of 1,700 entrepreneurs; it was found that high network support increases the probability of survival and sales growth (Bruderl and Preisendorfer 1998). Network structure, network content, and the network governance are the three dimensions used by Hoang and Antoncic (2003). The network content dimension focuses on the resources that can be mobilized through relationships in any network. The resources could be financial resources or other intangible resources like emotional support, advice, reputational endorsements, legitimacy, etc. It has also been found that bridging ties are opportunities for acquiring diverse and nonredundant information. Nonredundancy in the firm’s advice network has been found to positively influence its acquisition of competitive capabilities (McEvily and Zaheer 1999)

Social networks are effective resources for sourcing scientific knowledge (Liebeskind et al. 1996). Uzzi and Lancaster (2003) have found that “embedded ties” create behavioral expectations that make way for the transfer of private knowledge. “Arms length ties” between banks and firms promoted flow of public information (Uzzi 1999). Arms length ties are relationships that are cool, impersonal and motivated by profit seeking while embedded ties embed their commercial transactions in social attachments. Structural holes benefit firms that operate in environments rich in opportunities as they facilitate opportunity recognition. (Bhagavatula et al. 2010). It has been seen that entrepreneurial teams spanning many structural holes in their external advice network are associated with high growth (Vissa and Chacar 2009).

7.3 Theoretical Model

In this study, we would like to investigate whether professional relationships outside of the family and relatives circle can be a source of assistance in firm building. Of such relationships that exist outside of the family and relatives circle, we identify three different categories of professional relationships. They are

1. Associates in entrepreneurial networks
2. Associates in alumni networks (college and school)
3. Ex-colleague networks.

We would like to compare the nature of the benefits obtained from these entrepreneurial, alumni, and ex-colleague networks by undertaking an exploratory study.

7.3.1 *Entrepreneurial Networks*

Entrepreneurial networks have been an area of interest for researchers of social capital and entrepreneurship. It is observed that being a member of a business network has a significant effect on opportunity exploitation (Davidsson and Honig 2003). Being a member of a business network has a strong positive relationship with profitability of a firm and achieving a first sale (Davidsson and Honig 2003). Contact with other entrepreneurs in networks, such as rotary clubs, also has a positive effect on employment generated by the firm (Bosma et al. 2004). In a study of 100 manufacturing firms in Thailand that tried to link the personal and business networks (as sources of information and the performance of firms through entrepreneurial action), it was seen that though entrepreneurs did value the information they received through their network, entrepreneurial actions based on this information did not necessarily link to high performance (Butler et al. 2003). A report by Kauffman Foundation shows that 73 % of the entrepreneurs feel that professional networks were important to the success of their businesses (Wadhwa et al. 2009).

For the purposes of this study we define ‘Entrepreneurial Networks’ as the professional networks a business owner or entrepreneur would interact in. Through these networks an entrepreneur can immerse himself in the business environment and seek to exchange certain tangible and intangible benefits. These are fundamentally interest groups. The interests could be

1. Of lobbying
2. Addressing common entrepreneurial challenges faced by many businesses
3. Grooming entrepreneurs to face challenges
4. Interest groups around specific technologies

7.3.2 Alumni Networks

An alumni association is an association of former students of a school, college or university. These associations generally maintain a database of the alumni members, organize social events, publish newsletters, etc. These associations help fellow members network among themselves and form new friendships and renew old friendships. Such alumni networks can be a source of social capital for entrepreneurs. We would like to see if the alumni networks from an entrepreneur's alma mater aid/support him in his firm building process. Alumni networks and their benefits have been studied in various contexts. Employees recruited from "old boys' networks" have been seen to get higher salaries and success on the job (Simon and Warner 1992). It has also been seen that entrepreneurs with greater number of links and higher between-ness in their online networks of university alumni are more successful (Nann et al. 2009). A report by Kauffman Foundation shows that 19 % of the entrepreneurs believed that university or alumni networks were important while 29 % of the entrepreneurs who were also Ivy-League graduates perceived university or alumni networks as important (Wadhwa et al. 2009).

