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Critical Remarks about Environmentalism Implication by Iranian SMEs

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Abstract
The need of environmental sustainability, level up variety of environmental protection agenda and enhance global expectation despite of the countries levels of industrial development. This review paper, highlights the confronting situation and prime criteria required in implementing corporate environmentalism geared into national environmental sustainability. Postpositive inductive inquiry about environmental sustainability orientation of Iranian SMEs manufactures was conducted. Triangulated data source was obtained while interviews were from top executives of three purposefully selected SME's of different industrial sectors. The emerging themes can consider as the informant pattern of thinking regarding the environmental sustainability matter in current situation; which are made up of existent unique crisis, undermined competitiveness, techniques and technical hinders, energy backwardness, government policies indices. Interpretation of finding revealed some critical factors that can be consider for substantial transformation towards corporate environmentalism.

Keyword: Corporate Environmental Sustainability, Iranian Small and Medium Size Enterprise, Managerial Pattern of Thinking, Critical Factors

1. Introduction

Long term international widespread sanctions imposed to Iran, has caused the production process struggle in implementing of advanced environmental protection system or complying with international standards regarding the environmental sustainability and pollution control. Environmental pollution in this country, posed several socioeconomic challenges and irrecoverable health problem (Dadbakhsh, Khanjani and Bahrampour, 2015) ; Ghorani-Azam, Riahi-Zanjani and Balali-Mood, 2016). The environmental pollution ranked this country among the most air polluted in the world (WHO, 2011). Average 2,500 annual deaths due to environmental hazard and also extensive natural environment degradation (Ghozikali, et all, 2015), indicates inefficient environment sustainable policy and poor corporate complying with environmentalism.
Environmental sustainability implicates responsible decisions and proactive action in protecting the natural environment (UNEP).
While in developed country, the issue of environmental sustainability goes beyond short term reduction of business impact on ecosystem, and push towards developing long term strategies and operation that lead toward complete sustainability in the future (Sarkis, 2001); nevertheless, studies of Taghvaee and Parsa, (2015) ; Poursafa, at all., (2015) reveled the very slow slope of movement toward corporate sustainability among Iranian SMEs. Recent survey regarding environmental degradation and corporate

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response, indicts the premium strategy and operational practice of many organization is yet to come into environmentalism agenda (Taghvaee and Parsa, 2015). Previous studies, consider several factors that encourage organizational responsiveness, while mostly bounded with financial return (Revell, Stokes & Chen, 2010; Shahzad, 2011; Park, 2010) while, many researches revealed this issue as an abstruse argument due to complexity of human nature and their attachment behavioral system (Sekajipo , 2010 ; Yu , 2010). Therefore, the necessity of addressing this gap has prompted this research to explore the complexity of behavioral factors and pattern of thinking influence SME's top management in compliance with sustainable development.

2. Environmentalism and National Prosperity

According to Hoskins (2013), since the industrial revolution, carbon dioxide increase more than 40%, the highest level ever recorded before on our planet. Carbon dioxide is seen as the main cause of greenhouse gases, which is blamed for the warming temperature, and massive change around the world. The severity of this issue can track back by endless calling for industrial regulation and urging industries to take more responsibility of their effects on the environment.

The first environmental laws and regulations in Iran dates back to as early 1928, which today is still enshrined in article 50 of the Iranian constitution. This law obligated for the protection of the environment and ensured for good and progressive life for both present and future generations. Although industrialization and advance in production is considered as an index of development and economic growth, nevertheless, its resulting are destructive the nature and pollute the environment irreversibly (Ghazinoory, 2005 ; Taghvaee and Parsa, 2015), which accounts for several major catastrophes such as tsunamis, earthquakes, floods as well as causes of slow deaths and health hazards like cancer, heart attacks, strokes, eyes irritation, and the like (Chamran, 2010 ; Sadeghi, et all., 2015; Moghtaderi, Zarei, Farjadian and Shamsizadeh, 2016). Investigations of numerous scholars in Iran underscore the negative environmental impacts of industrial activity and the urgency of the need for corporate responsiveness, particularly within SMEs manufacturer (Ghazinoory, 2005; Mostafaeipour & Mostafaeipour, 2009; Mohammadnejad, Ghazvini, Mahlia & Andriyana, 2011; Ghazinoory & Huisingh, 2006; Moghtaderi, Zarei, Farjadian and Shamsizadeh, 2016).

