Determinants of the Performance of the Venture
Backed by the Venture Capitalist: an Explorative Study

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Abstract

This research investigates the factors associated with the performance of the venture funded by the venture capitalist (VC), dealing with the post-investment relationship between the VC and the entrepreneur (EP) team, as an inter-organisational relationship (IOR). Principal constructs used in the study include the perceived management competencies of the EP team and the effectiveness of the VC’s involvement in the venture. These constructs are deemed as the combination of the individual distinctive competencies of participating parties in the inter-organisational relationship in order to overcome resource limitations. Furthermore, the construct of the business risks, representing the competitive environment facing the relationship, is also included in the model. The research focuses on, and reports, the impacts of the explored factors on the venture performance.

Data regarding relatively young investments made by UK venture capitalists in 1994/95 was gathered via mail survey between January and March, 1997. The response rate and the effective response rate is 46% and 60% respectively. The three constructs are first exploratory factor-analysed. Then, the identified sub-dimensions are regressed to the venture performance variable. The sub-dimensions comprise the following: two sub-dimensions of the EP team’s management competencies (internally oriented competencies and externally oriented competencies); four sub-dimensions of the VC’s involvement effectiveness (strategic advice, temporary help, networking help and interpersonal / personnel help); and three sub-dimensions of the business risks (product market interaction, market entry strategy and post-entry competition).

The analysis conducted shows in general the stronger impacts of the sub-dimensions related to the EP team’s management competencies than those to the other constructs. In terms of the VC’s involvement effectiveness, whereas a sub-dimension of the VC’s involvement effectiveness, which is related to the VC’s temporary help, exhibits a marginally significant, but negative, association with the venture performance, the others do not. Furthermore, interestingly, although all the sub-dimensions of the business risks show significant Pearson product-moment correlations with the venture performance, only the impact of the product-market interaction sub-dimension is confirmed in the regression analysis. In conclusion, this study provides further evidence on the importance of the management team in terms of investments made by the VC, which has been frequently argued in the entrepreneurship literature, and on their possible proactive approach to the business environment. On the other hand, the negative association found in respect of the VC’s temporary help sub-dimension might demonstrate the influence of the VC’s reactive approach to manage his / her portfolio firms in the UK, especially in the post-investment phase, if the sample of this study is taken into consideration.

1. Introduction

Oliver (1990: 241) defines inter-organisational relationships (IORs) as “...the relatively enduring transactions, flows, and linkages that occur among or between an organisation and one or more organisations in its environment”. As he also noted that financial interlocks - linkages between corporations and financial institutions - can be categorised into voluntary, private sector IORs that fall between the extremes of merger and arm’s-length markets, the relationship between the VC and the EP teams is explicitly and implicitly listed as an IOR (e.g. Ring and Van de Ven, 1994; Cable and Shane, 1997). Indeed, since it is being acknowledged that organisations’ survival and performance often depends critically upon their linkages to other organisations, with which they intentionally decide to establish and IOR for explicitly formulated purposes (Oliver, 1990), the nature of VC-EP team relationships as IORs are likely to influence the performance of the ventures backed by VCs. IORs, especially if they are regarded as evolving entrepreneurial
organisations, are assumed to deal with highly uncertain and equivocal situations that surrounds the organisations. Under this circumstances, IORs are expected to evolve as “socially contrived mechanisms for collective action, which are continually shaped and restructured by actions and symbolic interpretations of the parties involved” (Ring and Van de Ven, 1994: 96).

In this context, the VC and the EP team members as participants in the IOR are expected to co-ordinate for avoiding the duplication of specialised knowledge to the possible extent (Grant, 1996) and for exchanging different opinions to clarify ambiguities, define problems, and reach agreement (Daft and Lengel, 1986). Thus, a strategically viable co-ordinative arrangement of both parties’ inputs is likely to contribute for the dyad not to be outperformed by other dyads. Indeed, as Rock (1987) as a prominent VC says that “…good idea, unless it’s executed, remains only a good idea. Good managers, on the other hand, can’t lose. …Great people make great companies”, it appears intuitively obvious to assume that a “good” management team of a venture firm is likely to nurture a “good” venture firm. On the other hand, as British Venture Capital Association (BVCA) notes “…the venture capitalist provides experience, giving a stable base for strategic decision making” (BVCA, 1995: 1), practitioners in the venture capital industry frequently claim their value added into the venture, besides money. This leads to the assumption where the VC’s contribution to the venture is possibly of critical importance for the venture funded by the venture capital firm. Furthermore, business risks - “the uncertainty associated with obtaining returns on an investment in a new firm due to the firm's competitive environment” (Barney et al, 1989: 64) should be taken into consideration in examining possible determinants of the venture performance. Consequently, this study proposes these three constructs as crucial determinants of the performance of the venture backed by the VC. The impacts of these are explored in this paper.