7.3.3 Ex-colleague Networks

Many entrepreneurs have past work experience in various capacities in companies where they gain knowledge and build various capabilities. While education gives them an opportunity to systematically internalize explicit knowledge, work experience helps them gain tacit knowledge. In that process they also would have interacted and worked with a many colleagues. Such colleagues constitute the 'Ex-colleague networks' of an individual. Past research has suggested that contact with ex-colleagues could benefit entrepreneurial outcomes (Salaff et al. 2006). It has also be noted that some consulting firms have established corporate alumni networks of former consultants in order to increase the firm level social capital as these former employees can be important sources of referrals to attract appropriate talent to the firm (Tymon and Stumpf 2003). In this study, we would like to investigate if relationships of the entrepreneurs with their ex-colleagues could be a source of similar benefits.

7.3.4 Nature of Benefits Derived

The benefits considered in this study are mentoring, information, visibility, technical help, contacts, and reputational endorsements.

Mentoring can take the form of advice, counseling or consultancy (Deakins et al. 1998). A mentor can suggest new ways to tackle problems faced by entrepreneurs

and therefore act as a sounding board to entrepreneurs. In the early stages of the firm building the presence of a mentor is beneficial (Deakins et al. 1998). Increase in management knowledge and skills, clarity in business vision, aid in new opportunity identification are some of the benefits experienced by novice entrepreneurs who engage in mentoring relationships (St-Jean and Audet 2009). We would like to study if entrepreneurial networks, alumni networks and ex-colleague networks can be sources of mentoring for entrepreneurs.

New firms are generally faced with the issue of 'liability of newness' and therefore face more risks of failure than old ones (Stinchcombe 1965). In the early stages it is very hard for the firm to gain legitimacy (Elfring and Hulsink 2003). Under such circumstances, firms promoted by entrepreneurs with good reputation will be at a greater advantage. It is therefore very useful for the founders of the firm to seek reputational endorsements from people who know them. Hoang and Antoncic (2003) also propose that social networks of an entrepreneur can help him gain reputational endorsements. We would like to see if entrepreneurial networks, alumni networks, and ex-colleague networks can be channels of reputational endorsements.

Firms seek visibility in order to build a brand image. The primary benefit of increased visibility is the gain in attention which can create believers, customers and thereby helps generate opportunity (Rein et al. 1997). In the early stages, firms are generally resource constrained and hence cannot afford to spend too much financial resources on brand building and corporate communication activities. Social Networks of an entrepreneur can aid in the brand building process by being a channel of communication. We would like to see if entrepreneurial networks, alumni networks and ex-colleague networks aid entrepreneurs in building visibility for themselves and their firm.

Information benefits arising from social capital are due to the volume, diversity, and richness of information (Koka and Prescott 2002). Social networks of an entrepreneur provide nonmaterial support and information (Premaratne 2001). People with more weak ties found jobs more easily (Granovetter 1973) as ties lead to formation of bridges between distinct groups that enable the flows of information (Brown and Reingen 1987; Jenssen and Koenig 2002) and referrals.

Technical help is rich context specific specialized information. Social networks can also facilitate the flow of rich technical information (Barr 2000). We would like to see if entrepreneurial networks, alumni networks and ex-colleague networks aid entrepreneurs in acquiring information, contacts/referrals, and technical help.

7.4 Method

A sample of entrepreneurs in the software product and services sector was chosen for this study. This exploratory study is a part of a larger study undertaken to understand entrepreneurial social capital. The researcher visited various forums and collated a list of 140 firms. Convenience sampling method was used. The data

collection was carried out during November 2009–January 2010. A mail requesting for an appointment to meet the founder/CEO was sent to all firms. A total of 36 replies were received. Of the 36 appointments only 30 founders were able to keep the appointments and provide data. Data was collected through a face-to-face questionnaire survey.

The primary criteria for the firm to be included in this study was as follows.

- The age of the firm had to be between 1 and 6 years

In this study we consider only firms aged less than 6 years as new ventures, since in general, after 6 years the firm is stabilized in operation. This age criteria is consistent with other studies in the area (Vissa and Chacar 2009).

The entrepreneurs were asked to rate the benefits they received from the entrepreneurial networks, alumni networks, and ex-colleague networks based on the benefit rating scale shown in Table 7.1.

The different benefits considered were

1. Mentoring
2. Information
3. Visibility
4. Technical help
5. Contacts
6. Reputational endorsements

Other demographic information was also collected.