According to Salamat-News agency[1], critical issues of water shortage, soil erosion, energy, air pollution and loss of biodiversity are consider as five massive environmental threats in Iran, while the main emphasize is air pollution which the most obvious threat causing the annually death of 5 million people approximately in the metropolitan cities in Iran[2] .

Figure 1, illustrate the severity of this issue, which is shows Iran among the most contaminated counties in the world.

[1] http://www.salamatnews.com/news/104610/پنج-تهدید-محیط-زیستی-ایران-اهواز-کرمانشاه-و-سنندج-در-فهرست-10-شهر-آلوده-جهان

[2] http://www.hamshahrionline.ir/details/307850/Environment/pollution

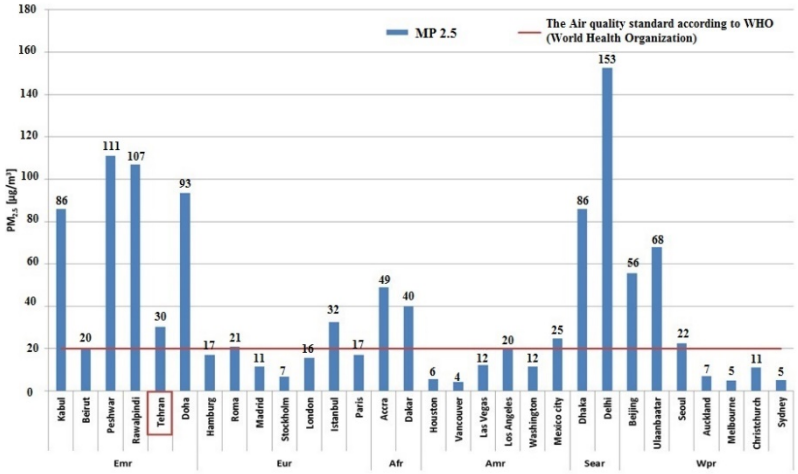

Figure 1. The most polluted counties in the world

Statistical database of the World Bank in 2011 indicates, Iran (among the other 31 countries of the world) has the highest average annual concentrations of pollutants, particulate matter smaller than 2.5 microns. The severity of this issue leads the government legislate and determine the urged duties for its body and different departments[3]. However, the necessity and urge for the development and implementation of environmental sustainable policies is not only on government responsibility field, but also the industrial sector has their obligation and playing role.

3. SME's Profile and Necessity of Environmental Sustainability

Although the private sector activities in Iran are typically consider as small scaled and accounts for around 50% of the total workforce, nevertheless, it comprising of nearly 94% of Iran's total industries (Kamalian, 2011). Next tables illustrate the trend of production, consumption, export and population of Iran for the years between 2012 and an estimated 2017.

Table 1: The distribution portion of small and medium enterprises (10-49 persons employed) released in 2017

	Production of non-metallic and mineral products	Food and Beverage Industry	Machinery and equipment producers
Main type of activities	24.77 %	17.84 %	8.99 %
Number of employees	24.04 %	18.74 %	8.26 %
Added value	26.99 %	16.97 %	8.92 %
Value of production	42.42 %	29.74 %	9.98 %

[3] http://www.shana.ir/fa/newsagency/246238/مقابله-با-آلودگی-هوا-از-اولویتهای-دولت-است

Table 2: Statistical records of economic development compression and the role of SMEs

Index	Developing countries	Iranian SMEs
Numbers	90-99	92
Employability	60-75	42
Added Value	30-60	16.8
Exporting	30-65	Direct export 5
Value Of Production	50-70	17
Share Of Investment	-	24

Source: Fars News Agency[4]

Despite of these contributions, they were forced by government to periodically shut down their operations when the severity of industrial pollution reaches to critical levels. According to Moghtaderi, Zarei, Farjadian and Shamsizadeh (2016) the economic environment approach has been very weak and incurred costs - excluding the long-term costs such as human heath- are indeed considerable. Table 3 showing the estimated cost of pollutants, according to IIES.

