

# Measuring the effectiveness of IT outsourcing, a case study in ICT organization of Mashhad municipality

Atefeh Golzadeh

**Abstract**— In recent years, the widespread use of IT as one of the important and competitive factors for organizations has taken into consideration and the organizations' tend to use IT outsourcing for responding effectively to the environment has increased dramatically. Despite numerous advantages of IT outsourcing, it is accompanied with risks. Lack of attention to risks leads to project failure. Thus, previous researches have focused on identifying and prioritizing risks, justifying or not justifying outsourcing and evaluating the outsourcing outcomes in areas other than IT. Therefore, the aim of this investigation is to evaluate the performance of IT outsourcing projects that is considered as an important issue. For this purpose, by reviewing key articles, the effective factors in evaluating the performance of IT outsourcing were categorized into five groups: financial, customer, internal business processes, leadership and growth and technology/system until assessment not only be limited to the monetary variables. The mentioned factors were scored in two state of before and after outsourcing, in the form of a questionnaire. Also for determining the sequence of doing corrective actions, these factors were weighted via AHP method by using Expert Choice software. The proposed performance evaluation method in this study helps the organization to reach a comprehensive view of current situation of implementing outsourcing that leads to formulation or improvement of strategy and learning. Results showed that the organization has reached to its expected goal just in one dimension and the consequences of the other dimensions are not satisfactory.

**Keywords**— effectiveness, IT, IT balanced scorecard, outsourcing

## I. INTRODUCTION

Considering the dramatic development of IT and its vast usages, many organizations and governments inevitably have invested a big amount of money on IT. One of the best ways for IT utilization is, using services of companies which have sufficient experience and skill in this field. Outsourcing means strategic utilization from third parties' resources for preparing and supplying the operational services or business processes

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constantly [1]. Outsourcing the IT services has turned to a strategic option for organizations in using the IT services because of their relatively high advantages. However, it should be considered that lack of attention to risks of IT projects not only can not achieve the anticipated benefits, but also the projects will lead to failure. Since the amount of organizations investment in IT outsourcing area is rising, this paper will answer the question to what extend the expected goals from implementing the outsourcing in ICT organization of Mashhad Municipality in software field have had satisfactory results.

## II. PREVIOUS RESEARCH

Researchers and research field
Nahavandi <i>et al.</i> , 2010, provided a hierarchical model for determining IT outsourcing strategy in Iran's banks to answer the question whether the outsourcing is justified and how it should be done [2].
Hojaji, 2008, provided a list of effective factor in assessing the risk level of IT outsourcing accompany with the risk management framework and analyzed the usage of this framework for a sample of outsourcing contracts in municipality business area [3].
Elahi <i>et al.</i> , 2011, identified the existing risks in triple types of IT outsourcing in Iran IT companies and designed a model including seven risk groups for classifying kinds of risks and also ranked among them in order to show the need to a special attention to the kind of outsourcing and related risks with it and planning for dealing with them [4].
Keramati <i>et al.</i> , 2012, provided a new framework for analyzing and prioritizing risk factors with the view of design experts of information systems and used fuzzy ANP method for analyzing the data [5].
Motadel <i>et al.</i> , 2010, calculated the outsourcing score of each defined projects in IT management of National Refining and Distribution Company with identifying effective factors on outsourcing decisions of IT projects and determining the importance coefficients by using AHP method and then prioritized the appropriate projects for

outsourcing by using zero and one planning method (backpack model) and considering budget constraint [6].

In the field of evaluating outsourcing results, other researches was also done by other researchers in areas of electricity distribution, bank, therapeutic services centers, Islamic Azad University and phases of the development plan of South Pars gas field. (Khodaparast Mashhadi *et al.*, 2010), (Mahmoodi Meymand *et al.*, 2010), (Torani *et al.*, 2009), (Hosseini Golafshani and Rahimi, 2011), (Mohaghegh *et al.*, 2011), (Bashiri and Mohammadi, 2011), (Ferdousi *et al.*, 2012), (Salmani *et al.*, 2012) [7], [8], [9], [10], [11], [12], [13], [14].

#### Researchers and research field

Dahlberg and Nyrhinen, 2006, introduced a new tool from management perspective for measuring the success of IT outsourcing. In fact, this tool showed the improvement potentials generally [15].

According to previous researches, outsourcing studies have done in areas including: identifying and classifying risks, justifying or not justifying outsourcing, prioritizing outsourcing projects and assessing the performance changes in fields other than IT.

Spreading of IT and ease of using it lead to organizations equip their processes and operations to it [16]. The amount of organizations investment in IT field and their understanding from this important issue that applying IT effectively is a competitive advantage for them, is increasing dramatically [17]. Thus appraising the function of IT projects is considered as an important matter in ICT projects. In the following we will have an overview of various approaches of performance evaluation.

#### A. Traditional investment appraisal techniques of ICT

Appraisal techniques which are mainly based on cost-benefit analysis and cost-effectiveness analysis are known as traditional appraisal techniques such as Payback Period (PP), Internal Rate of Return (IRR), Return On Investment (ROI) and Net Present Value (NPV). In the following, the results for not using these techniques to evaluate the ICT projects are mentioned [18]:

- 1- Parties involved in ICT projects: When a company invests in a new ICT project, there are five different parties involved (project manager, users, project team, supporters, stakeholders) each with their own objectives and expectations. It is obvious that if the appraisal of ICT projects be solely based on traditional techniques, only the objectives of the management will be taken into account. Therefore, focusing too much on financial gains leads to neglect the other dimensions of the project.

- 2- Conservatism: Traditional appraisal techniques are conservatism in nature and are used in projects with low risk. Investing in projects which has benefits in long-term will not be supported and even will be penalized for delaying in profitability. This can be more critical for ICT projects since their benefits appear in long-term. Therefore short-term solutions are not so suitable for ICT projects because lead to ignore the innovation and eliminate the competitive environment.

- 3- Measuring benefits: The benefits that result from the implementation of an ICT project can be split up in three categories:

- The tangible benefits which can be easily identified and attached a quantifiable value.
- The intangible benefits which are known by the manager, but they are difficult to be measured or quantified.
- Benefits which are hidden from the decision makers.

In IT projects, the ratio of tangible to intangible benefits is low thus the performance assessment of such projects will be tough.

- 4- Measuring costs: Although costs are measured more easily than benefits, a substantial part of the investment costs in ICT projects are also intangible or hidden so that evaluating up to 40% of relevant costs to ICT implementation is not possible by traditional cost estimation techniques.

- 5- Discount rate: Because there are several risks in connection with ICT projects, estimating the discount rate is so hard. Some of the risks which can be pointed are: assessment risk, technical risk, project risk, functional risk, internal risk, external environment risk and systemic risk. According to the traditional methods which were mentioned, risks should be reflected in a higher discount rate. However, using the traditional appraisal approaches fail to provide a way to measure the discount rate properly. Ballantine and Stray found that only 7% of the organizations adjust the discount rate in function of the potential risks of an ICT project. But even when managers intend to adjust the discount rate, the discussion about the risk levels is emotional and not based on numbers.

#### B. New investment appraisal approaches of ICT projects

- 1- The strategic fit approach, originally proposed by Porter. This approach focuses on the dimensions of the competitive advantage on management. Based on this method, ICT investments should be evaluated

primarily in function of their contribution to a firm's competitive advantage. This framework does not give explicit attention to financial analysis [18].

- 2- The information economics approach was devised by M. Parker and R. Benson. Information economics (IE), in essence, uses a process of assigning scores to assess the strategic benefits of ICT technologies [18]. IE seeks for discovering a vast field of information systems advantages so that considers the tangible cases less.

Most of the new performance assessment techniques are still in conceptual phase and implementation cases of these methods are limited.

Each method has its own strengths and weakness points. Therefore utilizing a combination of different techniques for eliminating defects of each of them is better than using them exclusively.

### C. *Balanced scorecard*

The balanced scorecard is a provider of performance assessment framework which provides an integrated attitude concerning business performance by considering both financial and non-financial indicator. The balanced scorecard method appraises the performance by considering four dimensions including financial, customer, business internal processes, leadership and growth. The method then assigns performance indicators for each of these dimensions.

The first dimension from this technique is financial dimension which includes scales of financial performance. These scales are related to profitability of projects. E.g., benefit indicators, cash flow, return on investment and economic value added are considerable indicators. Another dimension is customer. Customers are the origin of organization profitability, so each firm should considers satisfying its customers' needs as the first goal. In this part, the balanced scorecard determines target customers and segmenting the market and monitoring the performance of operating units in target market sections. Some indicators in this dimension are: customer satisfaction, customer return rate, new customer acquisition and market positioning. The next dimension of the balanced scorecard is business internal processes. This party's objective is to satisfy shareholders and customers by holding the balance in organization processes. In this part it is better to analysis value chain of the firm before determining objectives and indicators in order to change old processes which were balanced. Business internal processes and present and future needs of organizations can be recognized by value chain analysis. The last dimension is leadership and growth. Provision of appropriate infrastructure for reinforcing the other three dimensions of this technique is the aim of this section. In three recent dimensions there is an essential notch between manpower capabilities and system

abilities and current procedures. The organization can reduces this notch via learning and growth. Including appropriate indicators in this field which can be noted are the indicator of the costs of new technology, the cost of education and innovation in the marketplace.

Considering that the aim of this paper is evaluating the performance of IT outsourcing projects, according to Stewart's speech (2008) the fifth dimension is added to the balanced scorecard dimensions as the name of Technology/System. It points to technical systems such as hardware and software and overall non-human dimensions. The other four dimensions depend on this. This dimension covers subjects such as tools performance, reliability, availability and security [19].

### III. RESEARCH METHODOLOGY

In order to evaluate the performance of activities of the IT outsourced department in ICT organization, at first a questionnaire was designed in which the dimensions of the IT balanced scorecard was used that includes five dimensions financial, customer, internal business processes, leadership and growth until all the dimensions will be investigated. Then for each of the dimensions, functional indicators were determined based on studied advantages and disadvantages. The questionnaire was validated by several industrial engineering group masters with average work experience of 14 years. A score with seven-point Likert scale was given to each of indicators in two states: before outsourcing (expectations: means that before outsourcing, we expected if we outsource, we will reach to a certain level of performance) and after outsourcing (the obtained results) by deputy of software domain of ICT organization. Thus, the differences between expected and achieved benefits were determined. E.g., the obtained score=5 and the expected score=7 and difference= -2. For describing this number it must be recognized whether the mentioned indicator is from the positive indicators group (profit) or the negative one (cost). For this example:

- If the indicator is in the negative group, it means the organization has reached to its goal. For instance, difference -2 for "risk of inappropriate contract" means reduction of risk.
- If the indicator is in the positive category, it means the organization has not reached to its anticipated aim and the organization is in need of improvement. E.g., "customer satisfaction level". But note that the importance level of -2 must be evaluated. Because it is possible that the importance of an indicator with difference -1 be more than difference -2. Therefore, the weight of each of questionnaire indicators was determined

by AHP and for preventing any kind of error in calculating, the Expert Choice software was used. It must be mentioned that in this survey, inconsistency rate was calculated 0.09 and because this amount is less than 0.1, comparisons were accepted.