7.5 Results

7.5.1 Sample Demographics

- The average age of the entrepreneurs in the sample was 36 years.
- 29 of the 30 entrepreneurs had a Bachelors degree while one had a Diploma in Computer Science.
- 70 % entrepreneurs had a Bachelor’s degree in Engineering.
- More than 70 % of the entrepreneurs had a Masters degree while 40 % of them had a Master’s degree in Management.
- All the respondents had work experience. The minimum work experience of the entrepreneurs in the sample was 1.5 years while the maximum was 21 years. The average work experience was 11 years.

Table 7.1 Benefit rating scale

1	2	3	4	5
Not at all beneficial	Beneficial rarely	Beneficial sometimes	Beneficial often	Extremely beneficial

- More than 70 % entrepreneurs had at least 5 years work experience in the same industry as that of the firm while 50 % of the entrepreneurs in the sample had at least 10 years experience in the same industry as that of the new venture.
- All the respondents belonged to at least one alumni network.
- All the respondents belonged to at least one of the entrepreneurial networks from among Open Coffee Club, Headstart, NEN (National Entrepreneurship Network), Silicon India Startup City, NASSCOM, TIE (The Indus Entrepreneurs), and BNI, Bangalore. Refer to Appendix for more details regarding the entrepreneurial networks.

7.5.2 Analysis

It has been suggested that the median is the preferred measure to use when the measurement is carried out using an ordinal scale. The median values of the various benefits derived from the different networks are presented in tabular form in Table 7.2 and in a radar graph in Fig. 7.1. The benefit rating scale is presented in Table 7.3.

7.5.3 Statistical Tests

The median values of the benefits derived from the various networks show that some networks are more beneficial than the others depending on the nature of benefits considered. But we test if these differences in the benefits derived are statistically significant using the Friedman Test and then conduct post hoc analysis using the Wilcoxon Signed Rank Test with Bonferroni correction. The Friedman Test is the nonparametric alternative to the one-way ANOVA with repeated measures while the Wilcoxon Signed Rank Test is a nonparametric alternative to Paired samples T test. The Friedman Test is used to test for differences between groups when the dependent variable being measured is ordinal. The Wilcoxon Signed Rank Test is a nonparametric test used to test the median difference in paired data.

Table 7.2 Median values of the benefits derived from the networks

Median	Mentoring	Information	Visibility	Technical help	Contacts	Reputational endorsements
Entrepreneurial network	2.00	3.50	4.00	2.00	3.50	2.50
Alumni network	2.00	2.00	2.00	2.00	2.50	2.00
Ex-colleague network	3.50	4.00	3.00	4.00	4.00	4.00

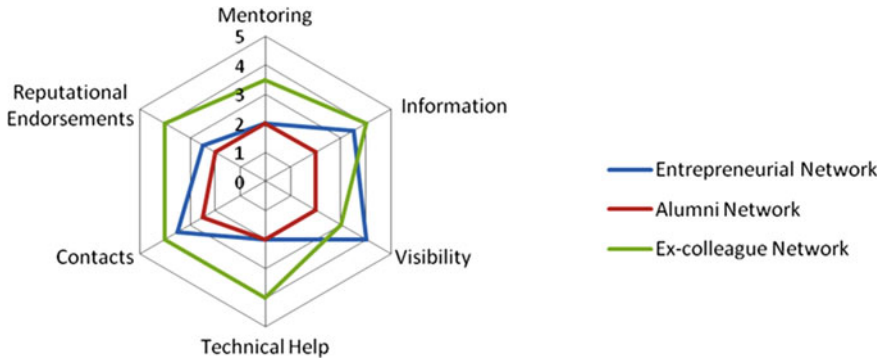


Fig. 7.1 Radar graph depicting the difference in median values of the benefits

Table 7.3 Benefit rating scale

1	2	3	4	5
Not at all beneficial	Beneficial rarely	Beneficial sometimes	beneficial often	Extremely beneficial

7.5.3.1 Mentoring Benefits

A Friedman test was conducted to evaluate differences in medians among the mentoring benefits obtained from entrepreneurial networks (Median = 2.00), alumni networks (Median = 2.00), and ex-colleague networks (Median = 3.50). The test was significant $\chi^2(2, N = 30) = 13.75, p = 0.001$ and indicated fairly strong differences among the mentoring benefits obtained from the three networks.