Table 3: The estimated cost of pollutants[5]

Costs of Air Pollutants

USD	Pollutants
38.462.277	So_2
40.469.556	No_2
483.453.481	PM_{10}
101.390.962	Co
663.776.276	total

Source: http://www.iies.ac.ir

According to IIES and INSO operation activities of SMEs, especially within manufacturing sectors, account for 64% of air pollution whereas only a small portion of 0.4% of these SMEs comply with Environmental Management System standards (ISO 14001, EMAS or other relate environmental protection structure). This makes SMEs within focal point in any actions related to responsiveness behavior and modeling the environmental protection strategies.

4. Research Method

This research was designed based on inductive method of multiple case studies. Accordingly, three manufacturers sector were considered as the main population of

[4] http://www.farsnews.com/newstext.php?nn=13950901001548
[5] http://www.iies.ac.ir

source of data grounded on basic criteria such as industrial sector which accounts for larger margin of production and GDP and also consider among the most polluted industrial sector. Accordingly, three different manufacturers sectors, consist of mosaic and stone cutting manufacturer, food and beverage industries, and machinery and vehicle equipment producers. Among these manufacturers sector, the sample come up with three environmentalism pioneer which are compatible with the criteria of this study, expertise and innovativeness in environmental sustainability initiatives and willingness to share their strategical experience.

Multiple sources of investigation such as interview, document review and field observation were used to triangulate data source and ensure validity and reliability (Yin, 2003). Interviewing multiple sources conceived as an ideal strategy for exploring a phenomenon that involves myriad possible variables in its complex natural setting, therefore, proper scale of informant was consider based on Silverman (1973; 2001) criteria to choose research informants. While the result might not represent the overall perception of SMEs, nevertheless, the rigor cyclical validations and reliability leverage based on Lincoln and Guba (1985) minimized criteria of the potential biases. The case study protocol was developed, followed the qualitative gurus such as Yin (2003), and accordingly semi-structured interviews with the top managers including the CEO , operation manager , QC manager and line supervisors were conducted. Although, the Silverman scale of choosing research informants was the main criteria, however, sample informants were purposefully chosen to explore the pattern of thinking and priorities of organizational decision makers in complying with corporate environmental sustainability.

Table 4 represents the basic profile of chosen company as data sample. The respondents' exposure was analyzed based on pattern matching of content analyzing scheme using *Atlas.ti* (trial version) program. The themes unlocked through the analysis phase were reflecting the study main questions. Jotted field notes and a review of related documents as well as cross-checking the interpretation with experts were based on the ethical code section of case study protocol and data triangulation purpose. Rigor process of data collection and analyzing were based on post-positivism approach in order to assure the validity and reliability of the obtained data.

Table 4: Summary of the Case Companies' Respondent

	Company A	**Company B**	**Company C**
Company profile and main product	Manufacturing variety of Mosaic, Stone Facade, Interior Stone	Manufacturing variety of food products (i.e. Canned food, Pickle, Lemon and orange juice)	Manufacturing electronic part of vehicles engine (i.e. Dynamo, starter distributor and coil ignition)
Ownership Type	Private - SME	Private - SME	Private - SME
Responsiveness vision /value	We have responsibility for the environment and safety of our employee	The factory is our second home to encourage manufacturing	Employee safety is the priority issue
Investment In Environmental Sustainability	1. We have responsibility for the environment and safety of our employees 2. Waste water station in traditional format of class step pool 3. Gardening 4. Dust collection with water curtain	1. Factory is our second home to encourage sustainable manufacturing 2. Waste water station and basic rolling processing equipment for purifying waste water 3. Gardening 4. Advance green technology of dust collection and drying environment 5. Recycling policy in process	1. Employee health/safety is the priority 2. Water tank 3. No because there was no space 4. Advance air filtering system (machine and employee - eye protection) 5. Collection and control

