

Valued Added Relations of Venture Capital Firm-portfolio Company Network-Dyad in Canada

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Abstract: Although venture capital firms fill a much needed funding gap by financing growing companies, a review of the detailed operations of venture capital reveals that, through hands-on involvement, venture capital firms provide more than finance to their portfolio companies. Over the years, researchers have attempted to measure venture capital firms' involvement, termed value-added, in their portfolio companies. The results have largely remained inconclusive as to the value-added potentials of venture capitalists. The problem was further complicated by the findings that venture capital firms who are more involved in their portfolio companies, do not necessarily perform better themselves nor do their portfolio companies. Most of the research on value added has confined itself to an application of agency theory in explaining venture capital firms/portfolio companies' relations. It is argued that the value added by venture capital firms, in portfolio companies, is a function of resource transfer resulting from network-dyad relationship. Three elements of network relationship i.e. consent, capacity and compatibility are explored and their impact on value added relationship determined. It was found that willingness of the venture capital firms to be involved in the affairs of a portfolio company is less important than their capacity to add value.

Key words: Venture capital, network dyads, value-added, resource-based theory

INTRODUCTION

The attempt at measuring venture capital firms' involvement contribution, termed value added, in the portfolio company has been tried with multiple approaches and mostly based on agency theory (Gorman and Sahlman, 1989; Rosenstein *et al.*, 1989; MacMillan *et al.*, 1988; Sapienza and Gupta, 1994). The research result, so far, has largely remained inconclusive about the possible value-added contribution of venture capital firms.

This study seeks to examine venture capitalists/ portfolio company relations through a network dyad perspective. This study is a result of a survey conducted in Canada at the end of 2003. Although Canadian venture market is among the largest, there have been very few studies which examine venture capital practices in Canada. One of the reasons for this lack of research is the presumption that the Canadian market is very similar to United States venture capital market. This study also sheds light on composition of venture capital in Canada and how venture capitalists perceive value added relationships.

Literature review: The subject of venture capital involvement has received more attention during the 1990s. The interest was largely sparked by a suggestion from

Timmons and Sapienza (1992) that only those venture capital firms are likely to survive an industry shake out which distinguish themselves through value adding involvement in their portfolio companies. The research interest in the field of the venture capital firm's involvement has coincided with the movement of venture capital research beyond the exploratory stage (Bruno, 1986). Consequently, most of the studies are based on questionnaires and personal interviews. The last half of the 1980s saw efforts on the part of researchers to identify and rank the activities, in order of importance and the extent of involvement, in which venture capital firms were involved with their portfolio companies (Timmons and Bygrave, 1986; Gorman and Sahlman, 1989; Sapienza and Timmons, 1989; Landstrom, 1990). Within United States, research studies broadly agree on the nature of activities that venture capitalists are believed to be involved in their portfolio companies (Rosenstein *et al.*, 1993).

Amit *et al.* (1998) have argued that venture capital firms will generally operate in an environment where their relative efficiency in selecting, monitoring and adding value to the investment gives them a comparative advantage. The question of value added, however, has posed many problems for researchers. It is difficult to assess the impact of particular decisions on the value of the company. An attempt at determination of value-added

leans toward subjectivity and generalisation. It is not surprising that most of the studies on value addition are built around the perception of the venture capitalist and/or the entrepreneur. While venture capital firms are involved in a number of activities, their actual value added contribution may not be in all areas of activity. The venture capital firm and its portfolio company differ in composition, expertise, culture and a host of other factors. These differences reflect on the capacity of venture capital firms to add value and the appetite of a portfolio company to absorb added value. Technology oriented firms, for example, are considered particularly receptive to value addition by equity investors because of their capability to absorb inputs (Forrest, 1990).

In some cases the value added question may not arise altogether because venture capital firms, for whatever reasons, may not be involved in their portfolio companies. Research has shown that international differences also influence involvement and may also prevent generalisation of findings (Sapienza *et al.*, 1996). The argument over addition of value by venture capital firms in their portfolio companies has been debated for a number of years. Researchers, in regard to the value addition question, have taken many approaches.

Different approaches have been adopted to manage the value added debate. This includes rationalisation of circumstances and logical behaviour (Gompers, 1995; Fried and Hisrich, 1994), analysing views of entrepreneurs relating to involvement of venture capital firms in different activities (Fried and Hisrich, 1994; Rosenstein *et al.*, 1993) and pairing the venture capital firm/portfolio company as unit of analysis and analysing data based on their responses (Sapienza and Timmons, 1989; Sapienza *et al.*, 1996).

