

Full Length Research

Surveying the integrating of green marketing and industrial cluster with presenting green industrial cluster for overcoming environmental crisis of Iran

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Accepted 30 August, 2013

One of the current issues of industrial and service investments in the world is the advent of various problems especially environmental crisis, from the people and environmental organizations point of view, which has caused negative differences and outcomes in the performance of industrial unit activities. In this research, we made an attempt to survey the combination of green marketing with industrial cluster and then tried to demonstrate the techniques of overcoming the environmental crisis of Iran with presenting the model of green industrial clusters. Based upon various questions and objectives of the research, qualitative approach was more suitable, therefore we utilized it for selecting samples, collecting data and analyzing the data. The data was collected through interviews. The method of sampling was purposive and theory saturation was utilized for specifying the size of the sample. To answer the research questions, 12 experts in the ministry of industries, mines and commerce, small industrial organization and industrial towns of Iran were interviewed, till informational saturation. Therefore, the results demonstrated that all three factors, i.e. green productivity, technology of clean production (green product), and green management (environmental management), can pave the way to the green industrial cluster. The implications of this research are discussed in detail.

Key words: Green marketing, industrial cluster, green industrial cluster, environmental crisis.

INTRODUCTION

Dynamism and increase of concern about environment, governmental rules and consumers awareness, has caused that companies are observing the environment of consumers, namely, his/her physical and mental health and also the cleanliness of the environment. Responsibility of social environment is a vital management task and is very significant for success of any trade (Doaei et al., 2006). Environment increasingly has been changed to a fundamental and very important problem for all people (Alipour, 2010). The objective of marketing system is not maximizing consumption, right to choose more for consumers or getting the customer's satisfaction, but its purpose is improving the standard of life to its possible level, and that not only means quantity

and quality of goods and services, but also means the quality of environment. This issue has entered in all the dimensions of organizations and has influenced the marketing. The concept of green combination, need for producing ecological products and green commercial activities has obliged the companies to combine environmental subjects with marketing efforts and strategies. In the past decade, various changes in consumers distinction for green products along with advent of green consumers, has stimulated market mechanisms for organizations and new products that are adaptable with environment. However, survey demonstrates that high level of concerns and considerations have been expressed by consumers, in

general has not accompanied with extensive behavioral changes. From the past three decades of centralized researches on natural environment challenges, at the moment, the quality of affairs universally has been very worse as compared to the time that green marketing started.

Scientific publications and mass media continually reports about destruction of ecosystems. Climatic changes, deforestation and destruction of natural habitats are accepted realities by majority of scientists and all the people. It is assumed that this day, any product has a special reason, and at the moment, marketing, on the base of social and environmental consideration, has become one of the important activities of the company (Taleghani and Rahmati, 2010). From the ancient age, marketing has obtained its more popularity on the base of social and environmental considerations (Kotler and Armstrong, 1999a). One of the trade areas that have devoted numerous discussions is green marketing (Rex and Baumann, 2007a). Energy crisis in the mid-age of 1970s created the primary wave of researches around environmental subjects in the 1980s. However, after 1990s, union of majority of scientists reported from worse outcomes of economical activities of human being on ecological balance of earth and survival in future. In fact, 1990s has been named the decade of environment, so the social and environmental concern has created more importance and priority in decisions for selecting the product, from the consumers and providers point of view. Kotler has predicted that numerous companies will change their way for concept of social marketing that not only implies for fulfilling the purpose of effective needs of market, but also they want to improve being the good and suitable citizen and consumer (Kotler and Armstrong, 1999b). Numerous companies follow the consistent category accurately and complete individual in their commercial strategies. It seems that some factors are effective in the explanation of this bias, such as the necessity of agreement with various social and environmental laws and rules, that are concern about toll and being rare of natural resources, awareness of the majority of people and stockholder from the significance of social responsibility and general changes in values and attitudes of societies about modern capitalization (Hillier et al., 2008). Ottman (1994) accomplished a study in the year 1992 in 16 countries, more than fifty percent of the consumers in every country expresses that they were concern and interested in environment. In a research, that was done in Australia in 1994, the results showed that 84 percent of people believed that they were responsible against environment. These people expressed their special behavior due to environmental issues (Polonsky, 2001). In another study, was shown that 93 percent of people, the environmental effects of a product is significant in the time of its purchase, and also in 1994 other researchers selected their products based on environmental performance (Rex and Baumann,

2007b).