If the obtained difference number is positive for an indicator, the mentioned interpretations in connection with achieving or not achieving organization goals will be inverted.

#### IV. THE ADVANTAGES OF PROPOSED PERFORMANCE EVALUATION METHOD

- 1- With very little time and expense, a comprehensive view of the current status of implementing outsourcing will be reached.
- 2- Implementing outsourcing leads to the establishment of strategy in organization.
- 3- Establishing a periodic review system and obtaining feedback to learning and improving the strategy.

#### V. ICT ORGANIZATION'S ACTIVITIES IN SOFTWARE FIELD

Table I- ICT organization's activities in software field

	activity	Extent of outsourcing			Outsourcing year
		fully	Partial	None	
1	Analyzing and designing system			●	—
2	Designing and implementing system		80%		2007
3	Supporting system		80%		2007

#### VI. RESULTS

A- According to the obtained scores and weights for questionnaire indicators, corrective actions should be done in the following sequence:

- 1- Business internal processes dimension: risk of inappropriate contract
- 2- Leadership and growth dimension: releasing the manager time
- 3- Financial dimension: managing the costs effectively
- 4- Technology/System dimension: the ability in accessing to leading-edge technology and avoiding the risk of technology obsolescence
- 5- Financial dimension: imposing cost due to the contractor delay in project delivery
- 6- Customer dimension: identifying and focusing on the needs
- 7- Financial dimension: risk of service level

B- The overall score for each of the five dimensions were obtained according to radar chart of fig. 1.

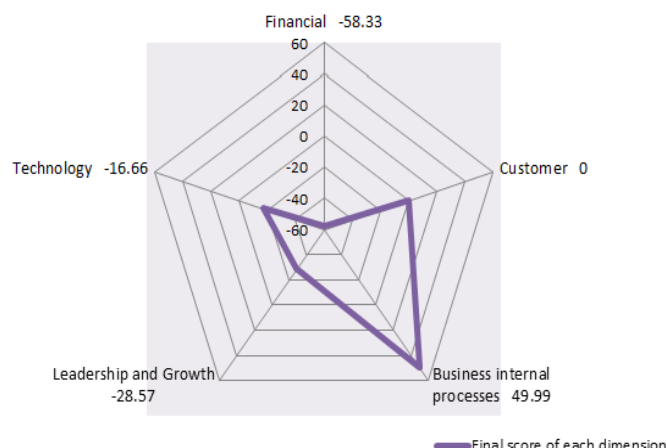


Fig. 1- Final score of each dimension

#### VII. DISCUSSION AND CONCLUSION

The fig. 1 shows that the dimensions score except business internal processes dimension are not satisfactory. Investigations in IT projects acknowledge that the IT outsourcing projects have high risk and hidden costs. In the most recent accomplished studies on IT projects during the past ten years, in 200 organizations with a project cost over 660000 dollars, indicate that 90% of them were higher than planned cost, 98% with changes in the specifications, 60% more than scheduled time and 20% lower than expected quality [17]. Also it is important to note that outsourcing the IT projects have failed in most of the cases; e.g., in a study, the IT managers have announced their 33% satisfaction for outsourcing the IT services in comparison to satisfaction level 70-80% for other outsourcing projects [20].

Due to the lack of foresight and risk management there are two main reasons for projects failure, organizations need to utilize the risk management in projects for achieving the desired success.

#### VIII. PROJECT CONSTRAINTS

- 1- Areas of ICT organization include: software, hardware, electronic city, financial. Due to the organization's hard cooperation and limited time, the performance evaluation was carried out solely in software area.
- 2- About the "the amount of IT net costs" indicator, a numeric value was required to compute results accurately, but the response was qualitatively.

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# Study of the possibility of establishing Requirements for Successor- training in the national company of oil products distribution and to present a desirable model (case study in national company staff of oil product distribution of Tehran)

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**Abstract-** Modern organizations must plan effectively at all levels in order to manage present and future talents and to be assured that suitable individuals are available for key jobs, at suitable places and times with sufficient skill for the purpose of meeting organizational needs or covering the gap due to probable loss of these resources and plan and perform successor- training plans. In this investigation the successor- training model of William G. Ruth from Pennsylvania University of America has been used as the most important theoretical foundations. The most important requirements in this model in two aspects consist of: the rate of readiness and the obligation of the organization and managers, successor- training system, policies and strategies of human resources for administering successor- training. The hypotheses of the study were analyzed using implicational parametric statistical techniques (mono- sample test) and nonparametric (.....). The results of the hypothesis test confirmed all hypotheses (existence of requirements for establishing successor- training system in national oil company).

**Keywords-** Organization, Successor, Training, System, Strategy, Oil products.

## 1. INTRODUCTION

Administrative transformation has always been of special importance in our country and human force as the strategic source of the organization determines the key strong and weak points of the organization. Organizations normally encounter the trend of retirement, transfer, displacement, expulsion, redeem, disablement, death, mission, leave of absence and other personal damages. Each manager may be surprised by losing his key employee, especially when he cannot replace him/ her and thus cannot fill the knowledge and skill gap created.

Successor- training program is a response to this problem “ Successor- training management refers to a process during which the organizational human talents are identified in order to fill the key jobs and posts in the future and prepare them for these jobs by means of planning different training and educational programs”[3].

Indeed, successor- training program resembles an assisting running race which on the momentary route gives over the responsibility to another person. In this race, the team whose stick falls on the ground (if an interruption occurs in replacement), it loses the race.

In today's competitive world, oil industry plays an important role in achieving a high standing which our dear country, Iran, deserves. Toward this end managers play an important role. Given the increase in retirement period of managers and arrival of newer manager, oil industry requires planning for development and replacing them. Based on studies conducted due to the growth of new arenas, fast changing of managers or retirement of present force, a large number of posts are left annually. Our country's oil industry according to statistics and information recorded in the human force system has managers with mean age of 51 years old. Also the issue of retirement of thousands of managers in the oil company poses a great threat to the oil industry of our country. Given the point that 3000 people are annually retired, one of the strategic factors in achieving the objectives in organizations is predetermined plans, having resources and efficient and motivated successors in different jobs and posts. This issue reveals the importance of the successor training issue for us more than anything else. (www. Mop.ir) observed on 15/10/20011 on oil ministry site.

The probable advantages of establishing successor- training plan in the organization:

- 1-Creating talent accumulators (increasing the number of candidates for key posts.
- 2-Compiling a model for managerial capabilities and qualifications.
- 3-Determining and compiling education and training programs for managers.

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4-Promoting competence and qualification culture and also training appropriate individuals and selecting suitable people in managerial posts.

5-More serious and deeper arrival of top managers to the process of human sources.

6-Adjusting the route for job promotion of individuals.[4].

7-Positive effects of the plan on the spirit, motivation and performance of young experts and engineers.

8-Considering the capabilities inside the organization [5].

9-Saving educational costs.

10-Identifying measures while encountering the danger of vacant posts (jobs) or prior to leadership loss.

The nobly and initiative aspect of the investigation:

The title of present study is among new subjects and less has been done on it and is among the new and modern strategies in organizations which has paid attention and studied all the aspects and dynamics required in the plan and administering successor- training system practically and identifying and developing talented individuals.

present study could be an administrative instruction for administering successor- training system in organizations since, in addition to explaining the process step by step, it enables us to select plans and processes given the size and position of the organization.

A brief explanation and description on the analytical model of the study: (aiming at stating the objectives and hypothesis of the study).

Administering talent- seeking and successor- training plans like all similar plans and programs requires some preparation in the organization, on the one hand, and adopting right policies and human source strategies related to successor- training, on the other hand. In this investigation, while studying some models in brief, the researcher the model of William J. Ruth well from Pennsylvania university in America as the most important theoretical foundation of the investigation. The most important requirements[1].

II. IN THIS MODEL IN TWO ASPECTS INCLUDE:

1-The rate of readiness and the obligation commitment of the organization and managers toward successor- training system.

2-The policies and strategies of human sources for administering successor- training were determined.

-To study the first aspect of William J. Ruth well model. After studying several models of organization obligation, the model of Fred Lutanz was selected and based on this model, the rate of organizational obligation of managers in administering successor- training system were determined based.

ON THREE DYNAMICS:

1-1-Belief in accepting Values and objectives (the belief and attitude of the organization in values and objectives of successor- training and suitability).

2-1-Tendency to widespread attempt toward the organization (attempting and supporting administration or developing successor- training system).

3-1-Strong tendency for participation in the organization (positive tendency and insight of the organization for successor- training) was measured.

To measure the second dimension in regard with strategies and policies of human sources, the researcher will use the steps recommended in the second requirements and model under study.

-William J. Ruth well in his book, "titled Effecting replacement planning" (translated by Ahmadreza Harraf) has studied the following steps. These steps include:

1-2-Determining the domain and predicting organizational needs at management level.

2-2-Compiling and providing suitability pattern required for future managers.

3-2-Identification and assessing existing talents.

4-2-Planning and administering instructional and development a programs.

5-2-Replacing and using individuals and assessing the plan [1].

DEFINITE OBJECTIVES:

Main objective:

The main objective of the plan, is planning to study the possibility of establishing required conditions for determining appropriate successor for management posts constantly and systematically and their training and development in toward replacement for future.

MINOR OBJECTIVES:

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1-To study the preparation and obligation of the organization and management toward successor- training and identify the method of attracting this obligation.

2-To state the policies and strategies of human sources required for state the policies and strategies of human sources required for establishing successor- training system.

1-2-To state the method of identifying the need level and key posts in organization.

2-2-To state the method of compiling suitability pattern appropriate for the organization.

3-2-To present solution for identifying and assessing talented workers.

4-2-To state the steps required for training and developing identified talents.

5-2-To state the method of replacement and evaluating successor- training plan.

#### RESEARCH QUESTIONS:

Developing human sources is considered a permanent secret of companies. Nowadays, the most important challenge in the arena of work and trade is not technology any longer but enjoying or having intelligent human source and human capita who under take their responsibilities which is the main secret in facing trade challenges. Nowadays, managers are faced with.

Serious questions in their work domain by human sources such as:

For administration and presenting a desirable successor-training what requirements and strategic variables are required?

Human source arena how and with what policies can advance actively the strategies of the organizations?

How could we have a reserve of talents and what strategies are there for identifying these talents and how is it possible to identify the best talent and use them in the organization?