The research studies based on the premise that value-added is tied to performance of the portfolio company are divided into pre-IPO (Sapienza, 1992; Rosenstein *et al.*, 1989) and post IPO (Cherin and Hergert, 1988; Brophy and Verga, 1988) performance. The results on the value-added contribution of venture capital firms, has largely remained inconclusive and sometimes conflicting (Cherin and Hergert, 1988; Sapienza, 1992). The finding that venture capital firms, who are more involved in their portfolio companies, do not necessarily perform better themselves nor do their portfolio companies (MacMillan *et al.*, 1988) has complicated the issue.

Despite multiple approaches researchers have not been able to establish the value added credentials of venture capitalists. Beside other difficulties as pointed out earlier, there has been a tendency in the literature to presume that value-added reflects on the performance of a venture. Moreover, the dynamics of venture capital and

portfolio company relations have mostly been analysed from agency perspective (Reid, 1996). We believe that agency theory does not fully explain venture capital process since it fails to include factors that may influence a value-added relationship between portfolio companies and venture capitalists. For example, it does not consider the effect on value added of the ability of the parties to provide and absorb assistance and the nature of assistance. Empirical evidence also suggests that there may not always be an agency relation between a venture capital firm and a portfolio company. In fact a principal/agent relationship is viewed as downgrading of relationship by practising venture capitalists. Observed behaviours of venture capitalists e.g. networking, also appears to be antithetical to agency model. Cornelius and Su (2000) assert that several covenants in the contractual arrangement, between a venture capital firm and a portfolio company, are not identifiable with a classic principal/agent relationship. At theoretical level, the possibility of opportunistic behaviour e.g. desertion (funding discontinuation), by venture capitalist impinges on a basic premise of agency theory.

Venture capital firm/portfolio company network dyad

The relationship between the venture capital firm and the portfolio company does not fit precisely into well-known relationships of either market or hierarchy. Market relationship relies largely on price for control and hierarchical relationships are governed by authority. Venture capital firm/portfolio company relationship is not the only one, which does not correspond adequately to the two popular notions of market and hierarchy. There is, thus, a need to examine alternative relational arrangements. These alternatives have been variously called quasifirm (Eccles, 1981) relational contracting (Macaulay, 1963) hybrids (Powell, 1987) and networks (Powell and Smith, 1994).

Networks can be defined as patterned relationships between individuals, groups and organisations (Dubini and Aldrich, 1991). Network ties are links to clusters of resources (Burt, 1992). Generally speaking, firms more likely to engage in network arrangements are those that need to exchange difficult to codify knowledge/skills which are best transferred through processes of collaborative information sharing. Dubini and Aldrich (1991) consider new ventures as more likely to engage in network relationship. Bradach and Eccles (1989) ascribe the control element of trust, as opposed to price or authority, to network relationship. In a network form of arrangement, additional control elements like personal relationships, reciprocity, co-ordination, concern for reputation etc. also play an important role (Larson, 1992).

The network model offers following advantages over other models.

It is considered dynamic because it focuses on a complex relationship between the units (Larson and Starr, 1993).

- It emphasises exchange processes between entities and identifies the economic and social aspects of these exchange linkages.
- It highlights the fickle nature of exchange relationships (Gabarro, 1987) which allows for further understanding of the stability and flexibility of collective activities.
- It has the potential to account for the forces involved in organisational growth (Jarillo, 1988).

Within a network the unit of analysis can be

- The network itself and its patterns of interaction (Borch and Micheal, 1995; Grandori and Giuseppe, 1995).
- The firm and how it creates and manages a network (Dubini and Aldrich, 1991; Venkataraman, 1989) and
- Dyadic and relational properties of the network's member firms (Keister, 1999).

One of the fundamental premises in this paper is that portfolio companies and venture capital firms operate in a network environment and use network nodes to obtain resources. Since there are multiple ways to study networks, this study adopts a dyadic framework in what Larson (1992) terms as a network dyad.

Within a network, resources are obtained using relational contracts or a social exchange relationship based on current practices, compatibility and mutual expectations. As resource needs depend on objective, entrepreneurs tend to specialise in two types of resources i.e. the ability to identify/exploit opportunities and the capacity to specialise in the day-to-day development of new business activities (MacMillan *et al.*, 1988). Venture capital firms, on the other hand, specialise in creating networks of individuals and institutions to reduce the costs of acquiring capital, to find customers and suppliers and to establish the credibility of portfolio companies (Sahlman, 1990). The resource composition of venture capital firms and portfolio companies vary, although, there can be some overlap between the resources, their quality, magnitude and concentration. Heterogeneity of resources makes exchange possible.