Post hoc analysis with Wilcoxon Signed-Rank Tests was conducted with a Bonferroni correction applied, resulting in a significance level set at $p < 0.017$. There were no significant differences between mentoring benefits obtained from the alumni networks and the entrepreneurial networks ($Z = -0.808, P = 0.419$). However, there were statistically significant differences between mentoring benefits obtained from ex-colleague networks and entrepreneurial networks ($Z = -2.839, P = 0.005$) and ex-colleague networks and alumni networks ($Z = -3.146, P = 0.002$). The mentoring benefits obtained from ex-colleague networks were significantly greater than the mentoring benefits obtained from entrepreneurial networks and alumni networks.

7.5.3.2 Information Benefits

A Friedman test was conducted to evaluate differences in medians among the information benefits obtained from entrepreneurial networks (Median = 3.5), alumni networks (Median = 2.00), and ex-colleague networks (Median = 4.00).

The test was significant $\chi^2(2, N = 30) = 16.22, p = 0.000$, and indicated fairly strong differences among the information benefits obtained from the three networks.

Post hoc analysis with Wilcoxon Signed-Rank Tests was conducted with a Bonferroni correction applied, resulting in a significance level set at $p < 0.017$. There were no significant differences between information benefits obtained from the ex-colleague networks and the entrepreneurial networks ($Z = -1.167, P = 0.243$). However, there were statistically significant differences between information benefits obtained from ex-colleague networks and alumni networks ($Z = -3.467, P = 0.001$), alumni networks and entrepreneurial networks ($Z = -3.001, P = 0.003$). The information benefits obtained from ex-colleague networks and entrepreneurial networks were significantly greater than the information benefits obtained from alumni networks.

7.5.3.3 Visibility

A Friedman test was conducted to evaluate differences in medians among the benefits in the form of visibility obtained from entrepreneurial networks (Median = 4.00), alumni networks (Median = 2.00), and ex-colleague networks (Median = 3.00). The test was significant $\chi^2(2, N = 30) = 21.25, p = 0.000$, and indicated fairly strong differences among benefits in the form of visibility obtained from the three networks.

Post hoc analysis with Wilcoxon Signed-Rank Tests was conducted with a Bonferroni correction applied, resulting in a significance level set at $p < 0.017$. There were no significant differences between benefits in the form of visibility obtained from the ex-colleague networks and the entrepreneurial networks ($Z = -0.624, P = 0.533$). However, there were statistically significant differences between benefits in the form of visibility obtained from ex-colleague networks and alumni networks ($Z = -3.252, P = 0.001$), alumni networks and entrepreneurial networks ($Z = -3.740, P = 0.000$). The benefits in the form of visibility obtained from ex-colleague networks and entrepreneurial networks were significantly greater than the benefits in the form of visibility obtained from alumni networks.

7.5.3.4 Technical Help

A Friedman test was conducted to evaluate differences in medians among the benefits in the form of technical help obtained from entrepreneurial networks (Median = 2.00), alumni networks (Median = 2.00), and ex-colleague networks (Median = 4.00). The test was significant $\chi^2(2, N = 30) = 21.67, p = 0.000$, and indicated fairly strong differences among benefits in the form of technical help obtained from the three networks.

Post hoc analysis with Wilcoxon Signed-Rank Tests was conducted with a Bonferroni correction applied, resulting in a significance level set at $p < 0.017$. There were no significant differences between benefits in the form of technical help

obtained from the alumni networks and the entrepreneurial networks ($Z = -0.656$, $P = 0.512$). However, there were statistically significant differences between benefits in the form of technical help obtained from ex-colleague networks and entrepreneurial networks ($Z = -3.185$, $P = 0.001$), ex-colleague networks, and alumni networks ($Z = -3.626$, $P = 0.000$). The benefits in the form of technical help obtained from ex-colleague networks was significantly greater than the benefits in the form of technical help obtained from alumni networks and entrepreneurial networks.