In 1989, in a research that had been accomplished in the United States, the results demonstrated that 49 percent of responders have changed their purchase due to environmental problems (Bovee and Thill, 1992a). The studies of statistical department of Australia on 16 thousand people demonstrated that 75 percent of people are depressed due to environmental issues (Baker, 1996).

Kotabe et al. (2004) express that green marketing reinforces governmental programs. Bovee et al. (1992) believe that with passing time social values changes, like other factors of marketing environment. Then in order to be successful, market makers and their products must be changed according to the conditions of the society.

In 2006, the industry of green products had been estimated more than 200 billion (Bovee and Thill, 1992b). Camino (2007), in his research surveyed the effect of stake owner's on green marketing strategies. The past researches substantiate that interests play an important role on organization and markets, but a comprehensive attitude on this survey shows that there is no relationship between stake owners and green marketing strategies.

The findings of this research show the combination of stake owners to green marketing strategies and its impact on existent strategies of companies.

Another research presented a model for internal relation among green strategic trend, product development, supply chain condensed, green incomes and performance of business units. The objective of this research is identifying inventive subjects by strategic bias, operation of internal business, supply chain and assessment of performance (Chang et al., 2008). Lee (2009) in his study, surveyed the gender differences in environmental attitude, environmental significance, and understanding the environmental responsibilities of green purchase among the teenagers of Hong Kong. The findings showed that young women, as compared with men, have more coherence in environmental attitude, environmental significance and environmental responsibility in the behavior of green purchase in Hong Kong.

He identified important effective factors on the behavior of green purchase of young customers. The findings revealed that the significant factors include, effect of society, environmental importance, environmental preservation and environmental responsibility respectively (Lee, 2008).

Green Marketing

Unfortunately, majority of people believe that green marketing demonstrates improvement or advertisement of the products with environmental qualities. The words like: without phosphate, recoverable and palatable with ozone layer, are the cases that majority of consumers

relate them with green marketing. However, these words are just symbols of green marketing. The bolt of green marketing activities must be with bias to comprehensive and group movements (Mathur et al., 2000). In the past, environmentalists were just the people that were worry about extinction of natural resources and pollution.

Nowadays, environmentalists all over the world are becoming universal in purpose and assessment of their assignment. Their purpose is increasing the awareness of people about the importance of preservation of environment in a universal assessment, and if this assessment has not been surveyed in a reasonable way, our planet will encounter so many issues. Also, universal awareness should be made about environment, ecological calamities like acid rain, ozone layer and universal heat through mass media reports (Alipour, 2011).

Definitions of green marketing

American marketing association (1976) defines the green marketing as the study of positive and negative aspects of marketing on pollution and decrease of energy resources and other resources.

Dibb and Simkin et al. (1995), stated that green marketing is related to the developments and improving price, progression and distribution of products which will not harm the environment.

Peattie (1995), believed that the process of union management that is responsible in assignment, prediction and fulfilling the needs of customers and society, is somehow profitable and, at the same time, consistent.

Grove et al. (1996) believed that green marketing explains environmental activities, improvement, price and distribution of the products that harms the environment.

Based on above definitions from Green Marketing, offering another definition to makes the research problem understandable, as "Green marketing is integrated process that develop and improve the pricing, promoting, distributing respect to determine and for casting needs and wants of customers, and society with least environment of pollution while the benefit is increasing with sustainable issues.

Green productivity

Green productivity is a guideline for accurate assigning of the present condition, estimation of its distance with suitable condition and presenting and performing effective suggestions for improving this condition.

In this trend, the base of activity is on identifying the situation and difficulties in the areas of water consumption, the consumption of primary materials and energy and also the voidance of wastes in a qualitative and quantitative way. Then, the industrial unit, with

minimizing the rate of pollution and wastes, effectively utilizes its resources. This activity helps the industries to improve their environmental approach, and at the same time, increase their productivity (Mardan, 2007).

In summary, the reasons of investments in green productivity include:

- Approach is very significant and fundamental.
- It guides production units towards the improvement of production process.
- Economy is accomplished in raw material and energy.
- Increases the competition by using new progressed technologies.
- Increases limitations.
- Decreases the risks resulting in filtration and output of unit, storage and burring poisoned materials.
- Increases staffs health and hygiene.
- Increases the social and public position of company.
- Increases extravagant tolls in solving the pollution control.