2. Research Interest and Proposition

Hansen and Wernerfelt (1989) note that the major determinants of firm-level profitability include:

- The characteristics of the industry in which the firm competes
- The firm's position relative to its competitors,
- The quality or quantity of the firm's resources.

In the context of an inter-organisational relationship, the ability to combine the individual distinctive competencies of partner firms to overcome resource limitations is frequently discussed as an important comparative (Powell, 1987; Eisenhardt and Schoonhoven, 1996). In fact, the VC creates networks for the venture and may reduce the cost of acquiring capital, finding customers and suppliers, and establishing the venture’s credibility (MacMillan et al, 1988; Sahlman, 1990), while leaving the decisions of day-to-day operations to the management team (MacMillan et al, 1988).

As a result, the perceived management competencies of the entrepreneurial team, and the effectiveness of the venture capitalist’s involvement in the venture are included in the model proposed in this paper, in addition to the construct of business risks.

Classically, Katz (1974) suggests that three basic developable skills are necessary for an administrator to be effective: technical skill, human skill and conceptual skill. He argues that, by developing these skills, an administrator becomes able to (1) be proficiency in a specific kind of activity involving methods processes, procedures or techniques, (2) work effectively as a group member and to build co-operative effort within the team the administrator leads, and (3) see the enterprise as a whole, recognising how the various functions of the organisation depend on one another, and how changes in any one part affect all the others. Naturally, in the new venture context, some entrepreneurial behavioral characteristics such as visionary leadership (Mintzberg, 1996) seems to be necessary, in addition to these administrative skills. Thus, the managing entrepreneur’s promoter-type behaviour (Stevenson and Gumpert, 1991) adjusted to the corresponding environmental factors is likely to be of critical importance for the venture’s eventual success.

Furthermore, the importance of the balanced management team for the new venture’s success has been often claimed by researchers and practitioners (e.g. Timmons, 1994). As argued in the introduction section, the management team is expected to co-ordinate in mainly the two different ways. According to Demsetz (1991), the existence of the firm represents a response to a fundamental symmetry in the economics of knowledge, where knowledge acquisition requires greater specialisation than is needed for its utilisation. In the process of avoiding the duplication of specialised knowledge in managing ventures, the co-ordinated efforts of individual specialists who possess many different types of knowledge are required for production (Grant, 1996). In the VC-EP team dyad, the decision makings on one party’s
specialised field, where this party possess the higher ability or expertise, are categorised as more “routine” tasks. Herein, the effort to avoid the duplication is likely to yield relatively more efficient VC-EP team relationship. For example, in the VC-EP team relationship, VCs are usually unwilling to be involved in the day-to-day operation matters but regard the financial as one of their most important roles (MacMillan et al., 1988; Gladstone, 1988).

The other type of co-ordination deals with the effort to exchange and integrate the different views of the participants for better decision makings for the inter-organisational ventures’ future directions. Schweiger and Sandberg (1989) conclude that in order to effectively utilise a team's capabilities, the member's diversified skills and perspectives must be identified and built into each decision in the most appropriate manner. Bantel and Jackson (1989) also concluded that cognitive diversity can be a valuable resource in the decision making process. Indeed, it was found that top management teams with diverse capabilities with respect to their functional backgrounds made more innovative, higher-quality decisions than teams with less diverse capabilities (Bantel and Jackson, 1989; Murray, 1989). In the entrepreneurial context, the decisions about the strategic choice for the venture, for example, may be regarded as non-routine tasks and include a great deal of debate. Non-routine tasks require problem solving, have few set procedures, and have a high degree of uncertainty (Van de Ven et al., 1976). Thus, the disagreement and variety in the entrepreneurial management team, if managed properly, is likely to match the level of variety in the task for the group and to serve for making the venture managed more effectively.