From a venture capitalist's perspective, resource availability to the portfolio company increases portfolio company's resource pool and the likelihood of successful

outcomes and subsequent returns to the venture capital firm. While it seems logical that resource contribution should depend on the ability and the willingness of the venture capital firm, resource compatibility also plays a vital role in an exchange relationship (Thompson, 1967). The term compatibility is used to indicate the availability and the need for a resource that will contribute toward the realisation of the portfolio company's objectives immediately or in the future (White, 1974). The portfolio company, per se, has an incentive to utilise the resources of the venture capital firm because they are free of incidental costs. Moreover, new entrants into a business have to pay higher prices to acquire these resources compared to prices paid by existing firms (Wernfelt, 1984).

There have been a number of studies which have taken up the value added question without really defining value added (Sapienza *et al.*, 1996; Sapienza *et al.*, 1995; Cherin and Hergert, 1988; Landstrom, 1991). The network perspective helps define value added. Since a firm is considered a bundle of resources, any addition in its resource pool is likely to increase value added. All value addition may not get translated into visible measurable performance and helps explain why no link has been found between value added and performance. Network perspective allows participants to recognise that value addition has occurred prior to visible results being obvious. It also takes into account the importance of social aspects of the relationships, which govern value addition. This perspective considers value addition as a resource flow making concept of value-added more dynamic than it has previously been considered.

How much value venture capitalist add depend on their perceived ability to add value. The ability to add value is a combination of many factors, most important of which is reputation of the venture capital firm. More successful venture capital firms tend to add more value in their portfolio companies (Rosenstein *et al.*, 1993). The performance of a venture capital firm is much more likely to attract new capital, as well as quality proposals for funding, which can result in an increase in the size of the venture capital firm (Gompers and Lerner, 1998). Thus, size in the business of venture capital should also be an indication of larger resource pool and consequent ability to add value. Similarly, experience also tends to impart a feeling of professionalism and competency (Levinthal and March, 1993). Experience is especially important in the case of venture capital investment as "not only is it difficult to raise a new venture capital fund without a track record, but the skills needed for successful venture capital investing are difficult and time-consuming to acquire" (Gompers and Lerner, 1999).

Proposition 1 (a): The extent of value added by venture capitalists depends on their abilities to add value.

Proposition 1 (b): The extent of value added by venture capitalists depend upon the reputation of the venture capital firm.

Proposition 1 (c): The extent of value added by venture capitalists depend on the size of the venture capital firm.

Proposition 1 (d): The extent of value added by venture capitalists depend upon the experience of the venture capital firm.

In order to test the importance of willingness factors which can affect willingness need to be explored. MacMillan *et al.* (1988) has found that the degree of involvement of a venture capital firm in the affairs of a portfolio company was a matter of choice, which is established by a firm's policy. Lerner (1995) argues that a venture capital firm is more likely to be involved where it perceives a need for oversight. Thus, in this instance, the presence of factors beside choice cannot be ruled out.

It has been established that local culture is likely to influence business practices (Jeng and Wells, 2000). We, therefore, argue that venture capital firms are likely to be influenced by the venture capital culture in their country/region. It is also argued that venture capitalists will be more willing to be involved in their portfolio companies when their stakes are high.

Proposition 2: The extent of value added by venture capitalists depends upon their willingness to be involved with the portfolio company.

Proposition 2(a): The extent of value added by venture capitalists depends upon on their policy toward involvement.

Proposition 2(b): The extent of value added by venture capitalists depends upon on the extent of their financial commitment to the portfolio companies.

Proposition 2(c): The extent of value added by venture capitalists depends upon the venture capital industry culture in which a venture capital firm operates.

Venture capitalists are more likely to make efforts to provide their own resources or assist portfolio companies in obtaining these from outside if they believe that portfolio companies possess insufficient stock of resources (Stier and Greenwood, 2000). It seems that that the nature and extent of the venture capital firms' contribution is based on the needs of the new venture,

which includes, gaps in managerial competence, the skills available from the venture capitalist and the relevance of specific advice and support (Warne, 1988).