Green production

Production includes entry of the primary material and their changes into finished goods, through montage activities, manufacturing and packaging. The management of goods is provided from significant subjects in all chain process that the majority of its decisions, the environment tolls and potential social tolls are not considered. For example, the technique of storage of goods indeed in the time of JIT that is used in companies has environmentally disadvantages like: extra transportation, road traffic, air pollution and wave pollution for environment. Companies, in short time, need to use the maximum volume of storerooms, and they may utilize the ways for transportation like Armada quartering that has less congestion, redesigning of camions that carry goods, improvement of transportation, until they improve their proficiency through this way. Companies, in long term, must survey again their assessment position, other members of supply chain, technology and structure of distribution channel.

Green production includes factors like clean production, designing of product with considering environment, reproducing, and pure production. One of the key factors about improving productivity of Japanese companies, as compared with western companies, is pure production (Pirasteh, 2004).

The success of pure production results in three factors:

- Minimizing the activities which do not have any extra value for the company.
- Design and performance of effective systems for doing work.

- Management of human resources.

In some articles, variables of green production are surveyed that include:

- Applying raw materials that are palatable with environment.
- Decreasing the raw materials that may have negative impact on environment.
- Accuracy in the field of factors those are palatable with environment.
- Accuracy in design.
- Optimization of processes in the field of decreasing wastes.
- Using modern technologies so that they result in consuming energy, water and decreasing pollutants.
- Recovery of primary materials in the stage of production.
- Using the principals of comprehensive quality management (Duber, 2005).

Green management and environmental management

A set of studies and comprehensive measures, which is purposeful and accomplished in different levels of governmental systems until it improves and progress the present condition of organization for green government.

This system provides possibility to organizations that, through enforcement of suitable management, to be aware of environmental outcomes of their activities and continually improve environmental aspects of their affair. This system is related to discussions like resource allocation, division of responsibilities, performing environmental designs and finally certain assessment of processes and methods. This system also is related to identification of points of the production in process, presenting solutions for answering them on the base of especial timing programs, performing design, assessment of the measures that has been done, review and correcting the ways of needs of this standard in relationship of environmental problems. This system is applied in any organization that wants to perform the following cases (Nazarahari, 2005):

- Performance and improving an environmental management system.
- Obtaining the confidence to match with environmental approach.
- Acceptance of this match to others.
- Demand of certificate and acceptance of environmental management by external organization.
- Assignment of the agreement with this standard and state of it organization.

Industrial cluster

Before industrialization, many commercial areas were

motivated for more production and trade of special goods. With entering to the industrial world, process of production is changed and modern industries have been created in frameworks like industrial towns, and process of transmission passed slowly to industrial periods in developed countries (Din Mohammadi et al, 2007).

In key discussion of the end of 1980s and the beginning of 1990s, the theories such as moveable skills, areas and industrial cluster, value chain of goods on the base of dividing the work and also the sectors create competitive advantage and situation of clusters. After 1980s and especially in 1990s, approach was very important in local and industrial programming, cluster making and analysis in local development that was based on technological capability.

However, the clusters were functioning evidently, and have presumably in industrial groups and industrial larger groups. Porter (1998) posed another kind of attitude about analysis issues that were related to areas, and the method of placing economical organizations is surveyed with the name of cluster. The framework of cluster analysis provides new opportunity for economical studies in the area so that the function and effect of every necessary element in an economical environment is easily understandable. Today, industrial cluster is considered as a new word and concepts in literature of local and industrial economy. Developed zones of the world such as Arizona, California, Florida, Minnesota, Northern Italy, Southern Germany, The Great Britain, Denmark, Japan and developing countries such as India and China, and also countries like Korea, Taiwan and Malaysia have all considered the development of industrial clusters based on various strategies of the industries.

It seems that using cluster analyses and certain types of concepts in developmental programming, we can answer the fundamental questions in the area of local and industrial economical studies. Among the local studies, science of clusters is a new invention (Enright, 1996). Approach of the industrial cluster is effective in forming industrial development; it is based on internal conditions of economics, and has been introduced in same countries as a successful pattern for industrial impetus (Issa Mansouri, 2004).

Domestic studies have shown that, presently, the best and most suitable strategies for developing the areas of country (Iran) is based on their increasing industrial productions and exports, that is performing industrial clusters (Izadkhah, 2005).