The same logic argued in the above is likely to be applied to the VC’s involvement in the venture funded, which is deemed as an IOR. That is, the VC’s participation in the venture’s management by utilising his / her managerial resources can possibly be co-ordinated in either / both of the two different ways for the venture’s expected outcome. In the post-investment phase of the venture capital investment process, the VC frequently takes part in various roles. For example, MacMillan et al. (1988) identified four distinct involvement factors: development and operations, the management team selection, the personnel of the venture, and financial activities. Sapienza and Timmons (1989) categorised the VC’s post-investment activities into three: strategic roles, social / supportive roles and networking roles. In fact, whether or not VCs actually add value through involvement in their portfolio companies remains controversial from both the VC’s point of view (MacMillan et al.; 1988) and the entrepreneur’s (e.g. Rosenstein et al., 1993). However, it seems still fair to assume that some types of the VC’s involvement are effective, especially under some particular conditions. For example, Rosenstein et al’s (1993) study found that the CEOs with “top-20 high tech venture capital firms” as the lead investors rated the advice from their venture capital board members significantly higher than the advice from other outside board members. With respect to the value-added in the UK and continental European venture capital context, Sapienza et al (1996) found that VCs rated strategic involvement as their most important roles, their interpersonal roles as the next in value, and their networking roles as the third most important.

In terms of the business risks, past literature makes it clear that organisations face many different kinds of environments. However, when single firm performance is the dependent variable of interest, the task environment is the appropriate level in measuring market attractiveness (Castrogiovanni, 1991). The task level includes the organisations with which a company must interact in order to survive and grow (Castrogiovanni, 1991), such as its customers, suppliers, regulators, and competitors (e.g. Porter, 1980). In addition, albeit, when considered individually, industry structure has been found to have a greater impact on new venture performance than any other variable (Hofer and Sandberg, 1987), the combined influence of strategy and industry structure has been found to be far greater than the influence of either of these variables individually (e.g. Sandberg, 1986). Consequently, this study include the business risk construct to capture broad interactions in the new venture’s task environment, as possible determinants of the venture performance.

From the above argument, it is proposed that the EP team's management competencies, the VC involvement effectiveness and the business risks are likely to be associated with the venture performance.

This proposition will be explored in the following through such multivariate analyses as the factor analysis and the regression analysis.
3. Methodology

3.1. Sample and Data Source

The focus of this research is the population of relatively young investments made by UK venture capitalists. After initial screening by telephone, pre-tested questionnaires were sent, between January and March, 1997, to 174 UK venture capitalists identified mainly from two sources: British Venture Capital Association 1996/97 Directory (BVCA, 1996), and The Venture Capital Report: Guide to Venture Capital in the UK and Europe (Venture Capital Report, 1995). Eighty (80) VCs returned usable questionnaires giving an effective response rate of 60%. In the questionnaire, the VC was asked to choose a particular investment in which they participated as the lead investor during 1994/95 but which was not a management buy-out or buy-in.

3.2. Dependent Variable

The performance measurement of the venture is taken from the Sapienza’s (1992) study and was slightly modified during the pilot study. This instrument was also used in the context of UK venture capital industry (Sapienza et al, 1996). It comprises five financial criteria, five non-financial criteria, and an overall assessment of the venture performance. In addition, the respondents’ satisfaction is used to serve as a proxy for partnership success (Anderson and Narus, 1990).

3.3. Independent Variables

In terms of the EP team’s management competencies, criteria which the VC uses in assessing the business plan submitted are useful sources for determining the key variables. Accordingly, the four items related to the category of “Management competence” of the EP team in Muzyka et al’s (1996) study were selected and used for this survey. In addition to these items, two items, which are concerned with the management team characteristics related to the team’s effectively utilising the above four functional capabilities in the post-investment period of the venture capital investment, were selected from MacMillan et al’s (1985) study. Respondents are asked to indicate their assessment, compared with their initial expectation, on a five-point Likert type scale.