But, in general, the questions of present investigation given the model used in compiling the thesis (William J. Ruth well model) could be raised as follows:

#### MAJOR QUESTION:

Do the requirements (background strategic variable) exist for establishing successor- training system in the national company of oil product distribution?

#### MINOR QUESTIONS:

1-Do the obligation and organizational preparation for administering successor- training plan exist in the national oil product distribution company?

2-Do the policies and human source strategies required for establishing successor- training system exist in national oil product distribution company?

In a sense (Are the policies and human source strategies and successor- training system toward the same objective)?

#### RESEARCH HYPOTHESIS

Major Hypothesis: Do the requirement (back grand strategic variables) for establishing successor- training system in the national oil company?

System in the national oil company?

#### MINOR HYPOTHESE:

1-The obligation and organizational preparation for administering successor- training plan exist in National oil company?

2-The policies and required human source for establishing successor- training plan exists in National oil company. In a sense (policies and human source strategies and successor-training system are toward the same end).

#### RESEARCH METHODOLOGY:

Since the investigation aims to study the correlation between variables and requirements determined in two aspects: 1- Obligation and organization preparation and. 2-The policies and strategies of human sources are based on successor-training. Given the issue, for general and minor assessment (me asurment) (considering the point the aspects are separatel, the objectives and problems of the study must be answered in two questionnaires and the above- mentioned requirements are based on William J. Ruth well model which have lead to formation of the study hypothesis. To assess each one of the requirements mentioned based on related dynamics and indexes a frame work was defined which will be explained in chapter two and have been presented below. These indexes based on models used and in proportionate to the plan under study (successor- training) have been designed considering regional conditions. To system the correlation between variables and analysis of basic points in the successor- training system plan, implicational and descriptive statistical methods were used.

#### STATISTICAL SOCIETY:

Given the aim of the investigation which is studying the possibility of successor- training requirements in national oil



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company. The statistical society of present study consists of individuals aware of compelling and administering plans and regulations including managers, assistants and staff experts of National oil company headquarters in Tehran. These individuals given the responsibility and authority in regard with supervising the compelling and administering company instructions, are considered as the statistical society of this study which their number is 320.

Sampling method and the sample volume:

Sample group is a small set of statistical society consisting of some members whom have been selected from statistical society. Indeed, the sample group is a minor set from statistical society which by studying it, the investigator can generalize the conclusion to all statistical society. According to kocran formula given the volume of statistical society in this study (320) the sample volume of the study is as follows:

$$N = \frac{320 \left( \frac{1}{96} \right)^2 \left( \frac{0}{5} \right) \left( 1 - \frac{0}{5} \right)}{(0/05)^2 (320-1) + \left( \frac{1}{96} \right)^2 \left( \frac{0}{5} \right) \left( 1 - \frac{0}{5} \right)} = 174$$

(Sokaram, 2002)[2].

DATE COLLECTION METHOD:

In this investigation given the records of similar studies existing through library method including books and domestic publications and searching in internet websites for the purpose of achieving theoretical foundations and studying correlation between variables and hypotheses of test, the required information was collected through questionnaire, in this study used descriptive statistics in order to extract and analyze the basic points of successor-training plan and they used implicational statistics including t parametric tests (mono sample) and to study and test the correlation between variables and after collecting data using questionnaire they used non parametric double- sample.

In present study descriptive statistical techniques including distribution tables. Bar and circle diagrams for describing the date of anthropology (studying population) and k s and mono sample and double sample t tests were used to study and test the hypotheses.

ANALYZING STUDY FINDING:

In total in this study, one major hypothesis, two minor hypotheses and eight sub- hypotheses were analyzed using descriptive and implicational statistical methods and the results of testing hypotheses are briefly described as following.

Conclusion of the major hypothesis:

The major hypothesis of the study stated that requirements (background strategic variables) for establishing successor-

training system in national oil company exist and the results of the results of the t –test for this hypothesis are presented in table (1).

Table 1: Results of t- test for the major hypothesis of the study

First minor hypothesis	Test Value=3				Confidence interval 95%	
	t	Freedom dearee	Significance	Mean of differences	Lower limit	Upper limit
	24.860	173	.000	.55332	.5094	.5973

In this study, the most important requirements (background strategic variables) for establishing successor-training system based on the model used in compiling theses (willam J. Ruth well) in two aspects in clued: 1- the rate of preparation and obligation of the organization and managers toward successor- training system- and 2- the policies and strategies of human sources for administering successor-training were determined and studied. Toward this end, to study the major hypothesis a framework consisting of 2minor hypotheses and eight sub- hypothesis were defined and were used for the purpose of assessing this hypothesis a long with mono and double sample t- test and the results confirmed this hypothesis. That is, the major hypothesis stating that: requirements (background strategic variables) for establishing successor- training system exists in national oil company, was confirmed with 95% probability [7].

CONULUSION OF THE FIRST MINOR HYPOTHESIS:

The first minor hypothesis stated that: The organizational preparation and obligation required for establishing successor- training exists in the national oil company and the results of t- test for this hypothesis are presented in table 2.

Table2: Results of t- test the first minor hypothesis of the study.

Frist minor hypothesis	Test Value=3				Confidence interval 95%	
	t	Freedom dearee	Significance	Mean of differences	Lower limit	Upper limit
	19.402	173	.000	.60951	.5475	.6715

To study this aspect, the organizational obligation model of fred lutz was used to prove the existence of organizational obligation and preparation and managers for establishing successor- training system, toward this end, to study this hypothesis, a frame work consisting of three dynamics (according to fred lutz model) were raised in the form of three sub- hypothesis and were studied. In this stage, the support and obligation of the highest levels of the organization and their involvement in the successor- training plan as a key factor for administering successor- training was.

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Studied based on 3 hypothesis as follows:

- a)The belief and tendency of the organization toward successor- training (suchas suitability and qualified-training).
- b)The belief and support of the organization for administering or developing successor- training system.
- c)The tendency and positive attitude of the organization for participating in successor- training system.

The double sample and t- test hypothesis were used to study this hypothesis and the results confirmed this hypothesis.

That is, the first minor hypothesis stating that: The organizational aligation and preparation for establishing successor- training system exists in national oil company, was proved with 95% probability.

**Conclusion of the second minor hypothesis:**

The second minor hypothesis of the study states that: The policies and human strategies required for establishing successor- training exists in national oil company, in a sense, (the policies and strategies of human sources and successor- training aim at the same end). The auctions (especially bids). The results of the t-test are presented in table 3.

Table3: Results of t- test for the second minor hypothesis.

Second minor hypothesis	Test Value=3					
	t	Freedom dearee	Significance	Mean of differences	confidence 95%	
					Lower limit	Upper limit
	24.266	173	.000	.49713	.4567	.5376

Due to the importance of human factor and its unique vote as the designer and administrator of organizational process we have witnessed important changes in the policies of human source in the organization since sometime ago.

To assess this aspect, the steps recommended in the model of William J. Ruth well were studied and measured statistically or from the viewpoint of statistical society as follows:

- a)Determining the domain and predicting the need of the organization and identifying key posts.
- b)Identifying and codification suitability pattern of future managers.
- c)Identifying and assessing existing talents.

- d)Designing and administering instructional and development programs.
- e)Hiring individuals and assessing the plan.

To assess this hypothesis, t- test and test were used and the results confirmed hypothesis, that is, with 95% probability or confidence it could be said that the policies and strategies of human sources required for establishing successor- training system exist in the national oil company.

**Conclusion and recommendations:**

The recommendations of the investigator to the organization under study:

In this section given the hypothesis and the findings of the study, some recommendations are presented to the authorities of the national oil company and as it has been shown in the analysis. All the hypothesis of the study were confirmed, in one sense, the mean of all hypotheses is above average and this shows that they are satisfactory but given the point that means vary and the perceived importance of some questions. Dynamics and indexes, recommendations we.

**MADE AS FOLLOWS:**

1-The first minor hypothesis and sub- hypotheses show that the organizational obligation and preparation for establishing successor- training system exists in national oil company. In studying this hypothesis it was observed that the lock of familiarity or aware from objectives and advantages of successor- training planning by some managers causes that sufficient attention is not given to these plans. and toward this end some recommendations are raised and presented as follows:

- a)Through obtaining awareness and information in this regard, this problem could be solved or overcome. Holding instructional classes before administering successor- raising plan could be an effective.
- b)Creating relations and coordination for holding meetings or sessions between managers and the authorities of organizations that practically benefit from the advantages of successor- training plan.
- c)The management of successor- training requires that it be line with aims and strategic plans of the organization. Amending and proving the conformity between successor- training plans and organizational aims, will result in managers, belief and obligation to this thought.
- d)Protecting the organization against political pressures in regard with the appointment of the managers leads to attracting confidence and obligation on the side of the managers and organization. Toward this end, the required

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supervision and studies must be conducted and clear solutions must be presented.

2-The second minor hypothesis revealed that: The policies and human source strategies required for establishment managerial successor- training system exists in national oil company, in the study of this hypothesis it was observed that the index for identifying key jobs in managerial posts has relatively low conformity with the ideal of the respondents and toward this end, it is recommended that reengineering in the field of identifying key posts in the organizations be conducted and the tools and criteria for identifying these posts be provided and a more exact explanation be presented in this regard. Reengineering is reviewing or having a second look at the processes and unifying them which requires a new structure for administering managerial successor- training toward the general aims of the organization. In other words, administering this plan in current structure is not feasible but requires a restructuring based on an engineering look resulted from a reengineering view. This organizational structure is considered as a vessel for administering successor- training management with the aim that whether these could be considered as the skeleton of this vessel (structure) or not and the form or shape of the processes defined in the organization should be reassessed [8].

Also, in studying the second minor hypothesis it is observed that the aspect related to determining qualifications or suitability required for key posts (having required conditions) are of great importance for determining a criterion for assessing the qualified candidates summers (1992) states that competence or suitability management assists the management in identifying, assessment, development, and hiring workers.

Toward this end, it is recommended that for achieving strategic aims of successor- training management, the oil industry must restudy the competences (suitability) for all levels of leadership posts. Providing a suitable list of competences for successor- training management system is vital since it opens a new window for future behaviors [6].

Also, in studying the second minor hypothesis for the purpose of stating the importance of identifying and determining suitable individuals in successor- training planning, following.

#### RECOMMENDATIONS ARE MADE:

a)Asking the ideas or comments of scholars or experts could be effective in some cases. Some scholars and managers who are well aware of the conditions and activities of the organization can help the organization in identifying suitable individuals. Another advantage of this method, is the participation of managers in the process of designing or planning successor- training program.

b)Using a variety of exercises and different tests for assessing candidates specially psychiatric tests (intelligence, personality, creativity and social behavior): Encouraging managers to participate in these tests.

c)The selection of individuals could be made based on information obtained from individuals, performance evaluation.

d)In some cases, to increase the accuracy and decrease personal supervision, several different methods could be used for selecting individuals.

e)Serious tendency to suitability and selecting the competent individuals and managers, support for this category.