There is not one overall conceptual and analytical framework that explores the functioning of regional industrial clusters. The term is used quite indiscriminately for a broad range of business arrangements. Most literature uses the term industrial district instead of industrial cluster. We for the purposes of this study prefer industrial clusters because this term is more well-known and mainly used by Iranian government as well as in the

Iranian literature. According to Humphrey et al. (1998), an advantage in using cluster is that it refers merely to a sector and geographical concentration of firms. Whether specialization and cooperation develop is thus a matter for empirical research and not subsumed in the definition.

In preindustrial Europe, Guilds performed the development of learning networks that supported technological advance during the British Industrial Revolution (Mokyr, 1999). Guilds also operated as political and administrative units that protected its members from expropriation by opportunistic urban elites and rent-seeking organizations that lobbied for economic privilege from the state (Epstein, 1998; Mokyr, 1999). However, by the time of the Glorious Revolution of 1688, the craft Guilds in Britain had declined and lost most of their political clout (Mokyr, 1999). Currently, modern Guilds exist in different forms around the world. In many European countries Guilds have had a revival as local organizations for artisans, primarily in traditional skills. They may function as forums for developing competence and are often the local units of a national employers' organization.

According to Porter (1990) industrial cluster is a group of companies which have independent and strong vertical joint in a geographically area are not near each other.

The second and new definition of Porter: cluster includes geographical concentration of organizations and companies related to each other in an especial area.

Cluster in its current concept, refers to the concentration of economical activities in an especial area. So, the cluster is relatively bigger than economical organization that is been situated in a peculiar zone, and they have a certain professional background, and is reputed cluster, inter organizational business and expertise of the organizations (Altenburg and Stamer, 1999).

Clusters are groups of companies and organizations placed in a certain geographical area that by internal dependencies, organize an inter group relation of products and services (Ketels, 2003).

Majority of companies gathered in a geographical area like suppliers of resources and raw materials, demanders of goods and services that have relation with each other which companies usually have complimentary productions and/or a similar product, process and/or a resource (N.G. A, 2002).

Industrial cluster includes a group of similar industries that are in geographical areas, and have been organized due to anomalous advantages and/or social and organized investments such as skills and expertise's with economical purposes (Majidi, 2002).

With regard to above mentioned definitions, we can present the following definition for an industrial cluster:

An industrial cluster includes a group of commercial and non-commercial organizations centralized in a geographical zone in an economical area that has vertical

and horizontal relations with each other and have cooperation and joint measures. Internal relations of these organizations will be decreased and it makes easy availability of science and production technology, sales, marketing, providing the customer's needs, and demands to the organizations.

Main research questions

- How does the combination of green marketing and industrial cluster cause the creation of green productivity in industrial cluster?
- How does the combination of green marketing and industrial clusters cause the technology of cleaner production into industrial clusters?
- How does the combination of green marketing and industrial cluster create a green management (system of environmental management) into industrial cluster?

Objectives and research approach:

The main purpose of the research is making green industrial cluster in the way of overcoming environmental crisis for Iran.

Secondary objectives:

- 1- Creating joint literature for developing green industrial cluster in the way of overcoming environmental crisis for industrial country.
- 2- Making performance program for preventing and controlling pollutions of environmental crisis by creating green industrial clusters.
- 3- Reducing the level of environmental crisis to the acceptable level with creating the green industrial clusters.

According to the research questions and objectives on the base of a fact that researchers tried to survey the finding similarities and differences in frame research with the framework of references. With considering the research questions, a qualitative research is used for finding comprehensive, for selecting samples, collecting data, data analysis, conclusion and answering to the research questions.

Research strategy

According to the selected research method, the research questions are based on «How» there is not any control and behavioral events of the present accidents and real condition of events by researcher. So, the case study is the best choice for performing this research.

Data collection:

In this research, with reference to the subject and

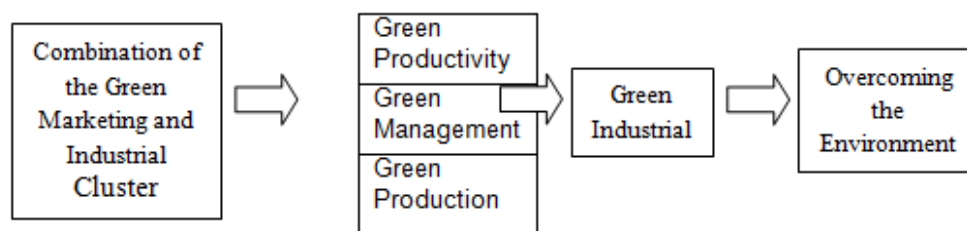


Figure 1. Model

surveyed variables we use two kinds of data (information).

