

The Role of Export Clusters in Export Performance of SMEs: The Case of Iranian Energy Industry

DOI: 10.12776/QIP.V19I2.612

Sarah S. Ebadzadeh Semnani, Hossein Dadfar,
Staffan Brege

Received 13 September 2015, Accepted 26 November 2015, Published 31 December 2015

ABSTRACT

Purpose: This study was carried out with the aim of exploring the effects of export clusters formation on export performance of SMEs in Iranian energy industry.

Methodology/Approach: The study was undertaken through having three case studies, each on a different export cluster currently active within Iranian energy industry. The data was collected through semi-structured interviews with both managers and members of each export cluster as well as study of their archival documents.

Findings: The results confirmed that all three export clusters managed to successfully identify their members' needs and undertook certain measures within their own authority and control, to mitigate these risks. Moreover, the secondary data showed positive growth rate of export level after the establishment of these export clusters. Interestingly, the strong suits of all three export clusters were mainly related to *communication and relationship* aspects. These three factors were: ability to create *Informal Network* within members, *Public Relations* and *Training/Consultation*.

Research Limitation/implication: This study was limited to the export clusters in Iranian energy industry, and on a cross-sectional time horizon basis. It therefore cannot be generalized to all industries and we might witness certain changes in findings if the study is undertaken at different point in time. However, the study shed light on certain important aspects such as nature of relationships within the members of each cluster, the role of trust management and social power as well as the need to place more focus on SMEs in export clusters.

Originality/Value of paper: Even though there are recently many studies on the concept of export clusters and their positive impacts on the growth in export of

various countries throughout the world; but so far, there had been no similar study undertaken with a focus on Iran and not enough empirical evidence had previously been provided on export clusters performance in a developing country.

Category: Case study

Keywords: export cluster performance; internal relationships; internationalization of SMEs; trust management

1 INTRODUCTION

1.1 Background

The recent shifts in trading strategies of countries, growing liberalization, competition and integration on a world-wide basis, had made internationalization one of the main strategies of the firms who pursue growth objectives. One of the first approaches towards internationalization is exporting. Level of exports also became one of the main criteria in assessing the success of industries in many countries during the past two decades. In some countries, export-performance even acts as a mean to evaluate the strength of that economy (Oyewole, 2001).

Despite all the benefits exporting may have, managing to export is a markedly difficult task that cannot be easily accomplished by many companies. Due to the risky nature of operating in international markets, many companies who attempted to enter these markets had suffered from huge losses. A successful domestic company cannot necessarily be successful in international markets as well (Bianchi and Ostale, 2006).

1.2 Problem Discussion

The level of Iran's export by the end of year 2013 had approximately been 61.22 billion US Dollars. Petroleum related products account for 80% of country's total export (CIA 2014). Nevertheless, export of engineering and technical services in Iran had recently been growing and it reached \$2.7 billion in 2007-08. This amount was almost twice of its previous year's figure which was \$1.6 billion (Karimi, 2008). The export projects that Iranian firms implemented in this field include constructing power plants, gas pipelines, dam, transmission lines, etc.

Fortunately recent constructive movements had taken place in Iran with the intention of enhancing the level of export. One of these actions is the formation of export clusters. Export clusters can have a positive contribution to the growth of export in companies, especially the SMEs (Tambunan and Hendrawan, 2004).

Therefore, the important role that exporting plays in economic development of countries and negative impacts associated with high reliance on export of oil related products was taken into account. On the other hand, the recent improvements in the export of engineering and technical services in Iran which

mainly includes projects in the field of energy highlighted the importance of efficiently managing export of energy industry in Iran.

1.3 Purpose

The purpose of this study is to explore the effects of export clusters on export performance of Iranian energy industry.

The above purpose is broken down into four research questions:

- 1) What are the common challenges to exporting in developing countries and their possible mitigating measures?
- 2) What sort of financial services are needed by exporters?
- 3) What are the major characteristics of export clusters in energy industry?
- 4) What role can export clusters play in exporting?

2 THEORETICAL FRAMEWORK

There are various reasons behind why firms go to international markets. The examples include: counter attack/local market attacked by global firms, expansion of sales/higher profit opportunity or economies of scale. Furthermore the motivations of going international include: reducing dependency on a single market, diversifying their sources of sales and supplies, minimizing competitive risk, enjoying protection policy of the host country, acquiring resources/cheaper material and manpower, utilizing excess capacity, growth or management and stakeholders' ambition (Onkvisit and Shaw, 2004). However, it should be kept in mind that internationalization is a high-risk business activity.

2.1 Internationalization Risks

When firms become international, they will be exposed to certain types of risk which they did not have to deal with while operating locally. There are specific models, views and theories which covers these types of risks. Two common approaches include:

PEST Analysis

Based on PEST Model Analysis the macro-environment in which the company operates will be analyzed from four different and interrelated aspects which are Political & legal, Economical, Socio-cultural and Technological (Segal-Horn, 1994).

Country Risk

Country risk has a different perspective and classifies the type of risks associated with trading in every country into three categories of political, economic and financial (Oxelheim, 1984).

2.1.1 Political & Legal Risk

Political and legal risk is defined as the types of actions either discriminatory or arbitrary taken by home or mainly host governments, political groups or individuals; that have negative effect on company's international trade. The political and legal risk can be categorized into three different groups of Host Government, Host Society and Interstate/ Regional risks (Al Khattab, Anchor Davies, 2007).

2.1.2 Economic Risk

Economic risk is the possibility that economic related events have drastic effects in the business environment of a country to the extent that it hurts the profit or other business objectives. The practical evidences have proved that the biggest concern of economic mismanagement is the rise in inflation (Wang et al., 2000).

2.1.3 Social Risks

Some scholars consider these risks to be under the 'Host Society Risk' category. As these risks basically refer to the effect of social, environmental or cultural activists' actions in host society which might have negative effect on operation of foreign companies (Ling and Hoi, 2006).

2.1.4 Technological/ Operating Risk

This type of risk is associated with internal operating procedures of the firm in the areas where operating (both technical and managerial aspects) issues are magnified while dealing with foreign partners or customers. It should be noted that such risks mainly occur when a whole packaged project is contracted to be exported to another country (Kapila and Hendrickson, 2001; Ling and Hoi, 2006).