For the construct of the VC involvement effectiveness, twelve items representing the VC’s areas of involvement were developed through examining the relevant studies in the US and in the UK (MacMillan et al, 1988; Harrison and Mason, 1992; Sapienza, 1992; Barney et al, 1996). Respondents were first asked to indicate the importance they put on these items on a five-point Likert-type scale. In addition, they were asked to indicate their effectiveness in having carried out the role of each area during the post-investment period on a five-point Likert type scale. The products of the effectiveness scores and the importance scores were calculated for further analyses.

In order to measure the business risk involved in the new venture context, as applied to develop the instrument for the EP team’s management competencies, criteria which the VC uses in assessing the business plan submitted are again useful sources. Accordingly, five items were taken from Muzyka et al (1996), whose items were used in the UK context, and two items were added from MacMillan et al (1988). A set of antonyms (e.g. Weaker and Stronger) for each aspect of the business risk was arranged in the bi-polar manner on a five-point Likert type scale. Respondents are asked to indicate their assessment, compared with their initial expectation.

In the next section, these three instruments for the independent variables, each of which was developed as a multi-item scale, are subject to the exploratory factor analysis in order to identify emerging sub-dimensions of the variables. Resultant sub-dimensions are, then, regressed to the dependent variable, the venture performance.

4. Analysis

In conducting the exploratory factor analyses in this study, no test, which is with respect to the Bartlett test of sphericity and the measure of sampling adequacy (MSA) and the MSA extended to individual variables in order to
include the items falling in the unacceptable range, demonstrated that the factor analyses conducted or the items in the analyses are unacceptable. In respect of the number of factor to be extracted, this study fundamentally considered only the factors having eigenvalues greater than 1 significant, but with also reference to the cumulative percent of variance and to the scree plot. For finding simpler and more easily interpretable components the varimax rotation as an orthogonal rotation method is used after extracting appropriate number of factors. In addition, all variables with communalities less than .50, which would be identified as not having sufficient explanation, were ignored for the interpretation purpose. Factor loadings, where the value is above .5 level are used for interpretation.

In terms of the EP team’s management competencies, the exploration into the sub-dimensions yielded two dimensions of (1) “internally oriented competencies” of organisation / administrative, leadership and finance / accounting, and (2) “externally oriented competencies” of marketing / sales, leadership and sustain effort, while collectively explaining 62% of the variance. Interestingly, the distinctive two sub-dimensions emerged, despite the instrument was designed to measure the team’s functional competencies and the indicators leading to the team’s management behaviour.

Four factors were extracted for the construct of the VC involvement effectiveness, explaining 61% of the variance in the data. The four factors identified were interpreted and labelled as the following: (1) strategic advice; (2) temporary help; (3) networking help; and (4) inter-personal help. The instrument for this construct was originally designed to capture the VC’s involvement effectiveness in the four sub-dimensions of strategic, financial, operational and inter-personal fields, by creating multi-item scales for these expected sub-dimensions. While the factors emerged are not exactly the same as those expected in this study, these in broad correspond to the dimensions found or argued in the past relevant empirical research. However, interestingly, similar sub-dimension to the “temporary help” sub-dimension in this study has not been identified to date, to the best of the authors’ knowledge. This may result from the fact that this is the first statistical treatment to identify the VC’s involvement area sub-dimensions in the UK.

Finally in the exploration into the sub-dimensions of the independent variables, the factor analysis was conducted for the construct of the business risks. For this construct, the items chosen aimed at capturing two broad interactions in the new venture’s task environment; product-market dimension and strategic-competitive dimension. In fact, three factors indicating distinctive sub-dimensions within the business risk variable were identified: (1) product-market; (2) entry strategy; and (3) post entry competition. These sub-dimensions collectively explain 68% of the variance in the data. Although, as expected, the sub-dimension of “product-market” emerged, the expected strategic-competitive sub-dimension seems to be separated into the other two sub-dimensions. This may result from the entrepreneurial context of this study, where the firm’s market entry strategy is deemed of critical importance for its survival and eventual growth (Vesper, 1990).