While there seems to be sufficient incentive for venture capital firms to support portfolio companies, it been has argued that venture capital firms may put in greater efforts on portfolio companies that already have abundant resources and consequently a greater probability of success (Sapienza *et al.*, 1994; Ruhnka *et al.*, 1992). Despite resource strength, venture capitalists may not be able to add value because of resistance from the portfolio companies. Portfolio companies, for fear of loss of control and avoidance of unnecessary interference by the venture capital firms, may not be willing to be involved in an exchange relation and may systematically undervalue a venture capital firm's assistance. It is argued that relative importance of a resource to the portfolio company will affect its readiness to sacrifice other considerations and its choice to avoid interaction will be considerably weakened. Thus there are strong reasons that venture capital firms should be able to transfer resources when they perceive the need and availability.

Proposition 3: Higher participation occurs in activities where venture capitalists rate their resource strength higher.

Proposition 4: Higher participation occurs in activities where venture capitalists rate portfolio companies' resource strength lower.

MATERIALS AND METHODS

A self-administered survey was utilised in this study. This approach has been adopted because very little public data is available relating to the internal working of venture capital firms. To ensure quality of the survey instrument a three-part approach was adopted. First, previous similar survey studies were reviewed. Faculty members at Lakehead University who had experience in survey research were asked to examine the instruments and some modifications were made by incorporating their comments. Thirdly, the improved instrument was mailed to Canadian Venture Capital Association to seek their observations. Since the response rate was considered to be particularly sensitive the survey approach recommended by Dillman (1978) was adopted. At the end of June 2006, 32 usable questionnaires were received with a response rate of 33%, which, in the light of previous similar studies is acceptable.

The extent of involvement, in this study, is taken as the number of activities that the venture capital firm is involved in with its portfolio company. In order to make the data comparable with earlier research (Macmillan *et al.*, 1988; Rosenstein *et al.*, 1989) the venture capital firm's participation has been measured on a Likert scale. To make the list comprehensive, some of the activities mentioned in earlier studies were rephrased and then re-classified (Sapienza and Timmons, 1989; Stier and Greenwood, 1995). After this exercise, a list of 15 activities remained as listed in Table 1. Since there are number of ways to classify resources, the involvement activities already identified were converted into identifiable resources. In cases where the activities were too narrowly defined, a broader term used in the above mentioned research studies were used to include that activity.

The respondents represent a mix of funds representing almost all types. 1/3rd of respondents by type categorised themselves as Independent partnerships. About 50% of the firms are captives or government sponsored. The respondents are managing total venture capital of 7.87 billion with 167 professionals working for them. Considering the fact that this represents about 1/3rd of Canadian venture capital market by number, the total capital under management compares well with the estimated C\$22 billion total venture capital market *et al.* More than 60% of the firms surveyed were managing capital under 200 million. However, close to 80% have a current investment portfolio of less than C\$200 million with an overall average of around C\$70 million.

As expected, the oldest firms among the respondents were government sponsored. Newer firms were venture capital partnerships since partnerships in venture capital are usually limited with a finite life, often of ten years (Best and Mitra, 1997). About 80% of the respondents had less than 7 professionals working for them. The average number of professionals working with the venture

capital firms/companies, as expected, increased with size and number of investment. A single professional seems to be managing venture capital of around C\$40 million. The average experience in venture capital, of the professionals working for respondent companies/firms is close to 10 years, which is about a year less than their experience in other industries. Understandably corporate subsidiaries report least amount of experience in venture capital industry.

About 70% of the responding venture capital firms have invested in less than 50 investments each since they began. In contrast, an almost similar percentage of responding venture capital firms reported existing portfolio as less than 25 companies. This would suggest that almost half of the portfolio companies have been exited since the inception of the funds. The fact that the average age of the venture capital firms, among sample respondents, is 11 years would indicate that the holding period for the investment is 5-7 years. The data suggest a high percentage of venture capitalists with a lead role and an even higher percentage with a seat on the board of the portfolio companies. Despite the fact that Canadian venture capitalists seems to prefer late expansion stages of business most, the fact that 56% of the firms report investing in high or very high technology corroborates leanings toward high technology project (Best and Mitra, 1997).

RESULTS

The average amount of capital under management and number of professionals working for the venture capital firm were taken as a measure of the size of the venture capital firm. To determine the impact of experience, average experience of professionals working for the firm in the area of venture capital and in other industries were used. Assessing reputation is a complex process. The factors that go into the evaluation of reputation are not only numerous but frequently a subject of debate (Jacob, 1995). In order to evaluate reputation, two factors, the age of venture capital firm (Gompers and Lerner, 1999) and the number of credibility transactions (Herbug *et al.*, 1994) could have been relied upon. However, the data on age of the firm was unreliable because partnerships in venture capital are often formed with limited life. To represent credibility transactions, the number of investments financed by the venture capitalists since inception was taken.