Also, in studying the second minor hypothesis for the purpose of showing the importance of developing and training individuals in the successor- training planning and the necessity of paying more attention to the participation of the organization and managers in this category, the use of.

#### DIFFERENT METHODS IS RECOMMENDED:

1- Suitable job rotation cause paves the way for trainees of this plan to learn different managerial duties and increase their managerial knowledge through involvement in the objective and practical processes.

2- Coaching or trainer ship method is recommended as one of the most important development methods for successor.

3- Using simulation exercises in managerial jobs (Role play).

It is necessary to explain that lecture method is one of the methods in development but it can not train individuals in different aspects and overusing this method and putting other methods aside causes a gap in individuals work and the instruction will not be of great profit.

Ultimately, in studying the second hypothesis: In spite of numerous choices focusing and emphasizing on the importance of the planning and successor- training management, the reason for reducing replacement planning in organizations is that the human force face failure in showing the value of planning and successor- training management to the organization.

Assessment is a tool that determines this method. Thus, due to the importance of this in successor- training.

Plan, following recommendations are presented in this regard:

a)Using suitable tools and criteria for evaluating instructional and developmental programs of individuals.

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b) Paying more attention to evaluating programs while administering related processes and presenting feed back and doing amends.

c)Presenting suitable feed back from performance and the results of successor- training management to managers and workers.

d)Using the organizational performance assessment alongside with individual performance assessment for measuring it effectiveness or efficiency.

e)Identifying the damages meticulously in administering given the existing situation could play a key role in presenting amending and effective solutions.

#### SUGGESTIONS FOR FUTURE STUDIES

Considering the point that most Iranian organizations have not already conducted successor- training plan in a compiled form, we must hope that other aspects of important indexes for administering successor- training plan are studied by conducting other studies, in order to fill the gap in our organizations. Given the results of this investigation, following recommendations seem to be necessary for future studies:

1-In the organizations where this system has not been administered can study the following factors for administering it and pay attention to structural and cultural factors, etc. It seems that the effect of organizational and national culture on successor- training planning could be a suitable choice for future studies.

2-Similar studies could lead to achieving indexes for comparing successor- training management system in Iranian organizations.

3-Present study presents indexes for administering successor- training management. In future studies. The effect of factors such as suitability model and/or assessing centers on the success of successor- training system should be studied.

4-Different studies have been conducted on the advantages of successor- training plan outside the country. The necessity of conducting such studies is also felt in our country in order to study the advantages of the plan in terms of culture.

5-Similar studies in terms of identifying damages of the successor- training plan could be done in Iranian organizations especially in oil industry in order to study the difficulties and challenges on the horizon.

Presenting a favorite model and pattern from management and planning of successor- training:

For the purpose of codification the pattern and identifying and required jobs toward administering successor- training system an consolidated method has been applied in such a way that in this method given the samplings conducted from management and successor- training plan patterns in successful companies and considering the comments and notions of scholars in this regard in the second chapter of the thesis, the major steps of different patterns were listed and the distribution of each step was computed and in this way, common steps with the highest distribution in the patterns were identified. Then, a desirable model from management and successor- training plan is presented given the general steps recommended:

First step: creating management obligation and determining the roles and responsibilities.

Second step: creating relation between aims and strategies of the organization with successor- training system.

Third step: identifying key posts.

Fourth step: managing talents:

Fourth step (1): Codification suitability model.

Fourth step (2): Identifying talented individuals and forming talent reserve.

Fourth step (3): Assessing talented individuals according to suitability or competence model.

Fourth step: planning and administering instructional and developmental programs.

Sixth step: constant reviewing and improving management order and planning successor- training.

Probable barriers for administering successor- training plan:

There may be serious resistance in encountering with the administering the results of the plan on the side of some senior and middle level managers. Thus, following difficulties may affect the success of the plan.

a)Lack of belief and undertaking in some managers and authorities for administering the plan and lack of belief in the profit of the plan.

b)Sovereignty or governance of traditional management in the organization and avoiding change or transformation phenomenon.

c)Resistance of some managers and authorities in applying the results of the plan.

d)Lack of belief on the side of the young expert work force in the organization in applying the results of the plan and as

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it was mentioned and it is recommended that the management negotiate with the pros of the plan and reveal the advantages and benefits of the plan through instructional activities and prove that the plan is in conformity with the strategic aims of successor- training plan.

Ultimate recommendation:

Administrative plan of successor- training is something which should not be ignored by any company. Given the changes that occur daily. Preparation for future is required, and awareness of the refusing successor- training crises is a must and requirement not only for continuing the life of the organization and company but also for continuing its leadership, it should be planned and this should be started by identifying very talented staff or workers. We should train successor in each group and create opportunities. While a space is provided for growth, we should hire and protect workers or staff who are responsibility- taker and guarantee the success of the company. We should take care of the talented individuals in the company since nothing except the belief of the individuals makes them motivated. When you prepare to use the chances provided in advance, a large number of accommodations show off or present themselves.

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# Insurance Industry Market Management by GREEN Approach

E. Kardgar, R. Rahmati Nodehi and M. Ghasemi

**Abstract**— Competitive market and increasing environmental concerns, consisting governmental regulations and systems, and also increase of customers' knowledge lead the insurance companies to consider the physical, mental and environmental health of the customers as an important issue. Commercial insurance industry is a field of business that has a high effect on environmental and the other aspects of the community such as economy, society, culture and technology among the others. Green Marketing refers to a concept that considers customer health in addition to profit making and sale increase. Due to above description, new concepts of marketing such as Green Marketing, Environmental and Social Marketing are being developed in order to perform the social responsibility by a wide range of businesses. In this paper we try to study the importance and reasons of considering Green Marketing, levels of Green Marketing, development of the field at general and in insurance industry by a library collection approach. In addition, the interaction between Green Marketing and insurance industry is studied and some solutions and notes are presented.

**Keywords**—Green Marketing, Green Marketing Levels, Insurance Industry, Social Responsibility

## I. INTRODUCTION

Nowadays, it seems that every product has a specific social reason. According to social environmental concerns, marketing has been an important issue in each company. From the early 1980, according to social and environmental concerns, marketing has been getting more popularity [1]. One of the fields that have received many attentions in publications is green marketing. It seems that all of the customers either individual or industrial are more aware and interested in environmental issues.

Insurance has a bilateral characteristic in this field. On one hand, insurance has been under affect of this kind of marketing as an active industry in human social life and more precisely green marketing help insurance industry in a direction to be more effective and have play a social and environmental role. On the other hand, insurance

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play a generative role of social and environmental concerns in other industries.

In a study which was performed in 1992 in 16 countries by Etman, more than 5% of customers in each country declared that they concern about and are interested in environmental issues. Moreover, in a study which was performed in 1994 in Australia, the results showed that 84% of people believe that they are responsible about their environment. These people declared that they have adjusted their shopping manner due to environmental considerations [2]. According to the comparison and structural analyzing view, we understand that this is like the performance of insurance in the society. More specifically, insurance companies have a positive environmental and social affect by trying to decrease the amount of claims and they bring a massive economic saving to the society.

Green marketing which is known as sustainable marketing too, is an interesting process and nowadays even the retailers in developing countries have started this kind of marketing. Massaki & Helsen [3] declares that green marketing enhance government planning. believe that social values change during the time like the other marketing components. So, in order to be sure about success, marketers and their products must change in coordination with the society.

In 1989 a study was performed in United States and results showed that 49% interviewed people had changed their shopping manner due to environmental considerations. Also, Australian statistics of 16000 citizens show that 75% of people are concerned about the environmental issues. The issue of protecting our environment has made the customers to rethink about the products which they buy. Today, many customers are ready to pay more money for the products which really protect the environment [1]. Above mentioned statistics show that protecting our environment is one of the most important criteria which is considered by the customers during the shopping times. As a result of these considerations, environmental issues have entered to marketing studies and an approach is developed called green marketing.

Due to the fact our study is focused on green marketing usage in insurance industry and also the fact that green marketing is a subsidiary of social responsibility, first of all some issues related to social responsibility and insurance role will be presented. In next sessions concept of green marketing and related issues are surveyed.

## II. SOCIAL RESPONSIBILITY AND INSURANCE ROLE IN THIS FIELD

Previously, there was an imagination that organizations and producers are just responsible against their stockholders and

personnel or they just have to produce their product with a lower price and higher quality regardless of the future of the product and its environmental effects. Tough competition, population increase, resource shortage and environmental pollution had made new approaches to organization and management which resulted in social responsibility and commitment. Accordingly, we may say that considering such a responsibility is an answer to environmental needs and challenges. Believe that supporting our environment is not an outer issue but is an important part of business processes. In social responsibility framework, company considers the customer in a long commitment and concerns about the long term welfare and environmental problems of the customer. Define the social responsibility as follows: a method of management which makes the organizations to do activities which have a positive effect on society and common goods improvement.

Indeed, their point of view is based on deletion of negative effects of organization on the society and they try to change the customers' approach and manner. Some of researchers like consider the companies in a commitment to increase the social welfare. Believe that businesses low attention to external stakeholders makes problems for customers of that companies [4]. Moreover, moral principals in businesses makes the companies to be informed that how their activities affect the others' benefits.

It is naive to believe that social responsibility just involves the environmental issues because this commitment has a huge effect on marketing learning and modifies it. Considers the useable tools in social responsibilities as packaging, advertising, personal sale and services that the marketer must determine these according to the factors of potential profit and social welfare.

Social responsibility is a method which in that companies present appropriate products to the customers and even determine the prices such that be valuable in buyer point of view and let the producer to gain a reasonable profit. Social responsibility is more than positive attitude to environment because it considers all the aspects of product consumption by customers.

In this approach not only the environment and ecosystem but the physical and mental health of consumer and even problems such as population growth are considered. Social responsibility of marketing is to make an appropriate direction to the consumption manner of the society that needs a long term viewpoint itself.

Social responsibility or commitment to charity services by insurance company which is performed to prevent the social damages makes a positive image of the company in society. As we know, presence of insurance companies in charities enhances a positive attitude in all the community. Insurance companies can elevate their position among the other competitors and satisfy the components (stockholders, personnel, agencies ...) of their company by dominating the public mind.

Insurance companies can change the attitude, believe, opinion and manner by identifying their customers through information and advertisement plans.

Changing the customer manner directly and indirectly can make trust and confidence to accept the company between the all kinds of customers. Insurance company can hold the needed training to guide the customers in their desired manner by assessing the current situation by surveying their comments and considering their point of view. These issues are commonly performed by voluntary. Surveying

the current conditions make insurance companies capable to make benefit by timely presence and satisfy the benefits of society and company stakeholders in order to improving spirit of philanthropy and ethical issues.