- Secondary data that are collected from various information resources through library studies.
- Primary data through the depth interview which is used for collecting data, in order to increase the effect of this technique in accuracy of the data. So on the base of research questions in this study, produced data and the discussion of method in collecting data will be limited to documents and interviews.

The Universe of Research and Sampling Method

All the staffs and experts of Iran industrial ministry, organization of small industries and industrial towns of Iran, that their profession is related to the subject, are selected as universe of this research. Also on the base of the theoretical framework and increasing confidence and coherent of the research, the interview has been done with all related sectors that are working in the same field. The purposive method is employed for the gathering data and to determine the size of sample, researchers embarked upon to apply theoretical saturation

Conceptual model of research

With considering the above mentioned matters, the following model is presented (Figure 1):

Data analysis

Main categories for data analysis include the objective and research question which has been used in this study. Data were collected from various samples, then analysis was accomplished and in the end, the data was analyzed based on the framework of references. Based on the kind of research, that is a case study, deductive approach was used in it, and the data were analyzed through the strategy of comparison theory and the method of the pattern correspondences. In this qualitative research, researcher finally has used a mental interpretation for

analysis of collected data, and the method of interpretation has been stated for increasing confidence and research consequent. Practical collected data has been presented from Iran Ministry of Industries and Mine. Experimental data have been gained through personal interview from all expertises, skillful consultants of Iran Ministry of Industries and Mine.

Houman (2008) defined data analysis as the process of edit, adjustment, classification, summarization and expression of concept or meaning of data. Marvasti (2004) believes that the analytic process is referred to the process of concluding research finding from collected data. There are three steps of activity in the analytic process:

- 1- Data management: the process of data reviewing, labeling, sorting and synthesizing.
- 2- Descriptive accounts: the process of identifying key dimensions, mapping the range and diversity of each phenomenon and developing classifications and typologies.
- 3- Explanatory accounts: is the process of building explanations about found data.

Miles and Huberman (1994) have defined three main stages for qualitative data analysis:

- 1- Data reduction: "Data reduction refers to the process of selecting, focusing, simplifying, abstracting, and transforming the data that appear in written up field notes or transcriptions."
- 2- Data display: data display is defined as textual representation of data to select segments which can more illustrate the concept under study.
- 3- Conclusions and Verification: The last step in analysis activity is conclusion drawing and verification.

Based on the research theoretical framework following codes has been defined:

The positive sign (+) in Table 1 demonstrates that the theory has been supported with collected data from ministry of industries, mines and commerce, organization of small industries and industrial towns of Iran.

Negative sign (-) Table 1 shows that the theory has not been supported through collected data from above mentioned universe.

Table 2. Presentation of coded data for the research theories

Cases Theories	case 1	case 2	case 3	case 4	case 5	case 6	case 7	case 8	case 9	case 10	case 11	case 12
Integrating green marketing with industrial clusters will lead to green productivity	+	+	+	+	+	+	+	+	+	+	+	+
Integrating green marketing with industrial clusters will lead to green production	+	+	+	+	+	+	+	+	+	+	+	+
Integrating green marketing with industrial clusters will lead to green production green management	+	+	+	+	+	+	+	+	+	+	+	+

Table 3. The reduced data from every participant in answering to the 1st question

Cases of interview Green productivity	case 1	case 2	case 3	case 4	case 5	case 6	case 7	case 8	case 9	case 10	case 11	case 12
Short term capital return	✓	×	×	×	×	×	×	×	×	×	×	×
Decrease of environmental pollutions (social)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Decrease consumption of energy resources and raw materials	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Creating competitive advantage (economical)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Cooperation and communications	×	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Recovery and decrease of wastes	×	×	✓	✓	✓	✓	✓	✓	✓	✓	×	✓

Table 1. Coding

+	Supports the theory
-	Doesn't Support the theory
+/-	Partially Supports the theory

The sign (+/-) states that the theory with collected data has relatively been supported.
Coded data have been shown based on research theories in the following table.