2.1.5 Financial Risks

Financial risk covers an exceptionally broad concept and is considered to be greatly related to political risk. These are the types of risks that if not properly addressed, will even lead to the bankruptcy of the company (Ling and Hoi, 2006) and financially related risks can have significant changes on the value of foreign projects (Kapila and Hendrickson, 2001). Basically companies can be exposed to financial risk from three main aspects which are: Exchange Rate Risks, Financing Risk and International Payment Methods (Boczko, 2005; Kapila and Hendrickson, 2001).

2.2 Management of Risks

There are various techniques and approaches for managing every risk. Some risks have uncontrollable nature and cannot be effectively managed by the companies. These risks include economic related risks, host society risks and interstate risks. The different techniques and examples of these techniques are stated below:

- **Risk Prevention:** Security and employee protection measures, having counter-intelligence activity and harmonious governmental relations.
- **Risk Avoidance:** Exposure ceilings, withdrawal, divestment or rejection of investment and requesting short payback periods.
- **Risk Retention:** Currency speculations, operational financial hedging, and premiums for risk and loss absorption plans.
- **Risk Transfer:** Various insurances.
- **Risk Reduction:** Joint ventures or consortia, strategic alliances, local borrowing, transitional alliances and management contracts (Guth, 1985).

2.2.1 Social Risk Management

Even though these risks are to a high extent uncontrollable and cannot be managed, but an interesting academic contribution pointed out the importance of developing and strengthening “Social Capital” as a success factor for international companies while dealing with social, environmental or cultural related risks (Waite and Williams, 2009). Social capital which is a sociological theory is concerned about relationships between and within different social networks (Burt, 2000; Coleman, 1990).

2.2.2 Financial Risk Management

Financial risk management is a broad concept and has received considerably high amount of scholarly attention. It is one of the main risks every internationally operating company faces which have direct effects on the profit or loss of the company. If financial risk is properly managed by using the right tools (Kapila and Hendrickson, 2001); it can reduce the level of exposure down to almost zero and even lead to more financial gains. Central to financial risk is exchange risk and some of the main exchange risk management tools are:

- i) Use of dual-currency contracts
- ii) Use of hedging instruments.
- iii) Obtaining guarantees.
- iv) Managing the timing of their receivables and payables.
- v) Multilateral Netting (Kapila and Hendrickson, 2001; Wang et al., 2000).

2.3 Strategic Alliances

As it had been already discussed, one of the risk reduction approaches is through forming strategic alliances. Under strategic alliances firms become partners with one another by combining their resources, capabilities and competencies to

pursue mutual interests for developing, manufacturing and distributing goods and services (Townsend, 2003). Scholars believe that such business to business relationships can take variety of names such as different types of collaborations, joint ventures, linkages, networks, partnerships, consortia, cluster, etc. (Townsend, 2003).

2.4 Small and Medium Enterprises (SMEs)

Many SMEs shy away from international markets (Sousa and Bradley, 2009). There are certain reasons that cause deterrence of SMEs to entre international markets; including difficulties in finding international partners (Masurel, 2001), meeting foreign regulations and standards, achieving economies of scale and division of labor (Tambunan and Hendrawan, 2004), and finally; lack of international knowledge and managerial experience, capability (Masurel, 2001) and required financing knowledge (UNIDO, 2003).

It is therefore necessary for SMEs to start cooperating with other entities or SMEs to be able to entre and survive in international markets. These relationships can take various forms and each form can be associated with different benefits and implications. These relationships can be through export assistance, distributor support or cluster formation (Sousa and Bradley, 2009).

2.5 Clusters

Michael Porter in his book, *The Competitive Advantage of Nations* (Porter, 1990) had nicely managed to cover all previous trade theories and opened up new insights to the concept of clusters and provided a framework for connecting the firm, and national level of competitiveness. In Diamond Model (Fig. 1), Porter proposes that four interrelated factors determine competitiveness and these factors can reach their fullest potential when they take place within the boundaries of a specialized industry cluster. He further discusses the role of government in Diamond Model and states that government can act as either challenger or catalyst of the four factors (Porter, 1990:127).

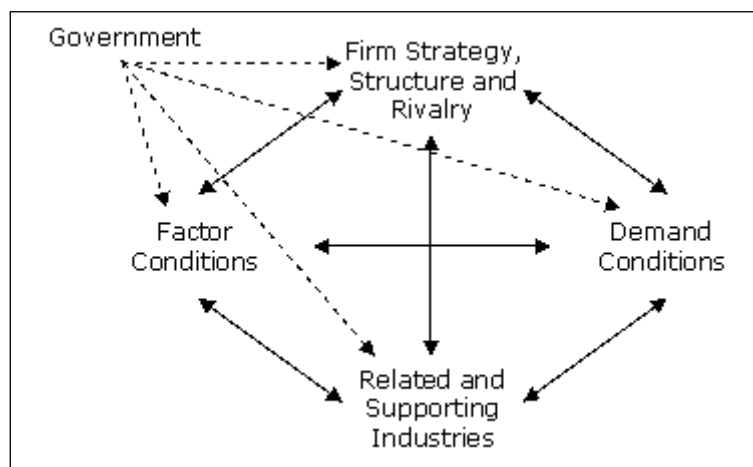


Figure 1 – Porter's Diamond Model

According to Porter (1998), *cluster* is the concentration of an array of interconnected institutions or companies who work in a same field. Clusters are usually extended forward to distribution channels and customers or sideward with complementary products' manufacturers and also with companies operating in industries that provide related technologies, skills or have similar inputs with cluster (Porter, 1998).

Moreover, under UNIDO's definition, "An *export consortium/cluster* is a voluntary alliance of firms with the objective of promoting the export of goods and services of its members through joint actions." (Russo, 2005).