Presence and communication of insurance experts in many social activities results to decrease in many of the social problems and accidents. Their precautionary guidelines can decrease the social effect of economical, social, cultural and environmental costs. Four basic factors are considered in social responsibility: consumer movement, society relations, green marketing and variation. In this study it is tried to survey the green marketing as a factor of social responsibility.

### III. GREEN MARKETING

Unfortunately, many people believe that green marketing is just dedicated to developing or advertising products with environmental properties. Words such as without phosphate, recyclable and compatible with ozone are some examples which are considered equal with green marketing by many consumers, while these words are just signs of green marketing.

Generally, green marketing is wider concept which can be performed in consumer goods, industrial goods and even services. Green marketing refers to pricing development, improvement and distribution of products that do not damage the environment.

Define green marketing as follows: a marketing strategy that supports the environment by generating environmental distinguishable benefits in a way that is expected by the customers.

American marketing society in 1976 defined the green marketing as: studying positive and negative aspects of marketing on pollution, reducing energy and other resources consumption. But, it is notable that this definition is not complete and it is needed to present a more comprehensive definition. Polonsky [2] defines green marketing as follows: green or environmental marketing covers all the activities are designed to generate and facilitate transactions in order to satisfy human demands in a way that this satisfaction has the least pernicious effects on our environment. The important point that must be mentioned is the fact that green marketing lower the environmental damages but does not eliminate it completely.

It can be declared that companies will gain a competitive advantage through the green marketing in comparison to irresponsible companies. There exist a number of companies which try to be more responsible against the environment in order to better satisfy the customers' needs. For example, Tuna producers had modified the fishing techniques due to increasing concerns about fishing tours and increasing number of dolphins' death. In green marketing, there exist some other green concepts such as:

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**Green consumers:** They are the people with high concerns about the environment and modify their shopping and consuming manners to support environment by buying products which are healthier from the environmental point of view.

**Green manufacturing:** Producing by using technologies which limit or eliminate the pollutions or have beneficial effects to the environment.

**Green accounting:** Accounting procedures that try to consider the value of money needed for ecologic investments and compensating the damages to jungles.

As we described, playing green role in many aspects of the society is one of the insurance industry roles. Agricultural insurance, industries and home fire insurance, cargo and courier insurance, health insurance and the other insurance policies are examples of insurance industry positive performance in creating social physical and mental peace. Generally, word "Green" has an ecological and environmental root in marketing, and organizations or individuals use this word when they want to speak about the environmental and ecological pressures.

#### IV. IMPORTANT REASONS TO BE GREEN

Results of previous studies show that environmental activities rarely coordinate with organizational evaluating criterions. In addition, many companies use traditional criterions to evaluate themselves in environmental issues such as: profit, return rate, market share, etc. A little number of companies found that being green brings strategic benefits for them [2]. Appropriate market position will be obtained at a time when the company present a product or service which is really different from the competitor companies and make value for customers by this mean [1].

So, according to the fact that environmental and social issues are getting more important nowadays, considering environmental issues in marketing activities may create competitive advantage for the company and the company can obtain a great position in the market by this way.

The main reason of being green refers to the economy. Indeed, economy is surveying that how people try to satisfy infinite desires according to finite resources. When the literature of marketing is surveyed, there are many reasons to increase the green marketing activities by companies and here, some of these reasons are going to be presented.

Being green can occur due to internal or external pressures [2]. Following issues are among the external pressures that can increase the importance of being green:

##### A. *Satisfying the consumers' need*

Nowadays, companies and organizations are forced to include environmental activities in their plans to satisfy their customers' need, performing the social responsibility and supporting the consumers' right. For example, Macdonald is an obvious example that has changed its product packaging due to supporting consumers' right and satisfying their needs.

Another important issue is resulted from the reaction to competitors' proceeding. When a company considers environmental issues in producing its products, the other companies must change their strategies in producing their goods and adopt some measures in order to be green; otherwise they will lose their market share.

##### B. *Increasing Government Intervention*

In different countries, governments use different ways to save their environment. For example, the environment organization of USA has some legislation in order to save the environment [1].

##### C. *Increasing Environmental Pollution*

Considering the increasing amount of pollution in our environment, the companies must get active in green marketing and preventing more pollution increase. Environmental pollution caused the social pressures from consumers' side and government legislation and enforced companies to move towards being green [3]. One of the companies which made some changes in its policies due to social pressures is the ExxonMobil (American multinational Oil and Gas Corporation). This corporation made some changes in its policies and made an institute to support the environment and two local parks in Cameroon.

There are some internal reasons which make pressure on companies to perform green activities, and some of these reasons are presented following.

First reason or better to say the most important reason is the factor of cost. It means that being green can result in more beneficial effectiveness and financial savings. It means less input is used and less garbage is produced and the environment pollution will be decreased [2].

The second internal factor returns to company philosophy. When the companies emphasize on environmental goals such as the other goals of the company and put environmental issues in company philosophy, the issue of being green is tied with company strategies, and after a while it is involved in tactical activities of the company.

The third internal factor is the creation of competitive position in market. The companies which consider environmental issues in their marketing and producing processes have a competitive position in comparison with their competitors. So, it can be said that performing green marketing principals make the consumers to have a better overview of the company [1].

Ken Peattie [5] declares that environmental issues had led to a new approach and names this approach an "Ecological Positioning". According to this approach, the companies must emphasize on their environmental activities in order to position their products.

#### V. PRACTICAL METHODS OF PERFORMING GREEN MARKETING IN INSURANCE COMPANIES

Insurance companies can make themselves green through following three ways:

- 1- Processes of creating added value in the level of insurance institute
- 2- System management in whole insurance industry, society and even the global community
- 3- Insurance products (Product Level)



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Being green in the phase of added value needs the redesign of product, eliminating some products, technology shift or inducting a new technology where all these changes have a goal to reduce environmental effects in all steps. As an example, a steel company may install a furnace with a new technology and produce steel with lower energy consumption. In the case of an insurance company, we can consider the new electronically ways of issuing policies which present a same service to the society with lower social and human resource consumption.

In phase of company system management, the established management system must have the ability to create opportunities with the capability of reducing the effect of environmental condition on value creation process. A good example in this field is the plan of responsible care in chemical industry which has established a system to elevate the environmental, health and securities goals. In insurance industry we can refer to guidelines of risk management and relative preventive actions in different industries which lead to a higher environmental security.

The third strategy of being green is related to the products which conclude the following issues itself:

- Making innovations in an insurance product by reconsidering the different aspects of that.
- Developing a new insurance product on the basis of an old model of that.
- Designing a new insurance product in such a way this product can be used in several different times.

## VI. CONCLUSION

Green marketing in insurance companies refers to a kind of bilateral interaction between production and service industries. Green marketing considers the activities of being green in different industries such as insurance and also pay attention to different social activities. The effect of this aspect in green marketing in insurance industry is definitely deeper and more persistent than the other aspects. Insurance companies can prevent many environmental and human disasters by entering the different industries and presenting risk management preventive guidelines. Insurance companies can prevent the spread of economical, social and environmental loss when an accident is occurred. Helping the industries to return to their efficiency and preventing their destruction due to human and environmental disasters will decelerate the environmental resources waste and this is the concept of being social green which is considered in this article.

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# Investigation and analysis of profit and loss of globalized economy

Amin Mirzayi, Elmira Emsia

**Abstract**—The world has been entered into a new era by technological and political evolutions, which quick reduction in intervals and spatial distance, increasingly merging of economical, social and political systems of the world and also stunning growth in production and consumption have come to be considered for its outstanding characteristic. Production, distribution and consumption processes have been changed by these evolutions, and economical and political structures and social relations have been subjected to fundamental changes. The most important aspects of globalization are expanding and deepening interdependence between countries and national economics, integration of national markets and increasing in trades, removing of trade supporting regulations and development of world trade organization. The world economic union's activities of international companies and international economic institutions and IMF form these aspects. Transmission of capitals and funds and certainly labor division in international level will be expanded by removing of many possible trading barriers and with the emerging of globalization of economy which in turn, leads to improved efficiency of international economy. In this paper, we are addressing questions such as, what is global economy? What parts are included? And effects of globalization.

**Keywords**—international trade, international finance, globalization, effects of globalization.

## Introduction

Recently, there have been lots of changes in international economy. The twenty first century undoubtedly would be called unprecedented era of globalization. Signs of globalization can be seen in faster growth in trade, capital flow and FDI towards production. Different countries goods, capital and labor markets are integrated more than before.

With this in mind, interdependency of countries increases and many other countries are increasingly affected by events and policy changes in a country. Also, Institutions strongly make decisions about manufacturing and product development according to global market. Becoming aware of global change depends on moving towards international development. The resulting effects between manufactured resources and consumer preferences and international institutions are discussions of international economy. Also, tries to explain patterns and results of transactions and interactions between different countries' inhabitants such as trading, investment and emigration. The international

economics theory investigates benefits from trade policies directed, in order to regulate payment balances and effects of these policies on welfare of country.

## International trade

Microeconomics of the international includes pure theory of trade and trade policies and International trade discusses mainly on exchanging of goods. As domestic production in a country can not meet the needs of people, that country interests in international trade.

## Main issues in international trade

1. Trade of countries' motives and benefits from trade for countries
2. What effects does it have on income distribution, in case of beneficial trade?
3. Economic trade unions

## History of international trade

From 1950 to 2005, volume of different products in countries all over the world has increased sevenfold; but in the same years, international trade experienced twenty-eight fold in trade. The reasons for bringing the countries to trade has discussed below:

1. Some countries are deprived of natural resources and some other face with abundance of these resources. These countries are able to produce goods and provide to other countries.
2. Some countries have natural resources, but do not have the technology to produce goods. Accordingly, proceed to importing goods.

## Theories about international trade

### Trading based on tradesmen' viewpoint

During the 17<sup>th</sup> and 18<sup>th</sup> centuries, a group of traders, bankers, and state officials have published many articles on support of international trade under economic perspective of

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Mercantilism. This group believes that a country must try to be richer and stronger through more exports over imports and maintains its export surplus as precious metals. Tradesmen evaluate the wealth of a country for the gold they own and think that the government must supervise all economic activities; So that, impose heavy tariffs on good importation that leads to exit of gold from the country.

### **Trading based on Adam Smith' Absolute Advantage Theory**

According to Adam Smith' Theory, Classic Economist, two countries engage in trade as long as they gain benefit from and if trade would be no profitable, they stop trading. According to Adam Smith' Theory, trade between two country is based on absolute advantage. When a country manufactures a product with more efficiency over other country (either has absolute advantage) and manufactures the second product with less efficiency over other country (or has no absolute advantage), Both countries becoming expert through specialization in manufacturing absolute advantage product and then gain interest from exchanging of that product. This leads to increase in total production and global welfare and global economy may enjoy more allocation of labor and specialty under these conditions. In view of the traders, one country can earn profit by cause other countries to lose and in this matter government' supervision on activities must be in great level; But, in view of Adam Smith, all countries can earn profit from trade and believe that the government has no role in economic affairs.