These sub-dimensions identified so far are first subject to the calculation of Pearson Product-Moment Correlation between variables including the dependent variable, in order to identify possible multi-collinearity problems and to capture some preliminary insights into the impacts of the independent variables. Thus, the inter-correlations between the independent variables and the dependent variable are expected to remain unchanged in the regression analysis. The below table 1 indicates the result of the analysis.

<table>
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<th>Table 1: Pearson Product-Moment Correlation</th>
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<tr>
<td>1. Venture performance</td>
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<td>2. EP - external mgmt. capabilities</td>
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<td>3. EP - internal mgmt. capabilities</td>
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<td>4. BR - market entry strategy</td>
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<td>5. BR - post-entry competition</td>
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<td>6. BR - product-market interaction</td>
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<td>7. VC effects - network</td>
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<td>8. VC effect - inter-personal</td>
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<td>9. VC effect - strategy</td>
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<td>10. VC effect - temporary help</td>
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double underline: significant at 0.01 level (two-tailed)
single underline: significant at 0.05 level (two-tailed)
Listwise deletion N=61
In terms of the multi-collinearity problem, an examination shows that multi-collinearity does not appear to be a serious threat to the regression analysis, since none of the bi-variate correlations is above .40. Indeed, Berry and Feldman (1985) argued that multicollinearity is not a problem if no correlation exceed some predefined threshold values of typically around .80. In addition, other multi-collinearity assessment indicators such as VIF and the condition index were also calculated in the regression analysis and do not show unacceptable multi-collinearity problems.

Another inspection into the above correlation matrix implies that there are fairly strong associations between the venture performance and all the sub-dimensions of the EP team's management competencies and the business risks. On the other hand, only the “temporary help” sub-dimension of the VC’s involvement effectiveness is significant at .05 level, and, surprisingly, it is negative. Since the impacts of the VC’s involvement effectiveness are implicitly assumed to be positive on the venture performance, the correlations with respect to these impacts are contrary to the expectation.

The next step is to regress the identified sub-dimensions of the independent variables to the dependent variable, the venture performance. Table 2 in the following exhibits the result of the analysis. As shown in the table, three out of the nine beta coefficients are significant at .01 level and one is marginally significant at .10 level. Although, as demonstrated by the $R^2$ value of .594, the regression model does fairly good job in general. However, the emerging impacts of the independent variables are rather different from the expectation, especially in terms of those related to the VC’s involvement effectiveness and the business risk variables.

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<td>.454</td>
<td>.359</td>
<td>.157</td>
<td>.078</td>
<td>.252</td>
<td>-.133</td>
<td>.020</td>
<td>-.023</td>
<td>-.180</td>
<td>.594</td>
<td>8.28</td>
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Standardised betas are reported (n = 61)

\[<.10; \quad <.05; \quad <.01\]

### 5. Results and Discussion

Impressive findings in the regression analysis is relatively stronger impacts of the two sub-dimensions related to the EP team’s management capabilities on the venture performance. These findings confirmed the importance of the management team in the new venture context, which has been frequently argued and researched. Although, in reality, many ventures without potential managerial and/or product competitiveness pass screening and evaluation, are funded, and fail (MacMillan et al, 1987), the findings in broad correspond to new venture literature, where the venture team’s management competencies such as their personality and experience are one of the most important ingredient for the venture to be funded by the venture capital (e.g. MacMillan et al, 1985, Muzyka et al, 1996). In other words, the role of the VC as the information agent before and after the deal (Chan, 1983) to reduce the inherent information gap between fund providers to venture capital funds and the EP management team is still of importance. Herein, the VC is expected to build a knowledge base that helps to induce entrepreneurs to expend maximum effort, thus making investment in the VC’s portfolio more attractive to outsiders.

Of special mention is the impact of the “external oriented” management capability appears of critical importance, albeit it should be noted that the above regression analysis does not necessarily guarantee the relative importance of this variable. It is argued that whether a venture succeeds depends on both internal factors such as the effort and skill of the people involved, and external factors such as the economy (Sahlman, 1990). Thus, a possible argument is that the EP team members are expected to manage the venture proactively to the change of the environmental factors, ascertaining the assumptions in attaining the milestones set. Finally, this may be more likely to be the case, when the venture’s business is service oriented (MacMillan et al, 1987).