2.5.1 Benefits of Export Clusters

- It enables companies to enhance their collective learning (Perez-Aleman, 2005) and accumulation of their knowledge level (UNIDO, 2003) through synergies (Nadvi and Barrientos, 2004).
- Gaining better and faster access to foreign market information (International Trade Centre, 2005).
- The availability of supporting service providers enable opportunities for outsourcing of non-core activities (du Plessis, 2009; International Trade Centre, 2005; Scheer and von Zallinger, 2007).
- Better supply chain opportunities (du Plessis, 2009)
- Great logistic opportunities (du Plessis, 2009)
- Joint action activities with other members (Scheer and von Zallinger, 2007)

2.5.2 Export Clusters' Shortcomings

- The possibility of emerging a trend of internal unhealthy competition amongst certain members which might lead to severe deterioration in both price, quality and other destructive actions (Venkateswara Rao, 2002).
- Export clusters are not a suitable tool for overcoming short-term issues.
- They sometimes lack the informal networking that should exist between members.
- The export clusters sometimes fail to transparently communicate their objectives to their members thus leaving members with vague expectations (Scheer and von Zallinger, 2007).

2.5.3 Success Factors of Export Clusters

- An export cluster cannot perform up to its full potential unless its members trust one another.
- Export clusters should maintain a proper and long term relationship with their internal network by having a well-developed link between members in various areas. As well as their external network such as governmental, technical, educational and financial service providers (Tambunan and Hendrawan, 2004).

- The structure of the export cluster should always be open and flexible as a rigid structure hinders the exploitation of opportunities for export clusters.
- Members should always remain competitors to one another in the areas they are not cooperating and maintain their independence at all times.
- Export clusters have to be managed by members themselves with no influence of public authorities on managerial decisions.
- Objectives should be thoroughly communicated to all members to avoid confusion.
- The chosen business members should all possess adequate potential for growth, innovation capabilities and superior performance.
- All members should focus on their own competences and at the same time engage in pooling ‘tacit knowledge’ to enable synergies.
- Proper public relations department should be developed in every export cluster to provide a common image of the export cluster to the markets and public (Scheer and von Zallinger, 2007).

2.5.4 Applied Theories

The concept of export cluster and its management is associated with certain theories and approaches which need to be taken into account to enable a deeper understanding of the whole concept:

- i) **Resource Dependency Theory:** The fact that every entity needs to have access to resources of other actors in the environment and how the scarcity of resources oblige organizations to practice new innovative methods that consumes alternative resources (Pfeffer and Salancik, 1978).
- ii) **Network Perspective:** Actors are surrounded by networks of interconnected relationships. Network ties can embody various relationships; for example, collaborations, strategic alliances, or flows of information and influence (Håkansson and Snehota, 1995).
- iii) **Interaction Theory:** It is believed that the emergence of inter-organizational relationships is through former relationships between parties as well as prior trusts, beliefs and commitments (Oliver, 1990).
- iv) **Trust Management:** Building trust is directly related to Social Capital. Trust is one of the constituting elements of social capital, networks and norms (Fukuyama, 1995).
- v) **Social Power Theory:** Originally five types of power were introduced by French and Raven, who believed that different types of social power can be used for exercising influence on others. These are Expert, Legitimate, Referent, Reward and Coercive types of power (French and Raven, 1959)

Fig. 2 depicts the theoretical framework which was evolved in this study based on the chosen models and theories which had been discussed above:

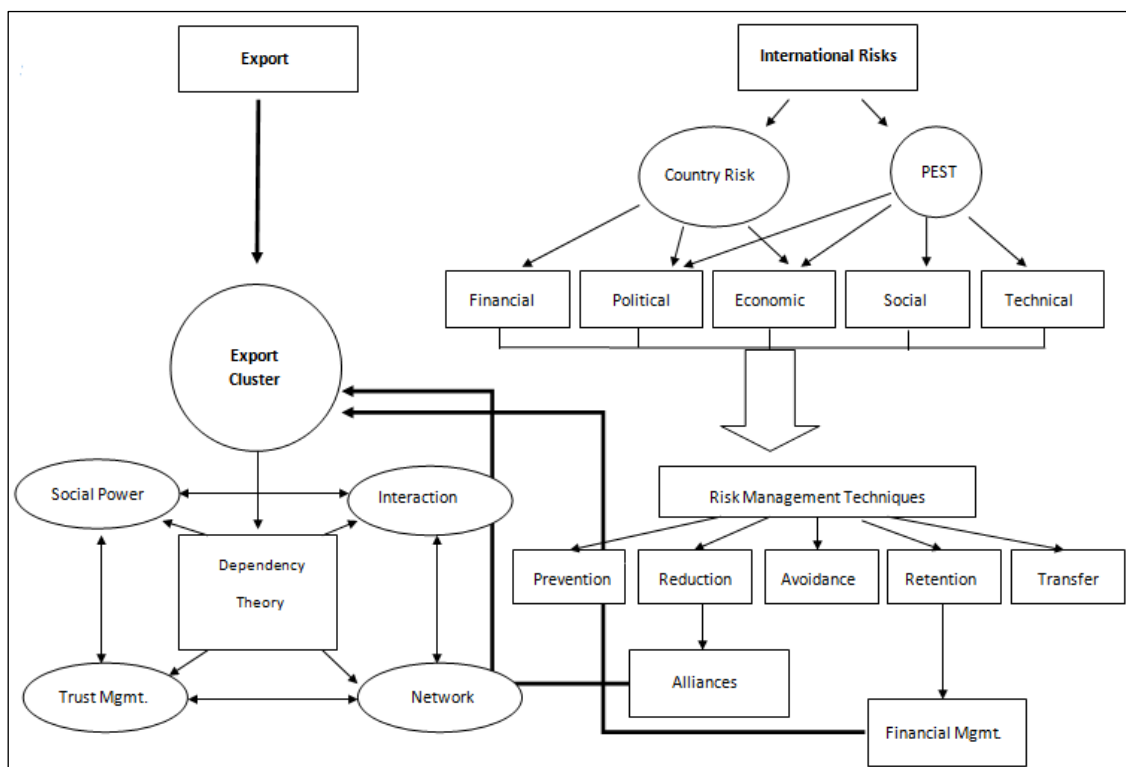


Figure 2 – Theoretical Framework

3 METHODOLOGY

Since the nature of the study is exploratory, the case study approach was adopted. We looked at export clusters with focus on the services they provided to their members and the effect of such services on export performance of members.

