



## **A New Approach to Challenges of Venture Capital in Financing the Industrial Clusters through Cooperative Models and Venture Funds in Iran**

**Abdol Majid Saadat Nezhad<sup>1\*</sup>, Tahmoures Sohrabi<sup>2</sup>, Nasrollah Shadnoosh<sup>3</sup>, Abbas Toloie Eshlaghy<sup>4</sup>**

<sup>1</sup>Faculty of Management, Islamic Azad University, Central Tehran Branch, Tehran, Iran, <sup>2</sup>Faculty of Management, Islamic Azad University, Central Tehran Branch, Tehran, Iran, <sup>3</sup>Faculty of Management, Islamic Azad University, Central Tehran Branch, Tehran, Iran, <sup>4</sup>Department of Industrial Management, Islamic Azad University, Science and Research Branch, Tehran, Iran.

\*E-mail: [AbdolMajid.SaadatNezhad@gmail.com](mailto:AbdolMajid.SaadatNezhad@gmail.com)

### **ABSTRACT**

While science and technology parks and towns and development centres have been established before 2002 in Iran and their number have been continually increased, there has been only a seminar presented by Mr. Abdeh Tabrizi, the late Secretary General of Tehran Securities and Exchange Organization, in Bank Sepah, 2001, about venture capital in the country. Gradually, venture capital have been presented as a new mechanism for financing to entrepreneurs and a bill has been represented to cabinet by Management and Planning Organization to define an annual definite budgetary in a general manner. The industry of venture capital has been under attention by many organizations and science centres during recent years. The Institute of Elites' technological development, on behalf of Centre for Innovation and Technology Cooperation, Presidency of Islamic Republic of Iran, Management and Planning Organization of Iran, Industrial Development and Renovation Organization of Iran, Centre for New Industries of Iran, Youth occupation cooperation organization or Iran, Bank Keshavarzi, Tadbir Investment Company, Iran National Investment Company, Farda Development Institute, University of Tehran, Sharif University of Technology, Imam Sadegh University, and other financial organizations and institutes have been the centres that represented their research results in the First Conference of Venture Capital, held by Jahad Daneshgahi, University of Tehran. Sanaray Company, a consortium consists of active Iranian companies in the field of information technology, have been represented some examples of successful business plans and ideas in Iran to Enjazat Fund during last 2 years, in cooperation with Islamic Development Bank. Based on the represented plans, this fund has been responsible for investing up to 50 million dollars in Middle East and North of Africa. Currently, Mr. Saffari is the Iranian consultant of the fund.

**Keywords:** Industrial Clusters, Export-oriented Clusters, Venture Funds, SPV, Public-private Partnership, Venture Capital, Cooperative Models

**JEL Classifications:** C38, G24, L24

### **1. INTRODUCTION**

Regarding the changes that happened in various levels of new technologies in Iran which preferred the country in the view of exceptional talents, at least in the Middle East, it is necessary to review various systems of financing for entrepreneurship and to support useful and high efficient plans. There are numerous reasons based on the necessity for defining a systematic structure for modelling in the field of investing and growing new ideas and prominent plans (Walder, 2017; Costantini et al., 2017; Rangus and Slavec, 2017; Levidow and Upham, 2017; Jang et al., 2017;

Strupeit, 2017; Polzin, 2017; Fabrizio et al., 2017; Kim et al., 2017; Živojinović et al., 2017; Khedhaouria and Thurik, 2017; Antonelli and Gehringer, 2017; Xu et al., 2017; Iizuka and Uchida, 2017; Salles-Filho et al., 2017; Stefan and Bengtsson, 2017).