7.5.3.5 Contacts

A Friedman test was conducted to evaluate differences in medians among the benefits in the form of contacts obtained from entrepreneurial networks (Median = 3.5), alumni networks (Median = 2.5), and ex-colleague networks (Median = 4.00). The test was significant $\chi^2(2, N = 30) = 15.09$, $p = 0.001$, and indicated fairly strong differences among benefits in the form of contacts obtained from the three networks.

Post hoc analysis with Wilcoxon Signed-Rank Tests was conducted with a Bonferroni correction applied, resulting in a significance level set at $p < 0.017$. There were no significant differences between benefits in the form of contacts obtained from the alumni networks and the entrepreneurial networks ($Z = -2.299$, $P = 0.021$), ex-colleague networks and entrepreneurial networks ($Z = -1.910$, $P = 0.056$). However, there were statistically significant differences between benefits in the form of contacts obtained from ex-colleague networks and alumni networks ($Z = -3.885$, $P = 0.000$). The benefits in the form of contacts obtained from ex-colleague networks was significantly greater than the benefits obtained from alumni networks.

7.5.3.6 Reputational Endorsements

A Friedman test was conducted to evaluate differences in medians among the benefits in the form of reputational endorsements obtained from entrepreneurial networks (Median = 2.5), alumni networks (Median = 2.00), and ex-colleague networks (Median = 4.00). The test was significant $\chi^2(2, N = 30) = 16.11$, $p = 0.001$, and indicated fairly strong differences among benefits in the form of reputational endorsements obtained from the three networks.

Post hoc analysis with Wilcoxon Signed-Rank Tests was conducted with a Bonferroni correction applied, resulting in a significance level set at $p < 0.017$. There were no significant differences between benefits in the form of reputational endorsements obtained from the alumni networks and the entrepreneurial networks ($Z = -0.413$, $P = 0.680$). However, there were statistically significant differences between benefits in the form of reputational endorsements obtained from ex-colleague networks and alumni networks ($Z = -3.153$, $P = 0.002$), ex-colleague

networks, and entrepreneurial networks ($Z = -2.979$, $P = 0.003$). The benefits in the form of reputational endorsements obtained from ex-colleague networks was significantly greater than the benefits obtained from alumni networks and entrepreneurial networks.

7.6 Discussion

The results show that the entrepreneurial, alumni, and ex-colleague networks are beneficial to entrepreneurs in different ways. The results show that entrepreneurs derive maximum benefits from their ex-colleague networks and this is one of the highlights of this study. Ex-colleague networks have generally not been studied distinctly in entrepreneurship research. This study is one attempt distinguish the nature of the benefits derived from the different networks.

Entrepreneurial networks are particularly useful channels for the flow of benefits in the form of information and visibility. Entrepreneurial networks organize networking meets, knowledge sessions, seminars, conferences, etc. Such events facilitate networking but the resultant relationships that are built are generally in the form of weak ties or acquaintances. Some of the entrepreneurial networks have meets where each entrepreneur can pitch his idea and invite feedback. The entrepreneur can therefore make himself and his products/services visible to the world through such events. Nonprivate information can also flow through such weak ties. Some entrepreneurial networks also provide mentoring opportunities for entrepreneurs, but matching mentors and mentees is the main challenge. Successful mentoring also requires that mentees trust their mentors competence and advice. Such relationship can only be built over time and with regular contact with the same mentor. Flow of benefits such as mentoring, reputational endorsements and contacts generally require strong ties to be built. Such strong ties generally cannot be built through entrepreneurial networks unless the entrepreneur takes active interest in maintaining a mutually beneficial relationship with fellow entrepreneurs.

We do not have evidence to show that alumni networks are beneficial to entrepreneurs. Networking with alumni happens through alumni associations that are generally organized and coordinated by the respective academic institutions. It is the sense of pride and nostalgia that binds an individual to their respective alumni networks. It has also been noticed that the alumni networks association of old and elite institutions like the IITs (Indian Institute of Technology), IIMs (Indian Institute of Management) etc., are more active than their younger counterparts. We do not have data about the networking intensity of an entrepreneur in their alumni networks. It is possible that the entrepreneurs do not engage actively in their alumni networks and therefore may not derive benefits. Alumni associations could increase their frequency of meets and create alumni directories listing their alumni with their contact details. The alumni associations can also consider using the various Internet-based social media technologies to help build and maintain alumni networks. This could help entrepreneurs enhance their alumni networks.