A detailed case study was carried out on three export clusters. In order to maintain their discretion, they are going to be named A, B and C. All three export clusters are active in different fields of energy industry.

Data Collection

Both primary and secondary data were collected and used. The primary data were collected by 19 in-depth interviews with semi-structured open-ended questions.

Face-to-face and telephone interviews were used to get information from both managers and members of export clusters.

The major sources of collected secondary data include:

- Cases' archival documents and minutes of meetings.
- Financial statements, and annual reports of cases.
- Cases' announcements, agreements and tender documents.

- Export clusters' websites.
- Official governments' statistics.

4 EMPIRICAL RESULTS

CASE A

On September 2003 Case A was established by a group of Iranian entrepreneurs working in private sector. With the purpose of advancing its objectives and fulfilling its responsibilities, Case A had formed four specialized committees each responsible for special affairs in different sub-categories of oil related products which are lube, paraffin, bitumen, petrochemicals and gas. Moreover, it had been selected as the exemplar national export cluster on year 2006. Case A currently comprises of 163 members.

CASE B

Case B was found on year 2000. It currently contains 285 members. They include manufacturing, contracting and consulting firms in electricity industry. On the beginning of year 2010 Case B decided to form an Export Development Committee for its member companies that already export or plan to do so in near future. Other committees currently operating under this syndicate include Finance and Joint Cooperation, Legal and Dispute Resolution, Research and Training, Evaluation and Competency Assessment and Economic Committee.

CASE C

Case C is a non-profit and non-governmental association established in 1998 with the purpose of assisting the development of international business actions of its members. This association has 240 members which are amongst leading Iranian construction and engineering companies.

4.1 Risks and Challenges of Exporting

The undertaken interviews with export clusters' managers and members gave some insights to the types of risk and challenges exporters currently face in each export cluster. Two of the main risks are explained below in detail and the rest are briefed in Tab. 1.

4.1.1 Political Risk

All three export clusters were constantly dealing with political risks. The secretary of Support of Domestic Construction Committee in Case B had undertaken a research which identified the main consequences of political uncertainties in Iran and the degree of their effect on electricity industry. Based on those findings increase in price of raw materials, money transfer issues and

difficulties in opening LCs; are considered as the three main negative effects of political uncertainties (Case B's PR).

Table 1 – Risks Faced by Clusters' Members

Types of Risks	Risks Being Faced by Cluster Members		
	Case A	Case B	Case C
Political	Sanctions	Sanctions	Sanctions
Legal	Difficulties in obtaining ISO & EFQM certificates	Difficulties in licensing, Domestic banking regulation, Insurances, Guarantees for tenders	Difficulties in acquiring licenses, guarantees and insurances
Techno-logical	Inefficient R&D, packaging and supply or raw material	Difficulties in R&D	Lack of knowledge on international environment
	Mismanagement in quality assurance, pricing, cost control and logistics	Mismanagement in quality and cost control	Managerial deficiency in negotiation and contracting
			Unacceptable level of technology and international standards
Social		Networking difficulties, especially with foreign banks	Weak international networking
Financial		Banking challenges	Banking challenges
	Exchange Rate	Exchange Rate	Exchange Rate
	Financing	Financing	Financing

4.1.2 Financial Risk

All of the respondents dealt with exchange rate risk.

Banking Challenges

Majority of banking challenges were in regard with inefficiencies in Iranian banking sector. Case B had several discussion meetings in this regard with central bank authorities. Below points are the contributions of interviewees on banking challenges of Iranian exporters:

- They all believed that difficulty in LC openings in foreign banks for Iranian companies, exchange rate fluctuation risks and unavailability of hedging instruments in Iran are the main dilemma for exporters.
- Unavailability of LCs in local currency (Rial).
- Time consuming process of issuing currency guarantees.

- Limitations on the level of offered banking and credit facilities in the area of exporting. At the moment the value of these facilities is only 10% of the total company's capital.
- Inconsistency in the payment procedures of different banks.

Financing

80% of all respondents had to deal with financing difficulties. According to the founder of Case C, "Majority of contractors face financing risk since they need sufficient funding to cover their costs during the implementation of projects and there are limited sources for raising this finance in Iran. Moreover, contractors need to make large sums of payment for required guarantees in order to take part in tenders and prepayments in which they need funding for covering these expenses."

4.2 Export Clusters Risk Management Measures

Based on the responses from both managers and members in this regard; and by studying the performance report of export clusters in the past years, the actions they undertook to mitigate some of the export related challenges are summarized in Tab. 2 In addition, due to importance of social risk management, this risk is explained in more detail in upcoming section.

Social Risk Management

One of the interviewees stated: "Due to the fact that Iranian companies do not possess a public image in international markets; the export clusters undertake the networking activities on their behalf and act as their "voice" and representative in international markets." Interestingly, 80% of all the respondents pointed out the significance of this contribution by export clusters. 40% of respondents claimed that the prerequisite for doing so is having well-known and credible managers which already gained public trust.

4.3 Benefits Associated with Export Clusters

The findings from interviews as well as the internal reports of each export cluster identified certain benefits associated with operation of the export clusters under this study:

- Undertaking foreign market research on behalf of members.
- Providing assistance and consultation in regard with international trade to their members.
- Following up their issues with governmental authorities and related entities, or offering professional advice to government on changing the rules and regulations in favor of their members.