We know that the key point of financing for such plans are the availability of initial capital and starting the business; hence, if the owner of plan or the primary thinker cannot prepare the required initial finances as well as the required guarantees for investor, it would be the first serious problem. In this condition, if it assumes that he/she is able to deal with managing and marketing

problems and analysing the conditions, his/her primary concern would be the financing of the idea in a time consuming manner that is needed to experience complex processes in banks and governmental companies (Lai et al., 2017; Karnouskos, 2017; Appio et al., 2017; Scuotto et al., 2017; Kokkinakos et al., 2017; Bi et al., 2017; Song et al., 2017; Cai et al., 2017; Kokshagina et al., 2017; Howell, 2017; Eroglu and Kilic, 2017; Jordaan et al., 2017; Whalley et al., 2017).

There are other important reasons for paying special attention to investing in the view of venture capital, as its global standard:

Starting a new business is not a fancy work for satisfying self-actualization and emerging the talents in a long term or short term period but it is necessary to design the considered plans and projects in a framework of organizational unit through determining the organizational structure and defining contingency business models by selected managers so that they seriously prepare for activity and competition in sensitive conditions of market, rivals, and changing space of new technologies. In venture capital model, these parameters are specially considered and the selection of a capable, industrially familiar board of directors for monitoring, controlling and managing as a completely active manner is designed (Lam et al., 2017; Guttentag and Smith, 2017; Ní Fhlatharta and Farrell 2017; Wang et al., 2017; Coccia, 2017; Blomkvist et al., 2017; Wu et al., 2017; Dong and Netten, 2017; Haddow et al., 2017; Cohen and Munshi, 2017; Tomaszuk, 2017; Kratzer et al., 2017; Jiang et al., 2017; Ivanović et al., 2017; Bartkowiak and Bartkowiak, 2017; Chen et al., 2017).

Many entrepreneurs and even business companies and economic institutes are not familiar with establishing productive units and or new services in the view of capital literature and usual operation. Preparing operational plans and using agreement in-principle and licenses, taking the advantages of prominent consultants, financial predictions and technological and marketing assessments are not among their skills. Therefore, it is necessary to prepare suitable conditions for encountering with new experiences through cooperation with groups, companies, people, and well-known industrial networks; these dreams come true when the necessary conditions are designed in the field of management and investment and scientifically and operationally capable working powers are used in the business (Cheng et al., 2017; Hassani et al., 2017; Archibugi, 2017; Li et al., 2017; Helmers et al., 2017; Potts and Kastle, 2017; Wang and Hu, 2017; Carmeli and Dothan, 2017; Rehm and Goel, 2017; Faber et al., 2017; Quiroga and Martin, 2017; Sovacool et al., 2017; Shanker et al., 2017; Bandama et al., 2017; Chakraborty and Chatterjee, 2017; Kong et al., 2017; Martin et al., 2017; Scott et al., 2017).

In old systems, financing processes were inactively continued through preliminary assessments of plans and by giving loan from financial institutes; currently, however, the primary capital of the company is prepared by a number of shareholders and venture capitalists who are more interested in gaining more operational profit than returning the capital and paying loan payments. If we review the old financing systems, we can see that most companies and their managers are not presented in a competitive space with

believing in more activity for more success. This is due to the fact that their companies are designed using an inactive system (loan) and hence, they are not interested in active fighting for overcoming the problems and changing the conditions to their interest. It is generally observed that a heavy space and unreal pretenders are shadowed on the will of managers of such companies which limited their activity and spirit. Returning the loans of company and struggling for releasing the weight of guarantees and collaterals among with the fear that confined them from the starting point of the business cannot be ignored. In financing through long term loans, in addition to lack of correct managing the costs and money assigning to current usage of the company, it unrealy seems that the company is successful in gaining money and capital and hence, there is no reason for concern since currently, payments are approved in cash, agreements are obtained and if the company could return its commitments, it is best but it is necessary to be watched out for preventing worse conditions. In this condition, it can be observed that managers and owners are ready for experiences which are not vital for them and hence, their risk ability would be limited. The author suggests that it is necessary for owners of the project to take more responsibility about the future and economic conditions of the company; however, the presence of shareholders, efficient managers and strategic partners can be considered as a solution for removing such problems as the designing of such structures are usual in venture capital (Poblete and Spulber, 2017; Pierrakis and Saridakis, 2017; Liu and Wang, 2017; Turker and Vural, 2017; Lichtenberg et al., 2017; Buhl et al., 2017; Dass et al., 2017; Dincer and Acar, 2017; Girod et al., 2017; Song et al., 2017; Skippari et al., 2017; Zoo et al., 2017; Gupta and Barua, 2017; Costantini et al., 2017; Mota and Moreira, 2017; Buitendag et al., 2017; Martin-Perez and Martin-Cruz, 2017; Badenhorst, 2017; Du Plessis et al., 2017; Matthee and Santana-Gallego, 2017; Klingelhöfer, 2017).