The results of this study show that the ex-colleague networks of an entrepreneur are the most useful when it comes to the flow of benefits such as mentoring, information, technical help, contacts and reputational endorsements. The sample for this study was entrepreneurs in the software product and services sector. 70 % of the 30 entrepreneurs had at least 5 years work experience in the same industry as that of the firm while 50 % of the entrepreneurs in the sample had at least 10 years experience in the same industry as that of the firm. Since most software firms work in a project mode, any individual in this industry will work with a large number of colleagues. Also working with colleagues toward common project goals can help individuals build strong friendships and relationships based on mutual trust. It therefore helps in the formation of strong ties. Such work environments also help in building weak ties based on mutual acknowledgement and recognition. The advent of social media technologies like 'Linked In' and 'Facebook' also help entrepreneurs keep in touch with their ex-colleagues. This enables an entrepreneur to find a mentor from among his more experience ex-colleagues as well as seek reputational endorsements based on his past achievements. Information, technical help and contacts can also flow through the ex-colleague networks of an entrepreneur. Ex-colleague network is a personal network that can be built and fostered only by the individual himself. It is therefore important for entrepreneur to actively build and maintain his ex-colleague network.

This study was conducted using a modest sample size of 30 entrepreneurs. Future studies could work with larger samples. We do not have information regarding the networking intensity of the entrepreneurs. This could be a factor that influences the benefits derived. Future studies could study the relationship of the entrepreneurs networking intensity in the various networks and the benefits derived from them.

Appendix

Entrepreneurial Ecosystem of Bangalore

A brief description of the main entrepreneurial networks, forums, and conferences that contribute to the entrepreneurial ecosystem of Bangalore is given below. The information below has been compiled from various sources on the Internet.

Open Coffee Club

Open Coffee Club (OCC) is an open forum for Entrepreneurs, aspiring Entrepreneurs and Investors, to come together and connect with each other at the grass root level. The group holds its meetings every alternate Sunday. OCC Bangalore is one of the oldest entrepreneurship un-conference styled communities in India. OCC Bangalore is a place to meet and share with your peers; mutually solve problems

and share joy; learn from those you look up to (and with others in the ecosystem); especially with whom you are not able to reach and connect for whatever reasons such as lack of access, time, awareness, etc. OCC is the community to meet, find and discover your potential co-founder, mentor, investor, employee, service provider, customers/early adopters, and sensible critics. OCC Bangalore is also the forum where successful entrepreneurs and such others want to give back to the start-up ecosystem and nurture the aspiring entrepreneurs of tomorrow.

Source: Adapted from <http://bangaloreocc.blogspot.com/> and <http://occbangalore.org/> (accessed on 15 Oct 2011).

Startup Saturday

Startup Saturday is an initiative by Headstart to provide entrepreneurs in each city with a monthly community driven forum that is structured in agenda but open in discussions. A Startup Saturday provides a forum for entrepreneurs to discuss, present, network, and learn from peers, prospective customers, adopters, partners, and investors. The fundamental idea is to have all parts of the innovation ecosystem interact with each other with high frequency and through rich conversation.

Source: Reproduced from <http://www.mybangalore.com/article/0609/startup-saturday-bangalore-online-market-e-commerce.html> and <http://startupsaturday.headstart.in/> (accessed on 15 Oct 2011).

NEN (National Entrepreneurship Network)

The nonprofit National Entrepreneurship Network was established in 2003 with a mission to create and support high-growth entrepreneurs, driving job-creation, and economic growth in India. NEN represents India's largest and most dynamic community of new and future high growth entrepreneurs, with over 70,000 members in 30 cities. It provides critical support to start-ups and early-stage entrepreneurs through high-impact entrepreneurship education; access to mentors and experts; fast-track access to incubation and funding; and learning tools and materials. It partners with over 470 top-tier academic institutes in India to help them develop vibrant entrepreneurship ecosystems on campus, which develop and support new and future entrepreneurs.

Source: Reproduced from http://www.nenonline.org/aboutnen/about_nen (accessed 15 Oct 2011)

Silicon India Startup City

Silicon India Startup City is a technology showcase event wherein entrepreneurs can demonstrate the USP's of their enterprises. It is conducted by a technology portal called 'Silicon India' which covers business, technology, and entrepreneurship.