Green productivity

In green productivity method, the optimum efficiency in consuming energy, raw materials, and water is identified by processes, and producing the given products. In green productivity process, the activity is based on identifying condition and difficulties in water, raw material, and energy consumption and also removing wastages quantitatively and qualitatively. By minimizing the degree of pollution and wastages, the industrial units make use of their resources in an effective and optimal manner (Mardan, 2007). Beside the major definitions proposed by scientists about research theory, there are some other

cases which are stated by cases. According the results in Table.2, all of the 12 cases who have chosen by theory saturation procedure are incomplete agreement with the first theory, i.e., attaining to green productivity through integrating green marketing and industrial clusters. In answering to the first question all of the cases were agreed that integrating green marketing and industrial clusters, by considering the following cases will lead to green productivity in industrial clusters:

1. Reducing environment pollution;
 2. Reducing the consumption of energy resources and raw material;
 3. Creating competitive advantages.
- Except the first interviewee who believed that by integrating green marketing and industrial clusters the short term capital return is possible, other cases did not mention it.
 - Except the first one, the other 11 cases declared that the existence of cooperation and relationships inside industrial clusters will lead them to green productivity.
 - Except the cases number 1, 2, and 11 other cases stated that we can reach to green productivity in industrial clusters by reducing and retrieval of wastages. The above finding illustrated in Table 3.

Table 4. Generalizing the reduced data from every participant in answering to second question.

Case of interview Green production	case 1	case 2	case 3	case 4	case 5	case 6	case 7	case 8	case 9	case 10	case 11	case 12
Decrease of environmental pollution	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Increase of the quality of production	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	×
Economical interests (decrease of toll, increase of profit)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Attraction of more green consumers	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	×	✓
Producing green production (minimum environmental pollution)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Cooperative network for placing technology in cluster	✓	✓	×	×	✓	✓	×	✓	✓	✓	✓	✓
Supporting the support organizations	✓	×	×	×	✓	×	✓	✓	✓	✓	✓	×

Green production (clean production technology)

Duber (2005) in some of his essays evaluate green production variables which include:

1. Utilizing environment compatible raw material;
2. Eliminating especial material which may be of adverse effect on environment;
3. Accuracy in the bases compatible with environment;
4. Accuracy in designing in a manner which is compatible with environment;
5. Optimizing processes for decreasing wastages;
6. Utilizing clean technologies in a way that we save energy and water consumption, and reduce pollutants;
7. Retrieving raw material in production phase;
8. Utilizing quality management principles.

Beside the definitions and concepts proposed by scientists about second theory some other major things are stated by the cases. According to the data collected by the interviews shown in Table. 4, all 12 cases were completely agreed upon second theory of the research. All 12 cases by considering the following cases illustrated in Table.4, were agreed upon second theory:

1. Decreasing environmental pollutions;
 2. Decreasing costs and increasing profitability;
 3. Producing green products with least environmental pollutions.
- All of the cases except number 12 stated that utilizing green production will increase the quality of products in industrial clusters.
 - All of the cases except number 11 declared that clean production technology (green production) attract green consumers toward industrial clusters.
 - Except cases number 3, 4, and 7 others believed

that green production (clean production technology) is established and expanded through creating cooperation networks inside industrial clusters.

- Cases 1, 5, 7, 8, 9, 10, and 11 stated that green production (clean production technology) is supported by its related organizations.

Green management (environmental management system)

It is a series of comprehensive, purposeful, and continuous measures and studies which take place in different levels to improve the present condition for attaining to green condition, and make this condition continuous.

Beside the definitions presented about the research theory, some other major things are stated by the cases. According to table 2 we see that all 12 cases are completely agreed upon 3rd research theory.

- The data collected shown in Table 5, for this research question indicate that cases 1, 2, 3, 5, 8, and 12 believed that environment management will lead to sustainable development in industrial clusters.
- Except interviewee 3, other cases declared that environment management will decrease costs and increase profitability.
- All 12 cases believed that green management will decrease environment pollution.
- Except interviewee 11, others believed that green management will lead to attaining environmental standards.
- Except cases 8, and 12, others believed that green management will increase group cooperation

Table 5. The reduced data from every participant in answering to 3rd research question.

Cases of interview Green management	case 1	case 2	case 3	case 4	case 5	case 6	case 7	case 8	case 9	case 10	case 11	case 12
Sustainable development	✓	✓	✓	×	✓	×	×	✓	×	×	×	✓
Economical interests (decrease of toll and increase of profit)	✓	✓	×	✓	✓	✓	✓	✓	✓	✓	✓	✓
Decrease of environmental crisis	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Access to environmental standards	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	×	✓
Local concentration and group cooperation	✓	✓	✓	✓	✓	✓	✓	×	✓	✓	✓	✓
Surveillance and better control of environment	×	✓	×	×	×	✓	✓	✓	✓	✓	✓	×

among units inside industrial clusters.