In venture capital, decision making and conducting the plans of the company are not relied upon the decisions and tastes of a specified person but the models, methods, conditions and features are evaluated and analysed by expert groups and the profits of shareholders are intellectually processed. In this regard, economy, technology, and other parameters that are presented in long term plans of the company are the key points for durability and life of company (Dippenaar and Schaap, 2017; Flint and Maré, 2017; Zulu et al., 2017; Hargarter and van Vuuren, 2017; Mpwanya and van Heerden, 2017; Asiwe et al., 2017; Van Wyk and Dippenaar, 2017; Snelgar et al., 2017; Joubert and Joubert, 2017; Coetzee and Kleynhans, 2017; Boshoff and Toerien, 2017; Rateiwa and Aziakpono, 2017; Ehlers, 2017; Charman, 2017; Sinyolo et al., 2017; Cruywagen and Ljale, 2017; Boshoff, 2017; Liebenberg et al., 2017; De Jongh et al., 2017; Sejkora and Sankot, 2017; Sturdy and Cronje, 2017; Gebrehiwot, 2017; Saadat et al., 2017).

## 2. HOW IS VENTURE CAPITAL IN IRAN?

Venture capital is recently interested in scientific and research societies of Iran. This type of capital is dealt with financing of start-ups that are demanded for initial costs of development.

The unreliability that governs on such plans leads to encountering the private and governmental investors with various parameters

of risk including risks of management, product, technology, market, and financial, operational, organizational, strategic and environmental risks.

The business modelling and managing such plans, regarding the above mentioned risks, are risky for both investors and entrepreneurs. Creating added value in investee companies and taking the financial and logical advantages of such companies in initial years of business leads to increase in the number of venture capitals. According to a basic principle of financial and investment fields, increasing the risk leads to logical increase in profit.

As previously mentioned, high risk and high efficiency resulted from these newly developed plans is the only point that differentiates between investors. People can be generally categorized into two groups according to their character and financial ability: Risk taking and risk averter; they are two heads of a spectrum and people manage various risks by their expected efficiencies. There is not a professional venture fund in Iran and it is predicted that such funds will emerge in future due to high demand for them.

Identification of the required infrastructures for creating and continuing a venture fund in a region or country is very important. It seems that making infrastructures for obtaining a suitable condition for venture capital in the country should be considered in three orientations, each of them are including numerous branches and should be identified and evaluated:

- a. Financing.
- b. Financial and investing knowledge.
- c. Legal issues.

In the first section—financing—it suggests to implement a model that prepare venture capital through establishing “mutual funds for venture capital in Iranian Industries” in cooperation with various economical institutes interested in venture capital.

It seems that the establishment of this fund recognized as the first serious step taken by private sector not governmental one; since we have to believe in technological ability and fighting spirit of our managers and experts and we have to use from our energy as most as possible.

If this idea comes true, other venture capital activities will be started. Establishment of Iran Venture Capital Association can lead to a powerful network for preparing various financial, investing and entrepreneurship services, as in most European, American and Asian countries.

In the second section—financial and investing knowledge—although we have talented graduates in financial and engineering disciplines, understanding of capital processes by investors and managers is related to experiencing and updating technical information. Evaluation of technology, valuation of technology, risk assessment and feasibility study of project, preparing suitable strategies for business and planning its suitable models are the most important factors required for venture capital that makes venture capital funds or company so powerful that is able to create an optimum portfolio.