### **Trade based on comparative advantage**

The theory of comparative advantage was presented by Ricardo (classic economist) in 1817. According to this rule, even if one country is less efficient in the production of both goods (no absolute advantage in production of both goods) than the other, both countries will still gain by trading with each other on a basis. The first country become expertise in manufacturing and exporting of a product which has lower rate in lack of absolute advantage (the product which has comparative advantage) and import product which has higher rate in lack of absolute advantage (the product which has lack of comparative advantage).

### **Heckscher–Ohlin theory**

There is an abundance of unskilled labor force in countries like China and India, and there are plenty of capital goods in Japan and Germany. Heckscher–Ohlin discusses effect of plenty in manufacturers on trade and direction of trade and has two definitions. This theorem has presented based on two terms of *Intensity* and *Abundance* of production factor.

### **First definition: comparative abundance of production factors**

Accordingly, e.g., country A has relative abundance of capital over country B; i.e. the ratio of capital to labor in country A is more than the ratio of capital to labor in country B.

### **Second definition: usage intensity of production factors**

This definition refers to usage intensity of production factors in products; e.g., a product like textile uses more labor than capital; so production of textile needs more work. Production of Iron needs more capital than labor, so iron requires capital.

### **Heckscher–Ohlin analysis**

Heckscher–Ohlin were two Swedish economists who proposed an article titled "the effects of foreign trade on the distribution of income" in which the theory can be analyzed into two models; First theorem discusses development manner of trade pattern in every country and second one addresses influence manner of the price of production factors in international trade.

### **Heckscher–Ohlin first theorem (trade pattern)**

Every country exports product that there is need to use relatively abundant and cheap factor in production process, and mutually import product that requires rare and expensive factors in production process.

### **Heckscher–Ohlin second theorem (factor-price equalization)**

Heckscher–Ohlin believes that if first hypothesis to be true, comparative price of production factors would be equal in both countries after trade established. This is because Samuelson proved the factor-price equalization theorem accurately and this theorem is known as Heckscher–Ohlin Samuelson theorem.

### **Modern Theories**

Modern trade theory moves away from the restrictive assumptions of the Heckscher–Ohlin theorem and studies the effects of such factors like technology and scale economies upon trade.

### **International finance**

Payments balance, adjustment policies of payment balance which affects the national income, forms the macroeconomics aspect of international trade that is known as international finance. Foreign Trade involves payments and receipts of funds to foreign currency. In foreign trades, importing countries are compelled pay the costs of goods purchased abroad to exporting currency. So the market will grow.

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**Exchange Rate Importance**

The most important way of connection to foreign economy is through rate of exchange; so from this viewpoint, the rate of exchange and its changes becomes important. Changes in exchange rates will lead to changes in price of goods and services supplied in the market. Exchange fluctuations are important for both producers and consumers.

**Exchange Market**

Economic mutual interactions in these conditions occur only when there is a specific connector between currencies; so that the value of a specified trade can be assessed both sides to their own currencies. This important connector is exchange. In other words, exchange rate is one external currency unit unto internal currency unit. A network of markets and institutes that convert different currencies is typically called exchange market.

**Payments Balance**

Registering of domestic economic trades with foreigners is accomplished through payments balance. International trades includes domestic payments for importations, gifts, investments abroad and on the other hand, involves exports, gifts and foreign investment inside the country. The state keeps its account of payments balance by registering these trades.

**Globalization**

The element of economy has been paid attention by many rhetoricians in globalization process; so that consider it even as prior to the others. Many experts refer the history of economy to few decades ago or even 16<sup>th</sup> century. Some scientists like Brat Swen correlate advent of globalization with coming and growth of capitalism. Great developments in technology and communication fields gradually facilitated integration of local and national economies with global one and connected many economic activities to global network. It can be said that globalization of economy has two aspects that one of them relates to making the international goods and services trade free of restrictions which leads to connections of producers in remote locations. Another aspect includes international capital flow to be free of restrictions. This characteristic in globalization has caused all economic aspects to be merged or connected in worldwide and economic and trade exchanges and interactions globally and unprecedentedly have risen.

**IMF' forecast of countries growth in 2012**

Table (1) has predicted world economic growth based on changes in GDP:

Num	Country	forecast 2012	Forecast revision 2012	Forecast 2013	Forecast revision 2013
1	World	3.5	-1	3.9	-2
2	Developed countries	1.4	=	1.9	-2
3	U.S.A	2	-1	2.3	-1
4	Japan	2.4	+4	1.5	-2
5	Eu	-3	=	0.7	-2
6	Germany	1	+4	1.4	-1
7	France	0.3	-1	0.8	-2
8	Italy	-9.1	=	-3	=
9	Spain	-1.5	+4	-6	-7
10	England	0.2	-6	1.4	-6
11	Canada	2.1	+1	2.2	=
12	Developing countries and emerging economies	5.6	-1	5.9	-2
13	Eastern & Central Eu	1.9	=	2.8	-1
14	Russia	4	=	3.9	-1
15	Asian Developing countries	7.1	-3	7.5	-4
16	China	8	-2	8.5	-3
17	India	6.1	-7	6.5	-7
18	Latin America	3.4	-3	4.2	+1
19	Brazil	2.5	-6	4.6	+5
20	Mexico	3.9	+3	3.6	=
21	Middle East and North Africa	5.5	+1.3	3.7	=
22	Black Africa	5.4	-1	5.3	=
23	South Africa	2.6	-1	3.3	-1

**17 July 2012/ Journal Du Net**

Knight Frank Institute which has been established in 1896 recently has published a report that shows India will make proud by lie in higher economic rank over China, the greatest economy of the world. This report is originally a part of Wealth Report of 2012 that has been provided based on accurate studying on money-creating, economic risks, and economic policies of different global markets. This report has discussed comparison of greatest economies in 2010 and 2050 that accordingly, USA is the best economy in 2010; but India will be the best in 2050. USA would be the third rank of greatest.

1	<b>India</b>	From 1991 that removing the restrictions released India from growth restrictions and its economic windows opened to the global economy, India hasn't been back ward at all. According to prediction of this report, India can reach global economy summit by releasing from current social, political and economical issues	4	<b>Indonesia</b>	This country is one of the world' fast economies in growth and hence will be introduced as 4 <sup>th</sup> great economy in the world by 2050. It would be strange to see the name of Indonesia between economies greatest, but the extent of natural resources and growing economy in this country has created a potential to place itself between greatest with a fast growth rate. Current government has contributed to economic growth through support from private sector and foreign investment. This course will continue by 2050 to reach 6.8 percent growth rate.
2	<b>China</b>	There is no surprise that we see China in second 2050 rank of greatest economies. During two past decades it has experienced an unprecedented growth. It has crossed Japan and by gaining second rank, has jeopardized USA' position and it is expected to overcome USA by 2020. With all these, gradual growth in its economy would be slower than India.	5	<b>Brazil</b>	The 2010 wealth report has predicted Brazil to be 5 <sup>th</sup> great economy. This country has surpassed Britain, 2012 6 <sup>th</sup> great economy and will not reduce its growth rate during future decades. Thank to the plentitude of wealth and natural resources, thriving agriculture, powerful manufacturing and service industries would be able to reach such growth rate rank in future years.
3	<b>USA</b>	Thank to the GDP, USA keeps on being economic superpower through high consumerism, innovative capabilities, and technological powers and also one of three economic superpower in 3 <sup>rd</sup> position.			

6	<b>Nigeria</b>	Sustainable and effective growth rate is occurring for years in this country. Oil industry is one of strength points in this country that includes 30percent of GDP. However, Nigeria seeks to increase share of agriculture and trade in economic growth. Prediction of the 2050 new report shows Nigeria above the South Africa, Africa' current best economy and maintain 6 <sup>th</sup> rank in 2050.	8	<b>Mexico</b>	Perhaps we can consider serious issues like poverty, social instability and economic inequality in this country, but it is still an economic power and has investment of several trillion dollars. Mexico has improved foundation of microeconomics that led to sustainable economic growth, disinflation and income promotion. Currently this country tries to improve infrastructures in which are necessary for production industries growth.
7	<b>Russia</b>	Former superpower and the only balance weight to America have experienced relatively stable growth during past decades. This stability has become stronger through natural resources like Gas, Oil, Coal and precious Metals. Unlike social or political instability seen in this country, there is no sign of instability in economic growth.	9	<b>Egypt</b>	Egypt was a country that once had a centralized economy and gradually tended to market-oriented economy and could benefit from increased foreign investment through several great financial changes and rise its GDP by 5percent. Currently, political and military developments occurring in this country, has made with the trouble of political paralysis and IMF also delays lending funds to it. Although agriculture has high importance in economic growth, production and services also have great role in GDP growth.
10	<b>Japan</b>	The land of the rising sun keep falling down from second rank and by 2050 would be known as 10 <sup>th</sup> great economy. Japan has seen slow growth and recession after 1990 "Lost Decade". Now this country is recovering from last year damages of two natural disasters of earthquake and tsunami which devastated economy and cities and villages. Although there is slowness in economic growth, Japan is one of the critical areas for advanced technological production, automobiles and electronic industries.			

April 12,2012, Hamshahronline

**An overview of best world economic centers:**

**1- London,England: most visited city of the world**

This country has one of the world' highest rate of GDP in urban areas and is home of many of financial institutes, insurance companies, and multinational banks.

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Most of London industries summarizes in Financials, Technology, Private Health Sector, Insurance, Electronics, Media, Digital, Pharmaceutical, Production, Construction, Tourism, Real Estate and even Mode.

London is one of the best places in the world to trade; although it has a bad weather.

According to announced statistics, London is also known as the most visited city around the world due to having the highest number of international tourists.

## **2- New York, USA. The home of Wall Street**

New York has been the most prominent financial center of America for years.

The greatest industries in this country are working in the field of Finance and Services, Printing, Real Estate, Media, Entertainment, Telecommunications, Manufacturing & Commerce.

New York is the home of seized trade opportunities of 1,000 companies that eight of them are top ten securities exchange firms in the world, more than 20 companies are members of the best law firms in America, and more than 200 banks are on the behalf of some great countries.

This city is known as the home of Wall Street and the New York Stock Exchange. This stock exchange is largest one in the world with dollars in flow.

Diverse labor is one of its characteristics which turned this into a safe house for trades.

## **3- Hong Kong: The most unrestricted world economy**

This city has turned into the world' greatest financial center with also greatest .concentration of corporate headquarters in the Asia-Pacific region from only a small fishing village.