Source: Adapted from <http://www.siliconindia.com/events-overview/Startup-city-Bangalore-StartupcityBlore2011.html> (accessed on 15 Oct 2011)

NASSCOM Product Conclave

NASSCOM is the premier trade body and the chamber of commerce of the IT-BPO industries in India. NASSCOM is a global trade body with more than 1,200 members, which include both Indian and multinational companies that have a presence in India. NASSCOM's member and associate member companies are broadly in the business of software development, software services, software products, consulting services, BPO services, e-commerce and web services, engineering services off-shoring, and animation and gaming. They organize the event NASSCOM Product Conclave every year. This gathering of the software product ecosystem—both from India and abroad—comprises a carefully selected team of speakers who have decades of cumulative experience in nurturing, running, and growing software product businesses.

Source: Reproduced from <http://www.nasscom.in/overview> and <http://nasscom-merge.groupsite.com/group/npc> (accessed on 15 oct 2011)

TiE (The Indus Entrepreneurs)

TiE is a global network of entrepreneurs and professionals dedicated to the advancement of entrepreneurship. The Indus Entrepreneurs (TiE) is a global not-for-profit organization focused on promoting entrepreneurship. TiE helps budding entrepreneurs through advice, guidance, and assistance from successful and experienced entrepreneurs and professionals.

Source: Adapted from http://bangalore.tie.org/chapterHome/about_tie/viewInnerPagePT (accessed on 15 oct 2011)

BNI Bangalore

BNI Bangalore is a local outfit for BNI—an international organization present in over 37 countries with 100,000+ members and about 5,000 chapters. BNI

Addvantage is agency which supports all chapters in Bangalore. Members of this consists mainly business owners and professionals. Only one person per professional category is allowed. It provides a unique platform for its members to generate new businesses through referrals. BNI offers a unique platform for its members to generate new business through a structured system of referrals, week after week through a paid membership service. It also provides extensive training services to its members to enhance their various skill levels that would attract more business toward them.

Source: Adapted from <http://bni-india.com/bni-india/> (accessed on 15 Oct 2011)

References

- Barr A (2000) Social capital and technical information flows in the Ghanaian manufacturing sector. *Oxf Econ Pap* 52(3):539–559
- Bhagavatula S, Elfring T, Tilburg A, Bunt G (2010) Direct and mediating role of social and human capital in influencing opportunity recognition and resources mobilization of entrepreneurs in handloom clusters in India. *J Bus Ventur* 25:245–260
- Birley S (1985) The role of networks in the entrepreneurial process. *J Bus Ventur* 1:107–118
- Bosma N, van Praag M, Thurik R, de Wit G (2004) The value of human and social capital investments for the business performance of startups. *Small Bus Econ* 23(3):227–236
- Bourdieu P, Wacquant LJD (1992) *An invitation to reflexive sociology*. University of Chicago Press, Chicago
- Brown JJ, Reingen PH (1987) Social ties and word-of-mouth referral behavior. *J Consum Res* 14 (3)
- Bruderl J, Preisendorfer P (1998) Network support and the success of newly founded businesses. *Small Bus Econ* 10:213–225
- Burt RS (1992) *Structural holes: the social structure of competition*. Harvard University Press, Cambridge
- Burt RS (2001) Structural holes versus network closure as social capital. In: Lin N, Cook K, Burt RS (eds) *Social capital: theory and research. sociology and economics: controversy and integration series*. Aldine de Gruyter, New York, pp 31–56
- Butler JE, Brown B, Chamornmarn W (2003) Informational networks, entrepreneurial action and performance. *Asia Pac J Manag* 20(2):151
- Coleman JS (1988) Social capital in the creation of human capital. *Am J soc*, (supplement: organizations and institutions: sociological and economic approaches to the analysis of social structure), 94:S95–S120
- Cromie S, Birley S, Callaghan I (1994) Community brokers: their role in the formation and development of business ventures. In: Veciana JM (ed) *SMEs: internationalization, networks and strategy*. Hampshire, Avebury
- Davidsson P, Honig B (2003) The role of social and human capital among nascent entrepreneurs. *J Bus Ventur* 18(3):301–331
- Deakins D, Graham L, Sullivan R, Whittam G (1998) New venture support: an analysis of mentoring support for new and early stage entrepreneurs. *J Small Bus Enterp Dev* 5(2):151–161
- Elfring T, Hulsink W (2003) Networks in entrepreneurship: the case of high technology firms. *Small Bus Econ* 21(4):409–422
- Gartner WB (1988) Who is an entrepreneur? is the wrong question. *Am J Small Bus* 13:11–32
- Granovetter M (1973) The strength of weak ties. *Am J Sociol* 78(6):1360–1380