Table 2 – Risk Management Measures Undertaken by Clusters

Types of Risks	Risk Management Measures Undertaken by Clusters		
	Case A	Case B	Case C
Political	Seek to develop fruitful relationships with foreigners	Holding consultation sessions on sanction issues	
		Offer professional suggestions to government	
		Undertook studies on how to overcome sanctions	
Legal	Offer assistance in providing ISO & EFQM certificates	Follow ups with governmental authorities on certain deregulations	Offering legal assistance and training
	Offer insurance to members		Convinced government to provide export insurance
	Consultations on contracting procedures		
Techno-logical	Offer services on pricing of oil related products	Development of research and training committee in IEIS	Educate & inform members about international environment
	Renewal of oil export trade rate	Offer evaluation & competency assessment for members	
	Training sessions for members	Training and consultation sessions for members	Offer training & assistance on tender opportunities
Social	Undertake necessary networking and negotiations on behalf of members		Seek to act as the voice and representative of their members through having reputable managers.
Financial	Signing agreements with domestic banks for international activities of their members	Signing agreement with several domestic banks.	Seek to develop strategic relations with foreign banks for LC opening purposes
		Offer professional banking advices	Attempts to introduce hedging instruments for Iranian exporters
		Meeting with Iranian central bank and informing them about exporters' issues.	Made agreements with governmental authorities to provide export bonuses to members
	Follow ups on tax reduction	Managed to cut down taxes for members	Managed to cut down taxes for members

- Information sharing through meetings, publication of internal monthly journals, updating the website, etc.
- Providing training sessions for member companies.
- Undertaking certain advertising activities on behalf of their members.
- Being the “voice” and representative of the members.
- Opening agency offices in other countries on behalf of all members.
- Expanding the members’ network by connecting them with suppliers, banks, law firms and consultants

4.4 Export Clusters’ Limitations

Through interviewing the members and studying the achievements of export clusters, the below limitations had been identified in their performance:

- Neither of the export clusters focused on achieving synergy by the help of their members.
- Despite the efforts in formation of informal networks within members, mistrust still exists amongst them.
- The biggest limitation of Case B is the fact that many of its managers are beneficiaries themselves and this issue provoked the lack of trust further.
- 60% of members believed that there is no fair distribution of resources and benefits amongst members.
- Within the member companies’ respondents, about 70% of them believed that internal unhealthy competitions exist amongst export cluster members.
- There is lack of financial support in both Case B & C if members do not make financial contributions, which leads to limiting their service offerings.

4.5 Success Factors of Export Clusters

In the interview with the members, they were asked about their ideal success factors for export clusters. Their responses were:

- Up to 80% of members stated “reliable, trustworthy and honest human resource”.
- Around 70% of the members identified “Having a completely dedicated management who are experienced and not involved in any other

commercial or managerial activities and most importantly are not a beneficiary themselves.” As one of the main success factors.

- Transparency in communication and information sharing.
- Efficiently managing the internal and external networks.
- Competency in international marketing activities.
- Having a management familiar with macroeconomic and financial issues.
- Existence of mutual interest within members which leads to sharing a common goal.
- Being backed by proper financial support.
- Having well-known and credible managers and representatives.
- Being able to identify and meet the needs of its members.

On the other hand, based on export clusters’ annual performance reports and by having an overall review on the interview responses, the below factors had been identified as the current success factors of these export clusters:

- Clear communication of objectives.
- Reasonably efficient communication and information sharing.
- Attempts in creating informal network amongst members.
- Constant monitoring and evaluation of export clusters’ performance.
- Re-engineering of their structure and management system, to make sure it is flexible enough.
- Satisfactory Publics Relations and advertising activities within Iran.
- Having disciplinary committee with the aim of resolving conflicts amongst members.

4.6 SMEs and Export Clusters

Case A is an export cluster which placed its utmost focus into attracting more members. Due to the fact that they allowed open membership and the membership terms are reasonably uncomplicated; almost 70% of the whole members are SMEs.

This however was not the case for Case B & C. Case B had a selective procedure for choosing its members and there were no public announcements; they have selected almost 40% of the candidates from SMEs and the rest were larger sized companies. Case C had strict membership terms and the companies who are

willing to become members should be able to get the required scores on various factors such as companies' background, the value of their international projects, their ranking in technical qualifications, previous experience in taking international projects, etc.

Table 3 – Shared Activities Offered by Case C

Training Sessions	Conferences	Marketing Team	Exhibitions	Tender Opportunities
Guidelines on international investments	Seminar on energy, oil and gas related products			
How to invest in Iraq			18 in Iraq	36 in Iraq
How to export to Iraq				
How to register a company in Iraq				
Guidelines on investment in Kurdistan of Iraq				
Trading guidelines for Iraq				
Investment in India	Wind energy in India		5 in India	8 in India
Guidelines on investment in Turkey			2 in Turkey	8 in Turkey
Guidelines on investment and trade in Uzbekistan		Sent to Uzbekistan		2 in Uzbekistan
Investment guidelines in Afghanistan			1 in Afghanistan	
Guidelines on investment in Algeria	Review on Iranian trade opportunities in Algeria			
How to register a company in Nigeria				
Guidelines on investment in Nigeria				
Guidelines on investment in Kenya				1 in Kenya
How to take part in tenders of Bosnia				
How to take part in tenders of Kuwait				
Electricity transmission companies in Bangladesh				
	Held in Turkmanistan			2 in Turkmanistan
		Sent to Tunisia	1 in Tunisia	1 in Tunisia
				1 in Ivory Coast
		Sent to Tajikestan		1 in Tajikestan
			6 in UAE	
			8 in Ukraine	
			6 in Hong Kong	
			10 in Malaysia	
			9 in Kazakistan	
			5 in Singapore	
			3 in Vietnam	
			5 in Bahrain	

4.7 Secondary Data Findings

As already mentioned, part of the empirical findings is collected through secondary sources. Amongst the three cases, Case C possessed several useful documents. The internal report of Case C from period 2008 to 2010 had been studied to find out how the export cluster performs in terms of offering different shared activities and services to their members. The result of this study is depicted on Tab. 3.

Case A

Fig. 3 (From Case A’s internal reports) and Fig. 4 (Iranian National Statistics Portal, 2014) respectively show the export level of petrochemical and oil products of Iran. It should be noted that oil products export has a tricky nature and it is more related to political aspects than companies’ performances. However, the rise in its level of export after formation of Case A on 2003 is noticeable.