In the third section—legal issues—unfortunately, copyright is not a legal issue in our country. This is a major problem for entrepreneurship in various fields of capital. Although there are numerous legal experts and consultants in the country, in the absence of legal support of government from entrepreneurs, it can be said that two first issues cannot help us.

### 3. REQUIRED TOOLS FOR DESIGNING THE STRUCTURES OF VENTURE FUNDS

We have to design applicable models for cooperation with start-ups to understand their invisible values.

Milestone and due diligence and feasibility study for business plans can be easily happened when venture funds have a clear vision toward venture capital and make its strategies for determining the following preferences:

- Industry focus.
- Local investment.
- Structure of fund.

Whether the company is willing to invest in various stages of the plan (early stage, secondary stage, expansion stage, etc.) is related to profit or non-profit structure of fund, favourite period of investment for plans, investment commitment value and many other issues.

- Determining the financing models and preparing contracts and using standard financial computations and techniques in the context of technical and economical assessment of plans.
- Using modern financial theories in the field of risk and efficiency computations as well as creating suitable portfolio from these plans.
- Approaches and techniques for valuation of intellectual property.
- Determining factors in preparation of decision making algorithms.
- Models should be designed based on exit strategy and cash flow at the end of period and return of capital.
- Determining an active and efficient team for studying and evaluating the financial and technical indices of each plan, individually or even in interaction with the related market to each field.
- Making added value in these companies based on management, technological, marketing and production parameters.

In brief, it should be said that methodology for using each of these parameters should be comprehensively investigated by all team members.

### 4. RESULTS AND DISCUSSION

In each industrial cluster, there is a set of primary components which should be necessarily prepared through entrepreneurs or developers of cluster, whether from governmental or private sectors. For preparing this component, capital is needed. Various types of available financing methods for a typical cluster of textile industry in a developing country are summarized in the following Table 1.

**Table 1: Various types of available financing methods for a typical cluster of textile industry in a developing country**

Components	Financing resource		
	Entrepreneur	Government	Bank
Land	✓		
Factory and machinery	✓		✓
Building	✓		✓
Inter-cluster infrastructure	✓	✓	
Outer infrastructure		✓	

It can be observed that without having an innovative financing structure, which guarantees the harmonies between the prepared resources from stakeholders—entrepreneurs, government and banks, financing of project would be difficult. Financing structure based on cooperation of governmental and private sectors are developed in this regard.

The details of this structure are as following:

- a. All cluster projects are organized based on cooperation of governmental and private sectors.
- b. While the government supports are generally limited to financing for a part of usual infrastructure, inter-cluster users must pay the remaining costs through a combination of shares and debts.
- c. Companies that are small to moderate are not in the right position to use from institutional financing without collateral or guarantee. Categorizing these companies in SPV framework, with suitable financial/contractive structures, allows inter-cluster/units institutional financing, without getting collateral from each entrepreneur.
- d. Based on the contribution of members and governmental supports, SPV borrow from financial institutes to develop the cluster. These debts are repaid by collecting monthly charges from members in proportion with the occupied space of the cluster by them. The contractive framework between SPV and the members guarantees this issue and prepares a mechanism for the required measures if any member deviates to pay its charge.
- e. It is possible to create a debt service fund under supervision of SPV that collect a percent of monthly financing charge from the members. These amounts are used for emergency measures by SPV. When the reserve of fund is equal to the debt amount, members do not pay charge anymore and the reserve fund is used to repay debt.
- f. Units pay a predetermined amount to SPV for operation and maintenance of inter-cluster equipment.
- g. Such mechanism leads to rising of confidence of banks for making a loan without guarantee and collateral. Moreover, the costs of management and transaction for borrowing small amounts from companies are decreased through this framework.
- h. A set of banks are responsible for financing of each cluster so that risk is divided and minimized and it is not necessary for each bank, separately, to document the loan.

This structure of financing of the project is a win-win solution for all major stakeholders of the process:

- a. Government, because financial supports of the government are consumed for financing of project; i.e., it costs for its real goal.