	5. Traditional piping system of collecting waste material and purifying waste 6. Isolated operation section 7. Separate administration and factory 8. Simple employee protection equipment	6. Several sections for different stages of production process mostly with isolated door and windows 7. Comprehensive separations between administration section, savage, factory and entrance with quarantine entrance 8. Filtering system of fugitive smoke particularly for tuna workshop	waste material room 6. Noise isolation room 7. Separate administration and factory 8. Simple individual use equipment
EMS Practice	ISO 14001 obtained	ISO 14001 obtained	ISO 14001 in process
Environment Audit Policy	Holistic investment but simple policy of auditing	Comprehensive auditing (internal – external) policy	Investment as much to meet basic needs
Green Technology Investment	Traditional innovative investment	Most effective equipment with comprehensive policy of instrumentation	Investment as much to meet the basic requirement
HR Responsibility	Not independent internal auditor	Separate department of safety/ health	Personnel in charge
R&D	Yes (based on owner monitoring or complaints received)	Yes (self-development as owner is the firm's owner)	No (meet the basic requirement

5. Result and Discussion on Confronting Reality

5.1 Existent of Unique Crisis

Iran has a unique economic position among other countries on its region. In addition to similar global economic crisis that crunches on many countries, Iran confronting a peculiar economic problem brought about by several U.S. and Europe sanctions. This issue has caused extensive challenges in operationalizing the environmental sustainability among organizations. Most cited challenge by research informants was lack of access to the required material and technology which is necessary for their related operations. For instance, informant P.C.02 revealed that:

"[…] problems are not one or two, ..., what we learned from globalization is saturating our market with cheap foreign products (i.e. Chinese and Turkish products) […], while no one asks whether their production conditions are significantly different from those we have here, .., give me an example of any other country whose economy has to resist for 38 years against international and U.S. sanctions, […], But they don't know that it is our power of faith that helps us conduct faithful business and respond to our social expectation." …although the effects of sanctions are denied by the government, nevertheless, the tightening policies (for example the blacklisting of country's central bank sharply plummeted off 40 percent of the face value of Iran's national currency in a week)[6].

The issue of unique crisis imposes an extensive challenge to organizational strategic development. For example, informant (P.B.03) described the factors that led to organizational uncertainty and the consequences of the collapse of the national currency and the trade barriers of importing raw materials:

"[…], yesterday we prepaid to buy our raw material (…tuna fish used as the main raw material in canned tuna) and today we face a sharp drop in the value of our money, in addition to the cost of transferring cash instead of advantage of guaranteed bank L.C [this issue is due to not operating bank swift and connecting systems] (…as such we cannot afford to pay) and now we are in negotiation with

[6]Retrieved from: http://news.nationalpost.com/2012/10/03/riots-break-out-in-iran-as-currency-loses-40-of-its-value-in-a-week/

the government over the strongly needed loans; but the typical answer we got is lack of liquidity due to fluctuations of relative exchange rate caused by sanctions. … in this economic uncertainty, the right decision seems to look wrong and vice versa; therefore it might be difficult to judge about incorrect decisions as the situation burden the thinking and accurate judgment."

Most informants believed today's business managers face greater challenges ever, which require businesses to analyze their ability in implementing their decision.