By the index of economic freedom, it is known as one of the most unrestricted and free economies in the world.

Hong Kong is also known as the easiest city to increase investment.

Also it has one of the seven greatest stock exchange markets in the world.

It is surprising that GDP has raised 87 times since 1961.

## **Singapore, the busiest port in the world**

Singapore as a small city with limited land and resources is inevitable to communicate with the outside world to

maintain its economy, so much depends on imported goods.

In the past, Singapore had diversified its economy to communicate with various international companies and today gains expertise in many fields such as Electronics, Petroleum, Chemicals, Mechanical Engineering and Biomedical Science.

Singapore is located in southeast Asia that made it is attractive to international trade, especially shipping. Port of Singapore is the busiest port in the world with over a billion tons of annual gross transport.

In addition to all above factors, large population of this country who believe in the work ethics and ordered, make the island to one of the largest financial centers of the world.

## **Tokyo, Japan: advanced transport and communication systems**

For a city that once has been a small fishing village, being one of the cities with the highest living standards in the world is very good.

Another strange thing about this city is overcoming the devastating effects of the 1923 earthquake and the bombing of the Allied forces in World War II.

Today It is a house for big investments of the banks and insurance companies and plus a major center for Electronics, Telecommunications, Printing in Japan.

Another advantage of Tokyo includes communication and advanced transport that made possible travelling to every location as fast as less than an hour.

## **Iran' position in international economy**

Our country due to some political ideologies is a closed economy. The question is that why Iran is in this position despite numerous sources? Most important reasons why this may be the wrong policy authorities, not using of academic elite, inflation, numerous financial corruption and international sanctions against Iran.

## **Globalization effects**

### **A) Negative Effects :**

**1 - Economic Effects:** deep class division is created so that it can be claimed in the world; we are witnessing the actions of a manifest injustice.

**2 – Consuming and Social Effects:** the disappearance of borders and merging the communities from the

economic point of view has led changes in motives , values , criteria and even aspects and consuming tastes of societies. So that many items were subjected as luxuries in classification of goods since long time ago, and their presence or absence could not be determined for a family, currently counts as necessary items and living without them is unimaginable.

**3 - Political Effects:** Today, Global economy has made the political borders not to be bound to geography of earth and many of matters to be resolved at the global level

**4 - Cultural Effects:** One of other primary effects of globalization is remarkable cultural effects; In other words, just as the concept of economic globalization involves the removal of geographical boundaries, cultural barrier, in the sense coming down. Therefore in competition may be one culture is destroyed by another and a society get involved in cultural transformation, and from other hand a culture include other cultures and role-play of new transnational identity.

**5-Competitive Effects:** One of the major destructive effects of globalization in national economies level is loss of microeconomics producers and activists that can not compete in the global dynamic environments because undoubtedly we can say that global competition is without a smallest pity and in competition poor doomed to fail; One of the main causes of mass protests against globalization in this case must be known.

#### B) Positive Effects:

**1 - Economic Effects:** Although globalization has led to a deepening of the international gap between the poor and rich in first global view, but given the fact that many global indicators such as global production, exports and growth has been dramatic. This increase is due to the effects of economic globalization in the form of concepts such as participatory production, utilization of capacity, savings due to production scale, competition, etc.

**2 - Political Effects:** Expansion of the globalization concept requires heavy investment in all competitive aspects. . Initially the developed countries, through understanding this important point, tried to increase their exports by incremental strengthening of themselves. But after a while countries came to this important conclusion that the concept of globalization is applicable precisely, if all world countries take steps in that direction. In other words through just increasing in power of developed countries , globalization of the main objectives will not be achieved , but poor

countries in order to keeping up with other countries should be somewhat universal.

**3 - Cultural Effects:** Unlike someone who believe in cultural imperialism involves the globalization concept, many believe that the desirable process of globalization is not only can remove or transform cultures transformation, but can strengthen cultural subjects. In this perspective and in interaction of different cultures, in addition to the assumption in destroying of one in favor of other, assumption of benefit from each other's strengths and overcome their weaknesses seems more logical. In fact, the interaction between a global and national culture should not necessarily result in evacuating the track for flaunting the other one, but each can play a role in their mission without having adverse effect on the other.

**Other effects:** Due to the requirements of economic globalization and the principles governing it will results below proper effects in international level, but some of its effects on the intensification of globalization are effective and actually speed up the process:

- increasing the quality of products and services,
- reducing the production, transportation, ... costs
- reducing the prices
- rapid growth of technologies
- human genius growth
- determining higher and more desired standards for customer satisfaction
- Achieving customer satisfaction at the level of institutions, organizations, countries, etc.

#### Discussions & Conclusion:

In recent decades, one of the most remarkable developments in the world economy is the incremental integration of national economies into the world economy that it can increase the international trade, globalization of production and the flow of FDI. Generally it can be said that globalization is a general fact that involves different aspects of political, cultural, economical, etc and actually we can consider it as a modern social system that has several functions in different aspects. New world is a world of complex, dynamic, fast with growing knowledge. Markets, products and all international organizations, are numerous and multicultural. World of chaos, uncertain, nonlinear is alternative to the fixed, certain, linear one. We are now growing dependence among individuals, organizations, communities and nations. The success of this condition requires a change in organizational activities and tasks, and how to manage and lead the organization. Only globalization can lead to rapid growth of GDP which causes increase and improvement in economic growth and perception income, standard of

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living, well-being, employment. Of course, it should be considered that intensifying the battle between the poor and rich is the most important and the worst effect of globalization. Multinational corporations have important role in impoverishing the third world further. These countries through preventing the third world countries from achieving productive technologies and lead them towards consumption technologies, establishing branches by joint ventures in assembly industry, monitoring industrial activities of third world, and pulling out the strategic production of industrial societies out of circuit, paralyze their growth and development possibilities. Globalization is a contradictory process that is full of opportunities and risks. It is a mixture of fear and freedoms. The process of compacting the nation-government local communities and also relieving them.

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# Examine challenges in the field of e-commerce and provide solutions to combat sanctions

M. Khademi Aghmashadi ,Z. Taghavi Alavicolaie

**Abstract**— Progress of the Islamic Republic of Iran, which has a particular worldview, is in conflict with the interests of the superpower nations, so enmity with such country cannot be a transient state. In these conditions, Iran that have Single-product economic, should take effective steps towards reducing dependence on oil and develop non-oil export. In this context, one of the most important factors that can have an important role in supporting domestic production is the expansion of electronic exchanges. This paper attempts to examine the challenges in the field of electronic exchanges and in continuing to provide solutions to combat sanctions. In this regard, we will examine the benefits and obstacles of ecommerce and by tests were performed, appropriate solutions' present to achieve it. In this study, obstacles is classified into four categories : 1. Obstacles of technical infrastructure and hardware 2. Obstacles of legal and security infrastructure 3. Obstacles of internet infrastructure 4. Obstacles of human and educational infrastructure and by using descriptive test will examine the hypotheses. Based on the results, one of the main obstacles in the field is security and legal infrastructure obstacles to expand for electronic exchanges.

**Keywords**— Resistive Economy, E-Commerce, Obstacles

## I. INTRODUCTION

**I**N the conditions that the economy of the country is in the growth and development, and each year the volume of the exchange and foreign business are added, use of differed international sanctions from some world powers in order to put pressure on Islamic Republic of Iran caused serious limitations in foreign business relationships. The first result of this sanction is imposing heavy costs to national economy, which made the existing case very hard and even in some cases mi A

Therefore all mechanisms and parts of country like Iran are

designed so that it should be saved against threats and the roads to obtaining the countries aims are paved. The country of Iran which has always been exposed to hostilities and has resisted against them, must be economically appropriate to the situation. In this context, one of the most important factors that can have an important role in supporting domestic production is development of electronic exchanges.

## II. THEORETICAL BASIS OF RESEARCH

### A. Definition of resistive economy

The resistant economy means recognition of pressure areas or in existing conditions ,sanctions and then trying to control and make ineffective in ideal conditions and transformation of this pressure to opportunity ,which for sure and belief and all overall cooperation and use of logical management and is the prerequisite necessity of this subject . The real resistance economy is an active resistance economy and dynamic and not an inactive and close economy so the country should reduce the dependencies and emphasize on internal production advantages and try for self-reliance. (Askari, 2012).

### B. Necessity of resistive economy

- 1) To control a trade and corruption
- 2) Agency of people
- 3) Self-reliance
- 4) Priority
- 5) Resistance culture (Narimani & Asgari ,2012)
- 6) Strategy of import substitution
- 7) Sufficiency in agricultural
- 8) Making culture about benefit of internal production use and strengthening natural production
- 9) Making policies in correction of consumption pattern.
- 10) Increased of the quality and services and reduction of cost of production in competition with foreign production.
- 11) To destroyed poverty roots and social injury by reduction of unemployment statistics.
- 12) Increased in import of technical knowledge and production line and machinery to reduction of

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commodities import.

- 13) Support of monetary and financial and insurance support of production section for movement in internal economy.
- 14) Making a regime predictable and management regime against problem of inflation.
- 15) Increase of non-oil of exports and reduction of rely on oil (Tari & el, 2012).

### C. E-Commerce

In the past, the exchange where performed by face to face of the two sides of trade. During recent decade the business, the business has advanced very much and benefit from this relationship business has expanded rapidly. One can claim or sure that electronic business has removed many limitation of traditional business also the content of business has also changed. This condition is called new economy. And this means economy can have benefits from both globalization business and revolution in information and information technology. In production of this route some factors are very important. The first one is the victory of capitalization after socialism wane. In this process markets moved toward freedom and the capital is more important in countries and economic policies.

The second moving forces the velocity in improvement of IT and tools and software and also considerable reduction in the prices. This factor causes that high percentage the people understanding digital communication concept used the opportunity obtain from this and using internet communicate in the form of standard. Using internet made virtual market became the most important instrument of economy is overseas and full information and without any cost and obtain to some extent. Electronic commerce is business action which is directed electronic instrument and may change and information services to selling or buying production.

The instruments of commerce activity include internet and world wide networks ( Kulatunga ,2008).

in other definition the ecommerce information commodity and services transfer or pay money to electronic tools use of technology to make automatic exchange and business process by selling information and goods online (Dholakia and Kshetri,2004).

Ecommerce with the current form has shaped base of EDI in 1960.Indeed, data electronic exchange is the father of current ecommerce (Dyerson and Barne,2009).

### III. E-COMMERCE MODELS

Rapid growth of ecommerce and development of networks in recent years has opened a new vision of commerce. The

new methods of production, processing and transfer information causes higher performance , efficiency , accuracy increasing in relationship and decreasing cost in organization and firms. This causes commerce is ease and higher competition power in commerce section. These days activities like recognition of business partners , making relationship between sellers and buyers , introduction of new production and new services , reaching to markets and supply the resources and goods by electronic commerce has higher efficiency and lower cost . Which this kind of commerce is possible from different ways that most of them are summarized in table1 (Sanaeyi ,2007).