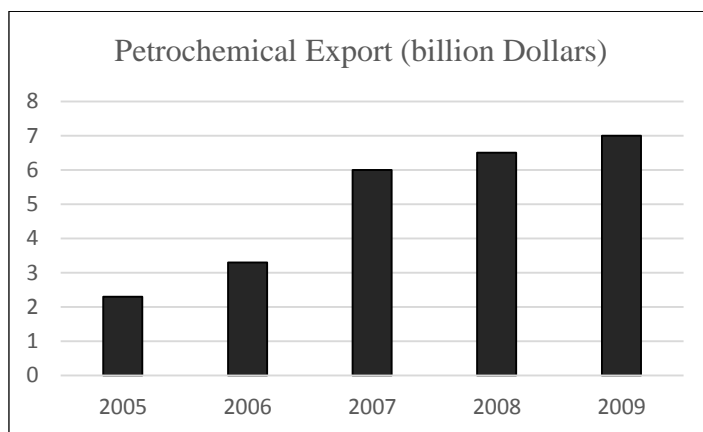


Figure 3 – Iran’s Petrochemical Export

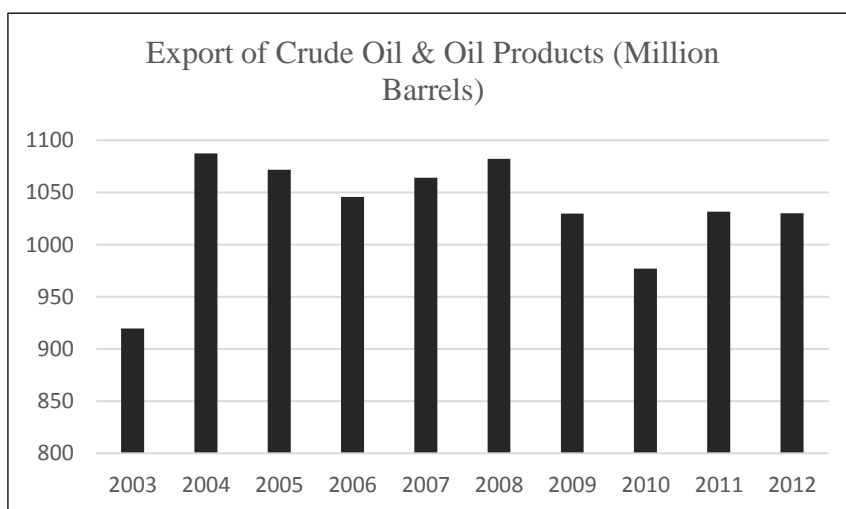


Figure 4 – Iran’s Crude Oil & Oil Products Export

Case B

Despite the fact that Case B had been recently established (i.e. 2010); it cannot be directly implied that the significant change in amount of electricity export from 2010 is related to formation of this export cluster, but it is noteworthy to point it out in Fig. 5 (Iranian National Statistics Portal, 2014).

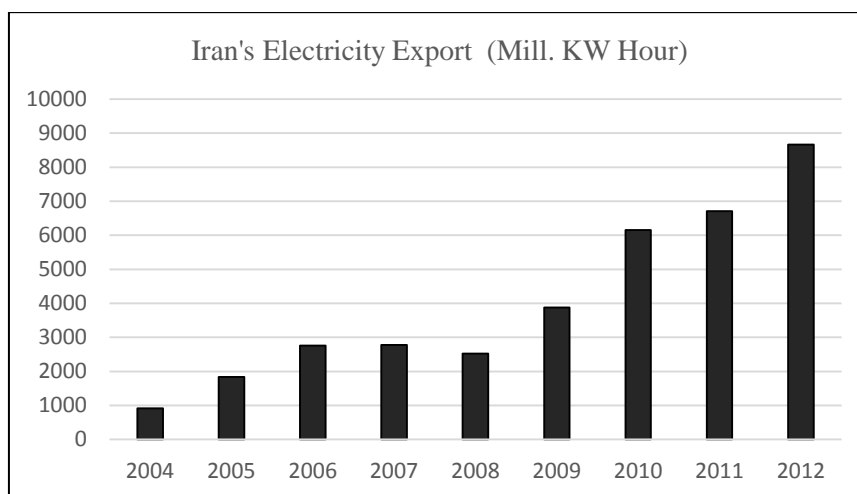


Figure 5 –Iran's Electricity Export

Case C

The Fig. 6 shows the level of export in consulting and contracting services of Iran during the time frame of 2003 to 2009. There are however missing figures on year 2004, 2007 and 2008 (Fars News Agency, 2010).

The figures also shows the effect of introducing export bonuses by Case C. Export of contracting and consulting services from Iran began on year 1994 and export bonuses had been introduced on 2002. From year 1994 to 2002 the growth rate of export in this field had been 12%, and since the introduction of export bonuses in 2002; growth rate had reached up to 45% on 2009 (Fars News Agency, 2010).

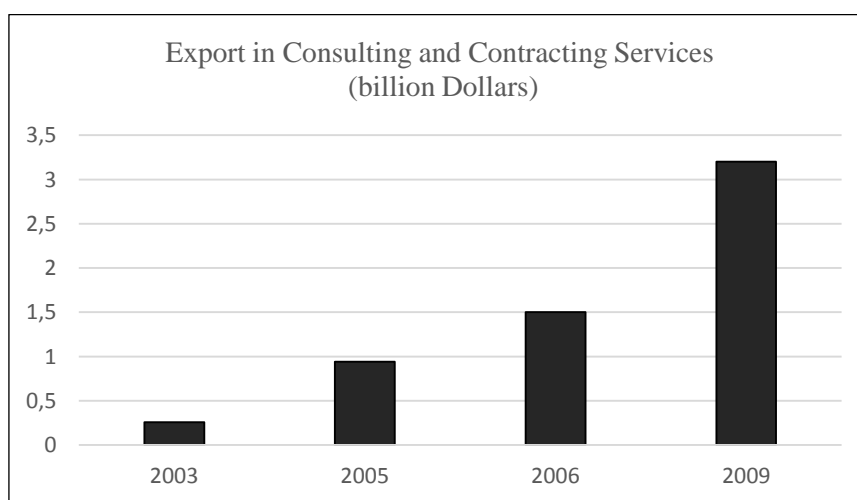


Figure 6 – Export in Consulting & Contracting Services of Iran

5 ANALYSIS AND DISCUSSION

The theoretical framework and empirical findings were to a high extent in line with one another. In this section, it is attempted to analyze the empirical data and theoretical framework stepwise and based on the research questions.

RQ1: What are the challenges of exporting in developing countries and their possible mitigating measures?

The challenges these exporters face, as well as the mitigating measures cases have come up with had been explained in Tables 1 and 2. The three main risks are political risks mainly due to imposed sanctions on Iran, financial and social risks.