5.2 Undermined Competitiveness

Due to the distinctive economic challenges in Iran, industries face the problem of undermining competitiveness which jeopardizes growth and the sense of corporate responsiveness. Most of the research informants were mentioned the reasons of high domestic inflation against the backdrop of a stable foreign currency exaggerated by international trading sanction. The side effect of reduced competitiveness might be seen as deficient development, poor employment rate, decline in operational productivity, inadequate supply chain and market demand mechanisms. All these factors considerably affect industrial inefficiency in environmental protection initiatives and contributes to waste of materials, energy and degradation of the environment. For example, informant (P.A.03) indicated that:

"[…] my biggest concerns are planning for the long term and retaining the market, which in this situation is not easy. Unfortunately, we are affected by the current social and economic corruption. Since competitiveness in our market is corrupted, it is getting tough dealing with even normal day-to-day operations […] What I do is what is required to do, […] I don't have any solution for you because it is unknown, … strategy drawn as it is discern as a new pathway […] (The solution is) adaptive response and taking the way that is more appropriate. For example, despite the availability of filtering technology to lessen water pollution emitted from cutting stone in the construction sites, our solution was using the traditional system of Cascade pool. It might be not efficient as using the advance technology, but since we don't have an access (to advance technology), doing nothing and destroying what we have is also irrational."

Though the necessity of environmental sustainability was truly perceived by participants nevertheless, the dynamic organizational network was also emphasized as the moderator of transformation to organizational development and responsiveness which might fruit the cleaner production practices.

5.3 Techniques and Technical Hinder

Dramatic changes and rapid developmental in technology are mentioned by research informants as success indicators in today's intensive and competitive market in contradiction the traditional operations and marketing policies. As a result of Iran's week political and economic relationship with the outside world, most Iranian manufacturer have been forced to endure severe technological backwardness which has adversely contributed to the environmental degradation rate. Informant P.A.2 emphasized this issue clearly:

"[…] while we all aware of the critical role of knowledge but even more obvious element is the weak point of most small businesses in obtaining technical knowledge. Simply we don't have the ability of affording consecutive educational expense or unite of R&D. Trained staff and general knowledge were gained through experience. We learned through hard work of trial and error. This caused our hair to

turn white".
Technologically driven applications, help organization control end-of-pipe pollution and improve operation and energy efficiency, and it is a need of organization to restructure and update their organization's systems. The extensive cost of R&D and difficulty of obtaining knowledge along with blocked trading gateways are perceived as the main reasons of unavailable advanced technology among Iranian industries.

5.4 Energy Backwardness

One of the main factor of suffocating air pollution and massive environmental degradation in Iran is the dramatic rise in energy consumption. Despite the fact that this region has access to several sources of green energy such as water, wind, solar etc., nevertheless, large crude oil and gas reserve has made this country as one of the highest rank in fossil energy consumer.
While direct relationship assumes between development and the energy consumption rate; nevertheless, due to several factors, Iran's oil consumption is more than its current production which is significantly responsible for the alarming causes of health hazards and environmental degradation. Considering the lack of efficient recycling system and wasteful use of mineral and oil resources, the negatively effect on environment and degrade the natural ecosystem is predictable. For instance, informant P.C.01 highlighted:
"[…] for eco-efficient operations, a new innovative technology and skill are required. Indeed, implementing the environmental standards push us to receive consultation from standards auditing organizations and external experts. Which, this issue imposed extreme costs on our production. Difficult to say but as a small organization(s) we cannot afford this cost […]"

5.5 Government Policies Indices

Due to political agenda, economic development is placed above environmental considerations. To tackle the barriers caused by western sanctions, Iranian industries experience the 'resistive economic model'. This strategy was due to confronting the country dependency on oil revenue and also the import product, through increasing production and industrial output. However, this strategy demands massive consumption of natural resource with irrevocable consequences on the environment. While the ex-president of Iran, [Ahmadinejad] believes these crises will provide opportunities for growth and development, nevertheless, the reverse results has observed as industries and manufacturing sectors of the economy worse off as a result of these polices. These environmental problems associated with massive economic challenges confronting businesses and industries indicate a lack of national contingency plan and crisis management. This issue perceived as obstacles and proxy for organizations to position themselves as voluntary actors of environmental sustainability. P.C.01 remarked:
"[…] since there are a lot of things happened under the table (corruption) and unequal competition affect organization development, the question is what the advantage of being responsible is? Is it not just additional costs and negatively affect the competitiveness?"
The informants revealed that the government has a leveraging role of controlling mechanism that aligns organizations with the national policy, affecting the flow of corporate environmentalism. However, despite the informants' narratives on the perceived value of being environmentally responsive, lack of financial resource and

government support impeded such initiative and hampered activities to preserve the environment.