- b. Financial institutes, in the view of undertaking the return of loan from SPV with minimum transaction costs by covering suitable guarantee which makes better guarantee due to better credit level of SPV than small to medium companies.
- c. Small to medium companies, which their plans are approved by bank and can gain institutional financing, while it would be hardly possible for those, individually.

#### 4.1. Role of Public-private Partnership (PPP) Manger in Development of Cluster

The tasks for developing such clusters are very complicated. These tasks are identification and mobilization of small to medium companies, SPV organization, DRP development, making sure about the adequacy of investment, developing suitable contractive and legal structures, making sure about the presence of suitable outer infrastructure in the contexts such as communications and water and power, and designing and implementing of cluster.

Analysing the role of PPP manager shows that a wide range of activities and services should be implemented for sustainable development of cluster as following:

#### 4.2. Required Tools for Designing the Structures of Venture Funds

##### 4.2.1. Development of project

- a. Identifying the potential industrial units, and motivating and mobilizing those in order to make sure about the presence of a considerable amount of entrepreneurs who are interested in establishing their units into the cluster and being the member of SPV.
- b. Helping entrepreneurs for SPV establishment.
- c. Helping SPV for buying a suitable land and landscaping.
- d. Preparing a DPR for covering technical, financial, institutional and O&M features of cluster.
- e. Facilitating the process of project confirmation by the government for financing a part of infrastructure costs.

##### 4.2.2. Engineering and supplies

- (a) Helping SPV for designing and accurate engineering of the buildings of factories, infrastructure and other usual inter-cluster equipment.
- (b) Helping SPV in the process of bidding and selecting the builders of facilities and places.

##### 4.2.3. Adequacy of investment

Helping SPV for absorbing resources from financial institutes so that the required financial resources at the start of the work of construction agency are prepared.

##### 4.2.4. Project implementation

Supervising the construction activities and making sure about the completion of the project within the state time according to the details and the defined budget.

##### 4.2.5. Capacity building of SPV

- a. Educating SPV members in the fields of financial, legal and management features of cluster.



- b. Educating SPV and its members in various contexts such as standards, requirements, quality, etc.
- c. Facilitating the plans for increasing skills.

**4.2.6. Identification of technology resources**

- a. Helping SPV and entrepreneurs for selecting suitable technology.
- b. Helping SPV for mass buying of machinery in order to reduce the costs.

**4.3. Marketing**

**4.3.1. Helping SPV for establishing market relations**

In addition to the above services, it is possible that PPP manager buys a part of SPV shares and hence, the manager who is a partner of the project has more interested into the success and possibly losses of the cluster.

Motivation or financial awards for PPP manager is, at first, an amount who receives under the title of manager confirmed by the government for designing and implementing the plan; furthermore, the manager receives some money for services who offer to companies and SPV as well as the return of capital in SPV.

Regarding the structural limitations of many governmental organizations and limited capacity of industries against such tasks, the role of a professional intermediate company for collecting various stakeholders together and discussing about their challenges is essential.

For implementing these tasks, such a professional intermediate organization must have skills related to capacity building, development of project, financing, implementing and O and M of infrastructure projects based on PPP.

Therefore, the role of PPP manager is more than a coach and partner in the development process of cluster and the roles of servicing, development of infrastructure and financial institute are combined in this role. The presence of such institutional framework is a basic precondition for sustainable development of clusters based on PPP (Table 2).