As shown in Table 2 and 3, propositions 1(a) to 1(c) received mixed support. Both size and number of repeat transaction do not seem to affect the extent of involvement of venture capital firms. However, a venture

Table 1: Involvement activities

	Mean	S.D.
Monitoring performance	3.28	0.77
Interfacing with investor groups	3.28	0.92
Obtaining alternative sources of equity finance	3.25	0.92
Ongoing strategy development	3.19	0.86
Obtaining alternative sources of debt finance	3.19	1.00
Management of crisis	3.16	0.99
Personnel search	2.72	0.99
Formulation of initial business strategy	2.69	1.12
Personnel replacement	2.59	1.01
Negotiation of terms with prospective candidates	2.53	1.08
Interview and selection	2.47	1.11
Personnel motivation	2.47	1.14
Development of professional support groups	2.25	1.14
Development of production techniques	1.75	0.88
Selection of vendors and equipment	1.63	0.79
Others	1.50	1.19

Table 2: Model summary

Model	R	R square	Adjusted R square	Std. error of the estimate
1	0.579(a)	0.335	0.196	0.67419

A Predictors: (Constant), Number of investment since inception, average years of experience(VC Industry), average years of experience (Other Industries), capital under management, number of professionals

Table 3: Coefficients(a)

	Unstandardized coefficients		Standardized coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	0.565	0.643		0.879	0.388
Capital under management	-0.001	0.000	-0.379	-1.654	0.111
Number of professionals	0.083	0.066	0.355	1.250	0.223
Average years of experience(VC Industry)	0.095	0.032	0.556	2.950	0.007
Average years of experience (Other Industries)	0.060	0.025	0.482	2.371	0.026
Number of investment since inception	0.059	0.076	0.165	0.769	0.450

A Dependent Variable: Level of participation

Table 4: Model summary

Model	R	R square	Adjusted R square	Std. error of the estimate
1	.366(a)	.134	.038	.72786

A Predictors: (Constant), Average percentage share in equity, your company involvement, general trend in the industry

Table 5: Coefficients(a)

	Unstandardized coefficients		Standardized coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	1.869	0.859		2.176	0.038
General trend in the industry	-.137	0.147	-.172	-.937	0.357
Your company involvement	0.205	0.170	.219	1.207	0.238
Average percentage share in equity	0.159	0.097	.298	1.643	0.112

A dependent variable: level of participation

Table 6: Resource compatibility

	Resource strength venture capitalist	Resource strength- portfolio Comp.	Actual participation
Financial expertise	4.47	3.09	3.28
Number of contacts financial institution	4.38	3.25	3.22
Strategy planning	4.00	2.59	3.19
Project/idea evaluation	3.88	2.25	2.69
Crises management	3.81	2.75	3.16
Monitoring performance	3.75	2.59	3.28
Operational planning	3.50	2.47	1.69
Number of contacts-other industries	3.41	2.72	2.25
Personnel management	3.31	2.69	2.52
Number of contacts Pc industry	3.13	3.09	2.72

*Mean scores

capital firm is likely to be more involved if the professionals working for it are more experienced.

The extent of involvement was also measured against factors which measure the willingness of the venture capital firm to be involved. This includes company policy, venture capital culture and venture capital firm's extent of commitment. The effect of these variables on the extent of value added is shown in Table 4 and 5.

It seems that the venture capital firm's understanding of the trends in their industry (their culture) does not affect their decision to get involved in value added activities. What is more surprising is that venture capitalists who as a matter of policy claim to be more involved are not necessarily more involved. This is in marked contrast to some earlier assertions (MacMillan *et al.*, 1988; Naqi, 2002) that the degree of involvement of

a venture capital firm in the affairs of a portfolio company was a matter of choice, which in turn is governed primarily by the firm's policy. Thus propositions 2(a) to 2(c) stating that the extent of value added by venture capitalists depend upon their willingness to be involved with the portfolio company is not supported.

Table 6 and 7 represent the data collected and the result of propositions which postulate that actual participation is related to resource perception of venture capital firms. Results indicate that the actual participation of venture capital firms does not necessarily seem to focus on the areas of weakness of the portfolio company but is related to what venture capitalist sees it can contribute to a portfolio company. Thus, proposition 3 is supported and proposition 4 remains unsupported.