6. Conclusion and Discussing the Emerged Success Factors in Transformation to Environmental Sustainability

Aim to provide a clear understanding of corporate engagement in considering with extensive isomorphism lead this research to explore the current situation that organizations are confronting and also their meaning constructions or ideology of engaging environmentally responsible behavior. The discussion of the findings remarks some critical success factor in transforming toward corporate environmentalism while in light of previous studies and existing academic theories.

6.1 Adoption of International Standards

Globalization and borderless trading indicate that, only those organizations who advanced their strategic structure in align with international responsiveness standards and requirement are capable and opportune to survive in the market. In study of Taghvaee and Parsa (2015) this issue was also highlighted that those organization holds international responsiveness standards were expected to performing better in environmental sustainability development. Therefore, it is perceived here that, fulfilling the international environmental regulation (such as ISO 14001, EMAS and so forth) is a necessity for organizations engage in activities related to environmentalism even though their main concerns are on their investment return and challenge of competitiveness.

6.2 Resource and Energy Efficiency Agenda

Excessive and wasteful consumption of energy and natural resources, results in depletion of natural resources and environmental degradation. Adoption of environmental sustainability guided by proper resource and energy efficiency analysis is a necessary for environmental preservation, which was also conclude by study of Mirzaei and Bekri (2017) and Taghavee, Aloo and Shirazi (2016).

6.3 Integrating the Environmental Sustainability into the National Mission

The adaptation of western regulation usually creates many contradictions and disagreements due to diverse values, culture and economical condition. This issue was also highlighted by Hosseini, and Shahbazi (2016) and Ghorani-Azam, Riahi-Zanjani and Balali-Mood (2016) that, it is important to design the environmental sustainability program as an integral part of national development policy, which aligns with the local perception and values.

6.4 Emphasis on Training and Knowledge Dissemination

In similar with the findings of Taghvaee and Parsa (2015) ; Hosseini and Shahbazi (2016), it is also revealed here that, knowledge is a critical factor and cited as the difficulty that firms confronting in complying with corporate environmentalism and responsiveness implementation. Therefore, to integrate environmental sustainability as a part of industrial development, it is necessary to engage in training and sharing of

knowledge at various organization levels and sectors such as managers, industrial consulting experts, organization directors, technologists, governmental officials, investors as well as the general public. It is perceived that in order to environmentalism be cultivate into the people interest and generates expected actions, the sensitization of the transformation knowledge should be encouraged thoroughly.

6.5 Systemizing Sustainability and Green Technologies Development

Impartation of an eco-caring production practice and implementation of environmental sustainability scheme, requires transforming from traditional operation methods to advanced green technologies. Existing inefficient and disparate systems in developing countries account for most sources of pollution. In similar with the finding of Mirzaei and Bekri (2017) ; Ghorani-Azam, Riahi-Zanjani and Balali-Mood (2016), it is recommending that, in order to gain the benefits of environmental sustainability, it is required to go beyond the current level of know-how and advantage of advance green technology.

7. Final Remark

Iran is facing different environmental crises due to its unique economic development agenda of resistance policy. Irresponsible activities such as deforestation, excessive use of natural resources, misuse of land, high energy consumption and excessive use of ground water along with irresponsible operation and production practices, results extensive soil contamination and dramatic air and water pollutions. It is hope that this situation change through adoption of cleaner production policies and considering strategies recommended in the finding such as adoption of international standards, resource and energy efficiency agenda, integrating the environmental sustainability into the national mission, emphasis on training and knowledge dissemination, and systemizing sustainability and green technologies development. What else an academicians can do except sharing his/her research's finding to change the world to better?

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