In the case of Iran, financial risks go even further than exchange rate and financing, and include various banking challenges Iranian exporters face. Furthermore the type of social risks Iranian exporters mainly face, is due to their weak social capital and the negative image which is shaped in the mind of international customers on performance of Iranian companies. This confirms the theoretical findings on importance of social capital as a success factor for international businesses (Waite and Williams, 2009).

Social risk can be managed by proper international networking and as it had been contributed by this research, having credible and reputable representatives and managers can be a constructive action towards controlling this risk. These empirical findings are completely congruent with *network perspective* as a core concept in forming an export cluster (Håkansson and Snehota, 1995), and *Social Power Theory* because there is evidence of the positive effect of *Legitimate, Expert and Referent Power* in operation of export clusters (French and Raven, 1959).

RQ2: What sort of financial services are needed by exporters?

As this had been stated in theoretical findings and as a risk retention technique (Guth, 1985), one of exporters' financial service needs are "hedging instruments". Due to the fact that they should constantly deal with exchange rate fluctuations, and hedging instruments can offset this risk (Kapila and Hendrickson, 2001). Opening LCs, acquiring financial guarantees, getting access to various sources of financing and currency exchange services are all examples of financial services which are needed by exporters and are in fact extremely difficult and complicated to be handled on their own individually.

RQ3: What are the major characteristics of export clusters in energy industry?

The study results had shown a close congruency between the characteristics of export clusters stated in theoretical framework and the empirical findings. The associated benefits which were stated in both theoretical framework and empirical results were extremely similar.

Moreover in the case of the success factors of export clusters, there had been so much emphasis on importance of trust, efficient communication, transparent

information sharing and relationship building in success of export clusters. However, during the empirical findings certain new success factors had also been identified which are noteworthy to point out:

- Having managers who are not beneficiaries themselves.
- Having managers and representatives who are reliable, reputable and credible; who can act as the “voice” of export cluster.
- An export cluster that can properly identify and meet its members’ needs.

In the case of limitations, the theoretical framework on *Trust Management* (Fukuyama, 1995) and *Interaction Theory* (Oliver, 1990) backed the empirical findings. The results of empirical study showed that the major area of concern for export clusters in energy industry is lack of trust amongst members as well as between export cluster managers and members. Moreover insufficient synergy (Nadvi and Barrientos, 2004), existence of internal unhealthy competition amongst members and having managers who are beneficiaries themselves had been categorized as other main limitations in the export clusters under the study. Therefore in order to succeed, every organization should focus on building a good reputation on its performance and create trust amongst its parties (Dadfar, Brege and Ebadzadeh Semnani, 2013).

RQ4: What role can export clusters play in exporting?

One of the main benefits associated with export clusters is the possibility to build synergy amongst members. This research however demonstrated that these cases could not manage to successfully benefit from this aspect. Furthermore as it was supported by both theoretical and empirical findings, export clusters can be very suitable in the areas where companies can take advantage from shared services and activities (Scheer and von Zallinger, 2007).

Another benefit of export clusters is being the voice and representative of their members in cases where the individual company does not possess a suitable public image or is not known in the international markets. The export clusters are also responsible for building the necessary relations with both public and private entities on behalf of their members. Unfortunately, the respondents of case studies were not satisfied with the level of support provided by government to export clusters. This implies the same concept as Porter's Diamond Model in which Government can act as either challenger or catalyst in the performance of export clusters (Porter, 1990).

However, the interesting finding which contradicted with theoretical framework was the fact that unlike what it was stated on theoretical framework on the important role export clusters play on international success of SMEs; the Iranian export clusters did not show much of enthusiasm and support on operation of SMEs in energy industry.

6 CONCLUSION

In this research, the performance of three Iranian export clusters all active in energy industry had been studied. The results identified three main risks that majority of these companies face, as political, financial and social. The political risks mainly had an uncontrollable nature. Moreover, the mitigating measures which were undertaken by export clusters for the sake of benefiting their members had also been identified and analyzed. The result of this analysis showed export clusters have -to an acceptable level- undertaken the necessary actions for the welfare of their members; and if these measures are not within their authority and control, they are making the necessary follow ups with related entities such as banks, parliament and government.

The findings proposes that export clusters have a positive effect on export performance of companies in Iranian energy industry and these evidences were also backed by the positive growth rate of export level after the establishment of these export clusters, in the field they were operating. However, the contradictory finding of this research was the fact that two of these export clusters were not very welcome in terms of accepting Iranian SMEs as their members. The clusters have also did not put any focus and effort in taking advantage of synergy possibilities within members.

Furthermore this research highlighted the important role that trust plays in performance of export clusters, the significant impact of acquiring social capital and having credible representatives for success of export clusters, and the need to have proper sources of financial support within export clusters. Members' mistrust can be reduced by first of all having completely transparent information sharing, avoid employing managers who are beneficiaries and apply strict guidelines on internal unhealthy competition of members. It is also crucial to make a shift in the culture of export clusters from "blaming" to "problem solving"(Dadfar and Brege, 2012) where members and managers cooperate together for realization of goals. It is also essential to always have influential and reputable individuals as the founder, manager or representative of export clusters.

REFERENCES

- Al Khattab, A., Anchor, J. and Davies, E., 2007. Managerial perceptions of political risk in international projects. *International Journal of Project Management*, 25(7), pp.734-743.
- Bianchi, C.C. and Ostale, E., 2006. Lessons learned from unsuccessful internationalization attempts: Examples of multinational retailers in Chile. *Journal of Business Research*, 59(1), pp.140–147.
- Boczek, A., 2005. International payment risk. *Financial Management*, 5, pp.35–36.