Table 7: Correlations

		Resource strength- venture capitalist	Resource strength- portfolio companies
Actual participation	<i>Pearson correlation</i>	0.639(*)	0.406
	<i>Sig. (2-tailed)</i>	0.047	0.244

* Correlation is significant at the 0.05 level (2-tailed)

Table 8: Rotated component matrix(a)

	Component			
	1	2	3	4
Personnel search	0.703	0.521	0.185	-0.271
Interview and selection	0.501	0.714	0.246	-0.057
Negotiation of terms with prospective candidates	0.556	0.702	0.171	-0.019
Development of professional support groups	0.503	0.598	0.135	0.213
Personnel motivation	0.778	0.450	0.034	0.071
Personnel replacement	0.746	0.414	0.114	0.194
Formulation of initial business strategy	0.678	0.367	0.332	0.086
Ongoing strategy development	0.745	0.216	0.329	0.032
Management of crisis	0.763	0.127	0.444	0.111
Development of production techniques	0.188	0.870	0.142	0.227
Selection of vendors and equipment	0.077	0.861	0.168	0.155
Interfacing with investor groups	0.449	0.037	0.738	-0.251
Obtaining alternative sources of debt finance	0.128	0.205	0.893	0.213
Obtaining alternative sources of equity finance	0.293	0.356	0.852	0.004
Monitoring performance	0.698	-0.104	0.389	0.378
Others	0.148	0.260	0.024	0.854

Extraction method: Principal component analysis. Rotation method: varimax with kaiser normalization. A rotation converged in 9 iterations

DISCUSSION

On a five point Likert intensity scale, where a score of 1 represented no involvement and a score of 5 represented all of the activity being undertaken by the venture capital firm, the average level of intensity for all activities was 2.7, indicating high levels of involvement. This is corroborated by the fact that almost 80% of the respondents reported a close or very close involvement in their portfolio company as a matter of firm policy. Compared to Macmillan *et al.* (1988) the average participation score is low on all counts. This means that either venture capitalists' participation has declined over time or Canadian venture capitalists are less involved with their portfolio companies. The cluster analysis reveals three clusters of venture firms grouped by intensity of involvement and confirms division determined by Macmillan *et al.* (1988). Typically the venture capital firms' most important area of activity in Canada, besides monitoring, relates to their common area of expertise i.e., financing. It is obvious from the study of comparative ranking, that although some research studies (Gorman and Sahlman, 1989; Elango *et al.*, 1995) have treated obtaining finance as a single activity, venture capital firms attach more importance to assisting portfolio companies in obtaining equity rather than debt finance. Apart from financing, a very important contribution from venture capital firms is strategy development. Strategic planning

is one of the few activities to which venture capitalists attach greater importance at screening stage and are heavily involved post-investment. Factor analysis (Table 8) of involvement activities shows clear similarities between financial activities. However, while venture capitalists are clearly involved in personnel search/replacement and drawing up conditions designed to motivate them; this function does not involve interviewing or negotiations with the personnel. The fact that personnel search/replacement and motivation loaded in factors one, which include monitoring and crisis management, seems to corroborate the view that venture capitalists are engaged in these function selectively and probably include replacement/search at senior level only.

Although the data is too small to draw firm conclusions, labour sponsored venture capital firms seem to be most heavily involved with their portfolio companies. Understandably, subsidiaries of financial institutions because of their experience in hands-off collateral based financing, are least involved. It has been reported that venture capitalists are most involved in companies which pursue high technology. While this may be true, the data shows that venture capitalists who rate their portfolio as high-tech are not necessarily more involved in their portfolio companies compared to venture capitalists that do not. Similarly a seat on the board also does not necessarily mean greater involvement. It is also clear from the data that venture capitalists who are more

experienced in venture capital tend to pick low technology companies. A pattern of preferences according to stage of the business appear in the data indicating specialisation based on three stages. Firms which prefer Seed, Start-up and/or early expansion, firms with late expansion and/or mezzanine as a preferred stage and firms with leverage buyouts and/or turnaround as preference. These preferences, however, are not clearly exclusive.

Venture capitalists were also asked to rank the factors that play an important role at screening stage. It is interesting to note that personnel management expertise was rated as most important at screening stage. However, post-investment, venture capitalists are much less involved in personnel management issues. This appears to be a primary area of concern, because they also rate themselves less equipped to handle personnel management issues.