It is surprising that there is no significant association between the venture performance and the VC’s involvement effectiveness sub-dimensions, albeit the impact of the “temporary” help is marginally significant. These findings may be deemed corresponding to the still controversial nature of the research on the VC’s “value-added”. That is, as, for
example, MacMillan et al (1988) could not find the significant relationship between the VC involvement level and the venture performance, the VC’s simply increasing his / her involvement in the venture does not necessarily guarantee the value added by the VC. Consequently, as Higashide (2000) found that the VCs in the UK have tended to increase their involvement in the venture both in the role of providing encouragement / motivation and in the strategic roles simultaneously in 1990s, it is likely to be necessary for the VC to supplement their involvement in the venture’s management with a “good” inter-personal relationship between the VC and the EP team member, as well as with other informal or “human” aspects such as his / her commitment to the venture.

Further, it should be noted that the marginally significant impact of the temporary help is negative, contrary to the implicit expectation. This negative association found might demonstrate the influence of the VC’s reactive approach to manage his / her portfolio firms in the UK, especially in the post investment phase. That is, this may imply that the VC’s involvement tends to start increasing when they perceive the venture’s performance as unsatisfactory, and the VCs feel their involvement is basically effective. Put simply, it may be possible that the venture performance function as a cause for the VCs to increase their involvement and eventual perceived effectiveness. In light of this possibility, the observed negative beta with the venture performance does not mean that the VC’s involvement should be discontinued. Additionally, if the sample of this study is taken into consideration, he results of the research also demonstrate the further necessity to investigate into the notion of the “sustained” competitive advantage, possibly through longitudinal research designs.

Other surprising findings are with regard to the impacts of the business risks. Whereas the fairly strong zero-order correlation coefficients between the sub-dimensions of this variable and the venture performance were expected to remain unchanged, only the positive impact of the “product-market” sub-dimension on the performance is confirmed in the regression analysis. In the new venture context, the importance of the entry strategy is often claimed (e.g. Vesper, 1990). However, the impact of the “market entry” sub-dimension falls marginally out of significance (p = .114). Nevertheless, this has not been confirmed. Accordingly, the significant zero-order correlation coefficients observed for the other sub-dimensions but the “product-market” sub-dimension may be regarded as spurious ones. On the other hand the significant association between the “product-market” sub-dimension and the venture performance confirmed in broad the effectiveness of the VC’s screening and evaluating intuition, where, although there exist a great diversity of evaluation, the criterion of the management team predominates and this is followed by market / product criteria.

The argument of the VC’s possible reactive approach and the importance of the entry strategy in the new venture context appears to be strengthened by the bi-variate correlations. An examination into the Table 1 indicates that the EP team’s externally-oriented management capability and the “market entry” sub-dimensions of the business risks are significantly but negatively correlated with the VC’s involvement effectiveness in the strategic help. This may imply that, when the VC is not satisfied with the demonstrated entry power of the venture’s product / service and /or with the EP team’s capability to implement the entry strategy, s/he starts being involved in the venture. However, in these cases, the VC is still not satisfied enough with the venture performance. Indeed, the sample in this study, which comprise relatively young investments made by VCs, also have some influence to these findings.

In conclusion, this study provides further evidence on the importance of the management team in terms of investments made by the VC, which has been frequently argued in the entrepreneurship literature, and on their possible proactive approach to the business environment. On the other hand, whereas the VC seems to expect the EP management team to manage the venture proactively, many of the VCs in the UK may prefer to be involved in the venture reactively. In general, it is said that the situation in the UK with respect to the new venture creation tends to follow the phenomena in the US with some years gap. In addition, in the US, there are some indicators showing the VC’s investment activities are coming back to the so-called “classic type” to some extent, albeit not so strong. Therefore, it appears to be important to trace the development of the UK venture capital industry and the UK VCs’ investment activities, possibly in the longitudinal manner, in order to clarify what lead to the effective and efficient state of the venture capital investment, as well as to contribute to Entrepreneurship by developing well-organised theory in terms of the investor in various inter-organisational settings.
References