- Cases 2, 6, 7, 8, 9, 10, and 11 believed that green management creates suitable environmental controlling and monitoring inside industrial clusters.

Findings of research questions

a) How integrating green marketing with industrial clusters will lead to green productivity in industrial clusters?

We have obtained different answers about the first question from the 12 cases of the ministry of industries, mines and commerce, small industry organization, and Iran's industrial towns. The results showed that industrial clusters can find competitive advantages in relation to other industries through decreasing environmental pollutions in industrial units, supplying raw material from green suppliers and its optimal usage in production process, reducing consumption of energies like oil, gas, etc., and reducing wastages in the process of production through corporation and relationships in industrial clusters. In this regard they can reach to green productivity and can prevail in domestic and foreign markets. Generally with regard to the aforementioned states by the cases, we can say that industrial clusters by accessing to green productivity can form the basis for establishment of green industrial cluster.

b) How integrating green marketing with industrial clusters will lead to green production in industrial clusters?

In answering to the 2nd question, we have obtained different responses from the 12 cases of the research universe. The results show that industrial clusters can reengineer their traditional method of production through creating networks of cooperation among industrial units inside the clusters, and introduce the cleanest technology to the process through purchase network. Due to the communality of investment in new technologies and their

purchasing by the related network, the cost of utilizing this kind of technology is low. Therefore, they can produce green product and attract the attention of green products' consumers and increase their profitability. Also due to decreasing their environment pollution and increasing the quality of their products, they can be supported by the related organizations (Shafizade, 2001). On the whole, findings show that industrial clusters can provide the basis for establishment of industrial clusters by accessing to green production.

c) How integrating green marketing with industrial clusters will lead to green management in industrial clusters?

The data collected were analyzed by Miles and Hoberman method (1994). In this approach we reduce the data from every respondent, then we codify them; the findings indicate that industrial clusters can

- 1- Execute the principles and methods of green management by making use of cooperation networks;
- 2- Reduce pollutions through monitoring;
- 3- Increase their profitability by decreasing products' finished costs.
- 4- These lead them in the direction of sustainable expansion.

Generally, with regard to the findings we can conclude that industrial clusters by accessing to green management and aforementioned cases can establish the green industrial clusters.

DISCUSSION and CONCLUSION

Due to the fact that industrial clusters have identified and developed since 2005 in most of Iran's provinces (Mansoori, 2009; Bergman and Feser, 1999), considering their environmental pollution is very important for industrial clusters' authorities in Iran's ministry of industries, mines and commerce, organization of small industries, and industrial towns. The environment

pollution of industrial clusters is a serious threat for the environment. The importance of this research is due to the increasing of Iran's environmental pollution by industries specially industries in metropolitans like Tehran, Isfahan, Tabriz, Mashhad, etc, (Schwepker,1991), which may help researchers in reaching to results. The obtained results from the questions and research goals indicate that 3 factors of green productivity, green production and green management due to their advantages can control environmental pollutions of industries and industrial clusters in Iran (Charter et al., 2002). Research findings indicate that due to the importance of industrial clusters in economical importance of every country and due to the advantages they have in their formation and expansion, they can enjoy from the 3 aforementioned factors to form green industrial clusters. It is noteworthy that the obtained results is in accordance with the economical, and environmental condition of Iran, therefore, the authors believe that researchers from other country must use the results of this research according to the condition their own countries. Accordingly we suggest to the authorities in Iran's environment and industries to use the results of this research in their strategic planning and guidelines (Polonsky and Rosenberger, 2001). Moreover, we suggest to the authorities in Iran's industrial clusters, ministry of industries, mines and commerce, organization of small industries and industrial towns to use the concepts of green marketing in their industrial clusters simultaneously with the development of the identified clusters in Iran's provinces. Because by the entrance of clean production technology to every industry, some factors like environmental management, and green productivity will lead to decreasing of environmental pollution from that industry, and in this way factors like increasing of productivity, competitive advantage and green place etc is the least advantages they can obtain (Kotabe and Helsen, 2004; Solomon and Stuart, 1997; Mulhall, 1999; Polansky and Rosenberger, 2001; Kotler, 1999; Peattie, 1995; Fuller 1999).

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