The result relating to reputation and value added was surprising in the wake of earlier studies. Since there were many different types of venture capital firms, the data was split between independent firms/companies and captives/government owned venture capital firms. It was surmised that independent firms/companies may be more affected by market dynamics compared to others. As expected, the result indicate that independent companies and firms tend to be more involved in their portfolio companies if they have processed greater number of investment since inception. This result also highlights the difference between operations of captives and independent venture capital firms. The detailed analysis of activities vis-à-vis experience also reveals that venture capitalists that have more experience in venture capital industry believe themselves to be much more involved in arranging debt financing and strategy development as opposed to other activities. The results are unusual in the sense that venture capitalists specialise in supplying equity finance and they do rate contribution toward equity financing higher than debt. It seems that experienced venture capitalists are much more involved in protecting equity base by helping to arrange debt financing and providing overall direction to the portfolio companies. A strong relation between number of investment and measures of the size of the firm does suggest that firms that have processed greater number of portfolio companies tend to attract more capital under management and have greater number of professionals working for them. Since successful firms are more likely to attract more investment it seems that firms which perform better than others are not necessarily more involved in their portfolio companies.

Close to 70% of venture capitalists report taking from 1-4 months during the initial screening of the project.

Level of participation seems to follow a curvilinear pattern in relation to initial screening period and indicates a low level of participation for firms with limited (probably non-lead venture capitalists) or extended periods of screening time. An interesting result of participation priorities has been the finding that venture capital firms who take more time in initial screening tend to have greater involvement in personnel search/replacement. Assuming that extended screening resolves more of the strategic and operational questions, personnel and leadership seems to form the core issue for venture capital firms.

The most interesting result in this study was the involvement issue vis-s-vis firm's policy/venture capital culture. This raises many questions. Is it because their reading of the venture capital culture, relating to involvement, is incorrect? Is it because all venture capital firms operate at different levels of participation? Or, is it because they would like to be seen as different from others? It is difficult to conceive that with the extent of networking with competitors that goes on in this unique business (Bygrave, 1987) venture capital firms will be unaware of the involvement culture. It is also unlikely, as some convergence in the data collected by this study shows that all venture capital firms operate at significantly different levels of involvement. This only leaves the conclusion that venture capitalists usually like to be seen as more involved in their companies as compared to other venture capital firms. Even though policy may not translate into active participation, the data shows that policy stance as to involvement seems to be clearly guided by experience in the portfolio company industry. While equity has not been linked to greater participation or even a policy decision, analysis shows, that firms tend to protect their higher stakes in equity more aggressively and display higher involvement in times of crisis. Even though the data does not show that venture capitalists with more experience in other industries tend to contribute more toward the operational side of the venture, two activities i.e., obtaining debt finance and strategy development are clearly related to experience in venture capital industries.

Venture capital firms, because of the size of capital under management and the services of professionals at their disposal, have reasons to feel confident about their resource strength. The lack of relation between their perceived resource strengths and their size as measured by capital under management and number of professionals working for them discounts the impression that a larger size or more professionals means a larger pool of resources useful to portfolio companies. It also seems logical that venture capitalists that have more experience in venture capital industry should possess

higher financial expertise than those who have more experience than other industries. Although the data does not corroborate this premise, it does indicate that more experience in other industries does result in overall higher resource perception and more so in areas like operational planning and personnel management. This perception, however, does not seem to translate into higher level of participation.

Among the competencies assessed, venture capitalists seem to be in agreement that portfolio companies seem to lack the industry knowledge. This leads to the conclusion that venture capitalists with more experience in other industries have more capacity to add value.

Although no evidence was found that captive/government sponsored venture capital firms have more financial expertise and independent venture capital firms have more industrial expertise (Beecroft, 1994) there is a significant difference how these two categories of venture capital firms rate themselves as to resource strength. Independent firms seem to consider themselves better in the area of strategy planning and number of contacts that they have among the financial intuitions. However, there is little to indicate that independent firms are more involved in these or any other activity than their captive/government sponsored counterparts

CONCLUSION

This study has provided insight as to how the networking perspective sees the involvement of venture capital firms in their portfolio companies. Prior research has been added to in at least three directions.

- By choosing to conduct this study in Canada, the nature and effect of venture capital firm's involvement across a largely unexplored market has been explored.
- Most of the previous studies have examined the effect of isolated factors on the value-adding role of venture capital firms. An attempt to integrate these studies and develop a different perspective to the value added question has been made.
- The study of venture capital firm/portfolio company dyad to the lists of dyads that have been studied so far has been added.