- Greene P, Brown T (1997) Resource needs and the dynamic capitalism typology. *J Bus Ventur* 12:161–173
- Hoang H, Antoncic B (2003) Network-based research in entrepreneurship: a critical review. *J Bus Ventur* 18(2):165–187
- Jenssen JI, Koenig HF (2002) The effect of social networks on resource access and business start-ups. *Eur Plan Stud* 10(8):1039–1046
- Joyce P, Wooles A, Blacks S (1995) Networks and partnerships: managing change and competition. *Small Bus Enterp Dev* 2(1):11–18
- Koka BR, Prescott JE (2002) Strategic alliances as social capital: a multidimensional view. *Strateg Manag J* 23(9):795–816
- Liebekind JP, Oliver AL, Zucker LG, Brewer M (1996) Social networks, learning, and flexibility: sourcing scientific knowledge in new biotechnology firms. *Organ Sci* 7:428–443
- McEvily B, Zaheer A (1999) Bridging ties: a source of firm heterogeneity in competitive capabilities. *Strateg Manag J* 20:1133–1156
- Nahapiet J, Ghoshal S (1998) Social capital, intellectual capital, and the organizational advantage. *Acad Manag Rev* 23(2):242–266
- Nann S, Krauss JS, Schober M, Gloor PA, Fischbach K, Führes H (2009) Comparing the structure of virtual entrepreneur networks with business effectiveness. In: *Proceedings of collaborative innovation networks (COINS) 2009. Procedia—social and behavioral sciences*
- Portes, Alejandro (1998) Social capital: Its origins and applications in modern sociology. *Annu Sociol* 24:1–24
- Premaratne S (2001) Networks, resources, and small business growth: the experience in Sri Lanka. *J Small Bus Manage* 39(4):363
- Putnam RD (1995) Bowling alone: America's declining social capital. *J Democ* 6(1):64–78
- Rein I, Kotler P, Stoller M (1997) High visibility: the making and marketing of professionals into celebrities. NTC Books, Chicago
- Salaff J, Greve A, Wong S-L (2006) Business social networks and immigrant entrepreneurs from China. In: Fong E, Luk C (eds) *Chinese ethnic economy: global and local perspectives*. Routledge, New York
- Simon CJ, Warner JT (1992) Matchmaker, matchmaker: the effect of old boy networks on job match quality, earnings, and tenure. *J Labor Econ* 10(3):306–330
- Stinchcombe AL (1965) Social structure and organizations. In: March JG (ed) *Handbook of organizations*. Rand McNally and Company, Chicago
- St-Jean E, Audet J (2009) The role of mentoring in the learning development of the novice entrepreneur. *Int Entrep Manag J*, 1–22
- Tymon WG, Stumpf SA (2003) Social capital in the success of knowledge workers. *Career Dev Int* 8(1):12–20
- Uzzi B (1999) Social relations and networks in the making of financial capital. *Am Sociol Rev* 64:481–505
- Uzzi B, Lancaster R (2003) Relational embeddedness and learning: the case of bank loan managers and their clients. *Manage Sci* 49(4):383–399
- Vesper KH (1982) Introduction and summary of entrepreneurship research. In: Kent CA, Sexron DL, Vesper KH (eds) *Encyclopedia of entrepreneurship*. Englewood Cliffs, Prentice-Hall, pp 31–38
- Vissa B, Chacar A (2009) Leveraging ties: the contingent value of entrepreneurial teams' external advice networks on indian software venture performance. *Strateg Manag J* 30(11):1179–1191
- Wadhwa V, Aggarwal R, Holly K, Salkever A (2009) Making of a successful entrepreneur: anatomy of an entrepreneur part II. Kauffman foundation small research projects research paper