- Burt, R.S., 2000. The network structure of social capital. *Research in Organizational Behavior*, 22, pp.345–423.
- CIA, 2014. The World Factbook: Iran. *CIA Factbook*. Available at: <https://www.cia.gov/library/publications/the-world-factbook/geos/ir.html>.
- Coleman, J.S., 1990. *Foundations of Social Theory*, Cambridge, Massachusetts and London, England: Harvard University Press.
- Dadfar, H. and Brege, S., 2012. Differentiation by improving quality of services at the last touch point: The case of Tehran pharmacies. *International Journal of Quality and Service Sciences*, 4(4), pp.345-363.
- Dadfar, H., Brege, S. and Ebadzadeh Semnani, S.S., 2013. Customer involvement in service production, delivery and quality: the challenges and opportunities. *International Journal of Quality and Service Sciences*, 5(1), pp.46–65.
- Du Plessis, F., 2009. Clusters: Ensuring Europe Remain Competitive in Chemicals. *Chemical Week*. Available at: <http://www.chemweek.com/sections/other/20450.html>.
- Fars News Agency, 2010. Envoy: Iran to Join Gas Exporters Club Soon Available at: <http://english.farsnews.com/newstext.php?nn=8810271643>
- French, R.P.J. and Raven, B., 1959. The bases of social power. In: D. Cartwright, ed. *Studies in Social Power*. Ann Arbor, MI: Institute of Social Research: University of Michigan, pp. 151-164.
- Fukuyama, F., 1995. *Trust: The social virtues & the creation of prosperity*, New York: The Free Press.
- Guth, W.D., 1985. *Handbook of business strategy*, New York: Warren, Gorham & Lamont.
- Håkansson, H. and Snehota, I., 1995. *Developing Relationships in Developing Relationships*, London & New York: Routledge.
- International Trade Centre, 2005. *Innovations in export strategy: Competitiveness through export clustering*, Geneva. Available at: <http://www.latitudeglobal.com/documents/InnovationsClusteringWeb.pdf>.
- Iranian National Statistics Portal, 2014. Export Statistics. *Iranian National Statistics Portal*. Available at: www.amar.org.ir.
- Kapila, P. and Hendrickson, C., 2001. Exchange rate risk management in international construction ventures. *Journal of Management in Engineering*, 17(4), pp.186-192.
- Karimi, M., 2008. Engineering Services Export Improvements. *Iran Daily*. Available at: <http://www.nitc.co.ir/iran-daily/1387/3278/html/>.

- Ling, F.Y.Y. and Hoi, L., 2006. Risks faced by Singapore firms when undertaking construction projects in India. *International Journal of Project Management*, 24(3), pp.261-270.
- Masurel, E., 2001. Export Behavior of Service Sector SMEs. *International Small Business Journal*, 19(2), pp.80-84. Available at: <http://isb.sagepub.com/cgi/doi/10.1177/0266242601192005>.
- Nadvi, K. and Barrientos, S., 2004. *Industrial clusters and poverty reduction: Towards a methodology for poverty and social impact assessment of cluster development initiatives*. Vienna: United Nations Industrial Development Organization
- Oliver, C., 1990. Determinants of Interorganizational Relationships: Integration and Future Directions. *Academy of Management Review*, 15(2), pp.241-265.
- Onkvisit, S. and Shaw, J.J., 2004. *International marketing: Analysis and strategy*, 4th ed., London & New York: Routledge.
- Oxelheim, L., 1984. *Exchange risk management in the modern company – A total perspective*, Scandinavian Institute for Foreign Exchange Research. Available at: <http://lup.lub.lu.se/record/1514131>.
- Oyewole, P., 2001. Prospects for Developing Country Exports of Services to the Year 2010: Projections and Public Policy Implications. *Journal of Macromarketing*, 21(1), pp.32-46.
- Perez-Aleman, P., 2005. CLUSTER formation, institutions and learning: The emergence of clusters and development in Chile. *Industrial and Corporate Change*, 14(4), pp.651-677.
- Pfeffer, J. and Salancik, G.R., 1978. *The External Control of Organizations: A Resource Dependence Perspective*, New York, NY: Harper and Row.
- Porter, M.E., 1990. *The Competitive Advantage of Nations*, New York: The Free Press: A division of Simon & Schuster Inc.
- Porter, M.E., 1998. Clusters and the New Economics of Competition. *Harvard Business Review*, (November-December), pp.77-90.
- Russo, F., 2005. *Export Consortia a tool to increase SME exports*. Vienna: United Nations Industrial Development Organization. Available at: https://www.unido.org/fileadmin/media/images/Services/Export_Consortia/flyer_en.pdf.
- Scheer, G. and von Zallinger, L., 2007. *Cluster Management – A Practical Guide, Part B: Tools*, Eschborn: Deutsche GTZ GmbH.
- Segal-Horn, S., 1994. *The Challenge of International Business*, London: Kogan Page.
- Sousa, C.M.P. and Bradley, F., 2009. Effects of Export Assistance and Distributor Support on the Performance of SMEs: The Case of Portuguese Export Ventures. *International Small Business Journal*, 27(6), pp.681-701.

Tambunan, T. and Hendrawan, S., 2004. The developments of small and medium enterprises clusters in Indonesia. *Gadjah Mada International Journal of Business*, 6(1), pp.29-44.

Townsend, J.D., 2003. Understanding alliances: a review of international aspects in strategic marketing. *Marketing Intelligence & Planning*, 21(3), pp.143-155.

UNIDO, 2003. *To enhance the contribution of an efficient and competitive small and medium sized enterprise sector to industrial and economic development of Islamic Republic of Iran*, United Nations Industrial Development Organization.

Venkateswara Rao, S.N., 2002. *Diagnostic study, SME Foundry Cluster Hyderabad (Aandhra Pradesh)*. UNIDO, Cluster development programme, India.

Waite, P. and Williams, P., 2009. Collaboration or opportunism? The role of social capital in developing successful export clusters. *Journal of Strategic Marketing*, 17(6), pp.499-512.

Wang, S.Q, Tiong, R.L.K., Ting S.K. and Ashley, D., 2000. Evaluation and management of foreign exchange and revenue risks in China's BOT projects. *Construction Management and Economics*, 18(2), pp.197-207.

ABOUT AUTHORS

Sarah S. Ebadzadeh Semnani, PhD Candidate in Management & Engineering Department at Linköping University, Sweden. e-mail: sarah.ebadzadeh@liu.se

Hossein Dadfar, Professor Emeritus in Management & Engineering Department at Linköping University. e-mail: hossein.dadfar@liu.se

Staffan Brege, Professor in Management & Engineering Department at Linköping University. e-mail: staffan.brege@liu.se