Although the areas of activities and the priorities attached to these activities are also largely similar, Canadian venture capitalists have scored less as to level of involvement. By default, finance remains the most likely area in which venture capital firms will participate and operations the least likely. It was found that venture

capital firms with more experienced professional tend to participate more and thus add more value. It was also found that venture capitalists with more experience in other industries claim to have greater capacity to add value and are in fact more involved in their portfolio companies. Size seems to add little to the value added capacity of a venture capital firm. It was found that personnel issues are a primary area of concern since not only venture capitalists ascribe greatest importance to it at screening stage but also admit their comparative lack of potential to add value.

We found that venture capitalists tend to distinguish themselves through their ability to add value. However, their actual value added does not depend on their willingness but guided more by how they perceive their potential. This is in marked contrast to earlier assertions that suggest that venture capitalists may be guided by involvement policy. Researchers have suggested that portfolio companies should be careful in choosing their venture capital firm (Ehrlich *et al.*, 1994; Sapienza, 1992) because the value of the venture capital firm's involvement can vary significantly. This study supports this claim and adds the portfolio companies looking for a value-added relationship should rely more on the potential rather than the hype.

It is interesting to note that the areas which past studies have identified as primary contributors to the success of a high potential ventures (Maidique, 1986; Timmon *et al.*, 1977; Cooper and Bruno, 1977; Meyer and Roberts, 1986) are not necessarily the ones in which venture capital firms in Canada report their highest activities. There are other factors, besides the involvement of venture capital firms, which can affect the efficiency of the venture (Chan, 1983; Berglöf, 1994; Adamati and Pfeleiderer, 1994). Thus, the value that venture capital firms add through involvement is limited both in scope and effect.

This study has demonstrated that the venture capital firm/portfolio company relationship can be seen as other than an agency relationship. Agency perspective analyses agency conflicts in isolation from other realities of the venture capital process. Furthermore, it seems inappropriate to ignore a large number of venture capital practitioners who believe this relationship to be more than a principal/agent relation. The network dyad concept sees venture capital firms/portfolio companies as equal partners rather than in confrontational relations as the agency theory implies. It also recognises portfolio company relations with other venture capitalists and venture capitalist's relations with other portfolio companies/venture capitalists and the potential influences that these relationships can create on the dyadic relations.

Limitations and further research: Besides the general limitations associated with survey-based research, this study has some specific limitations. Firstly, this study only examines the perceptions of the venture capitalists. Another limitation of this study is that the venture capital firms/portfolio companies' relationship has been examined in a post funding state. This study relies on cross-sectional data and, in terms of size of sample, has some obvious limitations. In this kind of research study, it is also difficult to overcome self-reporting because the nature of many of the variables employed precludes alternative sources.

For further research it would be interesting to find out differences in resource capabilities between the types of venture capital firms. This issue would help us understand whether the type of venture capital firm makes any difference to value added as some suspect (Barney *et al.*, 1996). While resource assessment by venture capital firms of portfolio companies has been examined in the context of portfolio companies, Norton and Tenenbaum (1993) and Sapienza and Amason (1993) have suggested the exploration of a similar question to determine whether the type of assistance varies by the financing stage. The proposed research will help identify any pattern in the nature of resources that are being transferred in early stages as compared to later stages. Future research should also explore the resource capabilities of a venture capital firm as compared to other private equity investors. Do venture capital firms have an advantage over other private equity investors in terms of resource availability and does that translate into value addition?

An additional avenue for further research in venture capital firm/portfolio company network dyad would seek responses from entrepreneurs whose venture failed. While it would be difficult to obtain such information, it will not only add further understanding of the value added question but may be helpful in isolating factors, which can result in failures. Future research should determine to what extent the resource strength is an issue during deal evaluation and the negotiation process. Unfortunately, the research data, because of its size, does not allow analysis on this score. It could be a very important area of research with profound effects on policy issues.

The fact that most of the time venture capital firms co-invest (Bygrave, 1987) also makes a very interesting testing ground. How do venture capital firms differ in resource assessment of the same company? Do all co-investors, as regards resource contribution, offer the same level of support or do they differ according to their own resource perception. Are venture capital firms, who

habitually choose to co-invest and do not assume a lead role in any way, mindful of the deficiency of their own resource pool? Lastly and most importantly, this study has found that venture capital firms' policy toward involvement in their portfolio companies does not seem to effect extent of later involvement. Why this happens remains an open question and will make a very worthwhile research endeavour.

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