**5. CONCLUSION**

The current paper is discussed about the importance of clusters in international competitiveness of developing economies, its transition, demands, and financing options. In such a competitive space which are globalizing in a fast manner, the structural partnership of private and governmental sectors are of considerable importance. The following framework lists the key determinative factors that should be presented in such plans. In this framework, these key components are categorized in three levels; micro level or company and cluster level, intermediate level or formulation of project in institutional level, and macro level or the level of general environment of government and business environment policies. This framework can be used as a checklist or a tool for analysing the distance for evaluating the presence or absence

**Table 2: A framework for financing plans of industrial clusters**

Level	Components	Indices
Micro	Cluster and entrepreneurs	<ul style="list-style-type: none"> <li>• Presence of numerous entrepreneurs</li> <li>• Product with potential market</li> <li>• Suitable place for using from the presented clusters</li> <li>• Presence of “cluster creator” who can plays the role of pioneer</li> </ul>
Intermediate	Cluster development	<ul style="list-style-type: none"> <li>• Culture of cooperation and mutual reliability between entrepreneurs</li> <li>• Clarity in approach, contracting instead of implementing discrete works</li> </ul>
	Project financing	<ul style="list-style-type: none"> <li>• Investing the resources into the development of project</li> <li>• Innovative financing structure in order to acceptability of SMEs and project in bank</li> <li>• Adequacy of project capital before starting the activities</li> </ul>
	Project ownership	<ul style="list-style-type: none"> <li>• Proportional structure/settings for debt returning</li> <li>• Moving from the approach of “industrial unions” towards SPV approach based on PPP with business vision</li> <li>• Ownership of SPV by entrepreneurs with having majority of shares</li> </ul>
	Project management	<ul style="list-style-type: none"> <li>• A professional project management institute that combines servicing, infrastructure development and financial institute roles so that the process implements from the concept</li> <li>• Suitable supervising structure</li> </ul>
Macro	Project O and M Communications, technology and marketing	<ul style="list-style-type: none"> <li>• Suitable framework for cluster O and M through collecting charges from users</li> <li>• Identifying suitable product combination with reliable market</li> <li>• Identifying machinery resources that are suitable for the considered products, preferably through SPV, so that leads to decrease in costs through whole buy</li> <li>• Establishing the relationships of market with potential buyers, and plans for collecting resources so that taking the advantages of scale economy</li> </ul>
	Policy framework	<ul style="list-style-type: none"> <li>• Policy/plan of government which should be flexible and encouraged the industry ownership of user</li> <li>• Preparing a part of infrastructure costs so that the project will be financially justifiable</li> <li>• Hyperactive approach of government towards project development in the form of preparing technical supports through professional project management agencies</li> </ul>
	Market environment and international trade	<ul style="list-style-type: none"> <li>• Suitable international trade environment for determined products so that encourage the members of industry to invest</li> </ul>

PPV: Public-private partnership

of these factors and activities in each cluster development plan.

It should be noted that the concept of SEMs and their roles in economic development process and job creation have been interested in Iran during recent years and various supportive plans have been implemented; the most well-known one during recent years is early return economic enterprises.

Direct loan has been the principal approach in financial supporting of SMEs and in some conditions, complete effectiveness of the method have been doubted and there have been some concerns about the deviation of resources. Application of financing for industrial clusters through cooperative models and venture funds can be a new and applicable approach in supportive sectors; especially in view of its role in guaranteeing loan paybacks as well as its special attention towards financing and more reliability about the efficiency of loans, it can be considered as a suitable model for the country. Therefore, it should be considered in establishing the policies and plans for export development.

In many countries, the capital contribution of private sector in gross national product is considerable and it should be noted that venture funds are not necessarily looking for profit. Some of those are established aiming to educate and support from innovations and applicable plans of graduates, some of those playing role in incubatory environments and governmental scientific and research parks and totally, it should be said that various funds are active in the world, as profit or non-profit organizations. Achieving to the following issues can lead to decrease in capital risks:

- a. Creation of secondary markets for facilitating of investors' cash and exit from companies.
- b. Creation of culture for taking risk among investors.
- c. Developing networks (internet, etc.) for introducing plans and investee companies.
- d. Obtaining facilities and taking risks from government and banks in direct and indirect financing of funds, investor companies and investee ones.
- e. Preparing laws for supporting innovative plans and copyright.
- f. Decreasing tax and or removing it in special conditions for investors.
- g. Preparing educational workshops and courses.
- h. Using primary financing and investing managers, lawyers, engineers and experts.

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