Table 1: Classification of ecommerce models

	Government	Business	Consumer
Government	G2G <sup>1</sup>	G2B <sup>1</sup>	G2C <sup>1</sup>
Business	B2G <sup>1</sup>	B2B <sup>1</sup>	B2C <sup>1</sup>
Consumer	C2G <sup>1</sup>	C2B <sup>1</sup>	C2C <sup>1</sup>

Among introduced models the main activities are made base on to two areas B2B, B2C. This of course has not meant other models are not important or from ecommerce extension are not important.

### IV. ADVANTAGES OF EXTENDING ELECTRONIC EXCHANGE IN THE CASE OF SANCTION

- 1) Causes increasing in commerce growth income invested
- 2) Making easier multilateral commercial ,industrial and economical contracts
- 3) Using electronic or ecommerce can make the country not meaning two ways bilateral contract possible. This multilateral contract makes sensibility and special sensibility to contracts and causes less extra cost which in bilateral with every country consumed.
- 4) Use of ecommerce may prepare background to correct and real detection of relative advantages that which by knowing of each resource in the country make the priority make the economy of the country grows to improvement.
- 5) Recognition of relative advantages of country causes the foreign sponsors have more tendencies to invest in our country.
- 6) Ecommerce provide suitable development of economic relationship with other countries and gradually provide development in political relationship.
- 7) New commercial opportunities for industries and commercial businesses due to avoiding prejudice and obtaining commercial advantages resulting from talks with governments.

- 8) New job opportunities (new young generation entrepreneurship in long time) will increase.
- 9) Use of ecommerce increases use of resources and making rapidly ecommerce growth and stable development.
- 10) Ecommerce can increase improvement of production level through direct contact, serve technical services and interact with customers.
- 11) To destroyed broker activities to direct contact between suppliers with customers and use of public infrastructure and rapid obtaining to final customers.
- 12) Security in obtaining to import markets due to tariff sustainable increase. The time lost and with help energy sources and environment.
- 13) To prevent time consuming and help to energy sources and environment.
- 14) Causes improvement consumption pattern and consideration to internal production (khanijazeni,2008).

#### V. OBSTACLES OF ECOMMERCE FOR COMBATING SANCTIONS

##### A. *Obstacles of technical infrastructure and hardware*

- Insufficient investment in using ecommerce
- Insufficient and unsuitable accessibility to telecommunication tools
- Deficiency in cheap computers and devices
- Difficulty in updating systems
- Insufficient connected computers to internet
- Technology with low quality

##### B. *Obstacles of legal and security infrastructure*

- Unsuitable law to digital signature
- Unsuitable law about copyright
- security worry
- Danger of losing information
- Not making new laws about correction of ecommerce

##### C. *Obstacles of internet infrastructure*

- Lack of inexpensive access to the Internet
- Low speed internet
- Poor infiltration in credit card
- Unsuitable establishment of digital economy
- Not making risk in private sectors to arrival in ecommerce

##### D. *Obstacles of human and educational infrastructure*

- Building insufficient trust
- Insufficient overall education

- The complexity of understanding the system
- The reduction of independency in ecommerce
- Problems of country to produce knowledge

#### VI. THE RESEARCH MODEL

By considering the theoretical literature of research can be said that the obstacles to development of e-commerce on the resistive economy are:

1. Hardware infrastructure and technical obstacles
2. Legal Infrastructure and security obstacles
3. Internet infrastructure obstacles
4. Human and educational infrastructure obstacles

The conceptual model of the obstacles is presented in Figure 1.



Figure 1: The model of the obstacles to development of e-commerce on the resistive economy

#### VII. RESEARCH METHODS

Research Methods used in this study in terms of time, the survey and its purpose is descriptive. The methodology of this study is as follows:

- 1 - Theoretical basis of research and proposed model
- 2 - Preparation questionnaire to collect data on proposed model and the statistical population
- 3 - Analyze data and identify obstacles to the development of electronic exchanges on the resistive economy
- 4 - Providing Solutions.

#### VIII. STATISTICAL POPULATION

To do this research the considered statistical population,

including experts with the information in the fields of electronic exchanges and ICT and identify 30 people in the statistical population and about the obstacles of e-commerce and propose executive solutions' from the questions were taken.

#### IX. METHODS OF DATA COLLECTION

To collect the necessary data to test the hypothesis and solution, two types of instruments were used. A 23-question questionnaire was designed to identify obstacles for development of e-commerce on the resistive economy; the people of the statistical population have completed it.

#### X. RESEARCH VARIABLES

In this study we have investigated two types of variables: A) Independent variables include: 1- Technical and hardware Infrastructure obstacles 2- Legal and security Infrastructure obstacles 3- Internet infrastructure obstacles 4- Human and educational infrastructure obstacles and B) Dependent variable: Expansion of electronic exchange on the resistive economy.

#### XI. RELIABILITY AND VALIDITY OF RESEARCH

Reliability and validity is two key components of any tool, must be checked. To determine the "validity" of the survey, we used determination of content validity and the questionnaire was authorized to experts and survey validity was confirmed. To determine the "validity" of research, design questionnaire was tested in a pilot sample. Using Cronbach's alpha, reliability of 0.773 was calculated for the study that is in high level. So it can be claimed that the tool has necessary reliability.

#### XII. METHODS OF DATA ANALYSIS

Because of 30 person census and were calculated in the statistical population, and descriptive statistics were used to test hypotheses.

#### XIII. DATA ANALYSIS AND HYPOTHESIS TESTING

##### A. The first hypothesis tests (technical infrastructure and hardware obstacles)

To test this hypothesis, six partial criteria were considered in the questionnaire. These criteria can be seen in Table 2.

Table 2: Calculated data for the first hypothesis

Indicator	Average	Standard deviation	obstacle
Insufficient investment in using ecommerce	3.82	0.79	+
Insufficient and unsuitable accessibility to telecommunication tools	4	0.69	+
Deficiency in cheap computers and devices	3.18	1.14	+
Difficulty in updating systems	3.45	1.01	+
Insufficient connected computers to internet	2.82	1.18	-
Technology with low quality	3.55	1.26	+

Although there were not a sufficient number of connected computers to the Internet rejected but it is not one of the obstacles to the development of e-commerce on the resistive economy, but 3.47 is the average of six indicators, we can conclude the first hypothesis, will be confirmed.

##### B. The second hypothesis tests (the legal structure and security obstacles)

To test this hypothesis, the questionnaire was considered 5 partial criteria. These criteria can be seen in Table 3.

Table 3: Calculated data for the second hypothesis

Indicator	Average	Standard deviation	obstacle
Unsuitable law to digital signature	4.04	0.84	+
Unsuitable law about copyright	4.00	0.87	+
security worry	3.86	0.77	+
Danger of losing information	3.64	1.18	+
Not making new laws about correction of ecommerce	3.59	1.10	+

Average of 5 criteria is 3.82 Thus, we can conclude that the second hypothesis is confirmed.

*C. The third hypothesis tests (internet infrastructure obstacles)*

To test this hypothesis, the questionnaire was considered 5 partial criteria. These criteria can be seen in Table 4.

Table 4: Calculated data for the third hypothesis

indicator	Average	Standard deviation	obstacle
Lack of inexpensive access to the Internet	3.36	1.18	+
Low speed internet	3.27	1.12	+
Poor infiltration in credit card	3.35	0.74	+
Unsuitable establishment of digital economy	3.59	1.14	+
Not making risk in private sectors to arrival in ecommerce	3.2	0.76	+

Average of 5 criteria is 3.35 Thus; we can conclude that the third hypothesis is confirmed.

*D. The fourth hypothesis tests (human and educational infrastructure obstacles)*

To test this hypothesis, the questionnaire was considered 5 partial criteria. These criteria can be seen in Table 5.

Table 5: Calculated data for the fourth hypothesis

Indicator	Average	Standard deviation	obstacle
Insufficient confidence	3.91	0.92	+
Insufficient public education	4.14	0.99	+
The complexity of understanding the system	3.36	0.90	+
The reduction of independency in ecommerce	3.59	1.14	+
Problems of country to produce knowledge	3.82	0.91	+

Average of 5 criteria is 3.76 Thus, we can conclude that the fourth hypothesis is confirmed.

*E. The fifth hypothesis tests (obstacles priority)*

This hypothesis is determined in the following order of priority obstacles

1. Technical and Hardware infrastructure obstacles
2. Legal and security Infrastructure obstacles
3. Internet infrastructure obstacles
4. Human and educational infrastructure obstacles

To test and rank this hypothesis we used the average ranking. Prioritized based on the average of these obstacles are shown in Table 6.

Table 6: obstacles prioritize of the development of e-commerce on the resistive economy

rank	Obstacle	average
1	Legal and security Infrastructure obstacles	3.82
2	Human and educational infrastructure obstacles	3.76
3	Technical and Hardware infrastructure obstacles	3.47
4	Internet infrastructure obstacles	3.35

As can be seen, the priority of priorities of resulted obstacles is differing from the predicted in the fourth hypothesis; so the fourth hypothesis is rejected.

XIV. RECOMMENDED SOLUTION'S TO ELIMINATE OBSTACLES TO ELECTRONIC EXCHANGES ON THE RESISTANCE ECONOMIC DEVELOPMENT

*A. Implementing solutions to eliminate obstacles related to the technical infrastructure and hardware*

- 1) Involvement and investment by government and government organizations involved to determine specific tasks, such as the Ministry of Communications and

- Information Technology and central Bank and ...
- 2) Continually monitor and control the duties performed or not?
  - 3) Developments in telecommunications and investment in both the wireless and wired data transfers and the creation of appropriate communication media in the country
  - 4) To attract foreign investment and removing the monopoly capital
  - 5) Providing easy access fields of computer equipment and IT systems from the government
  - 6) Implementing a comprehensive e-business development program
  - 7) Determine the strategy of government and define the various departments' duties
  - 8) using experts' experiences and practices and developing the necessary for talents

*B. Implementing solutions to eliminate obstacles to legal, security*

- 1) Appropriate legislation by Congress, prepare correct bills by government and centralize e-government in a meta-organization
- 2) Preparing and standardization of rules and regulations
- 3) Taking heavy punishment for violations in this area
- 4) Stable rules and the full implementation of laws designed to reduce risks

*C. Implementing solutions to eliminate problems related to the Internet*

- 1) Investment and creating the necessary technical background and development of the Internet and the availability of high speed Internet for all users
- 2) Becomes cheaper Internet services by telecommunication and related organizations
- 3) Development of wireless technology
- 4) Strengthening and development of the private sector to competition
- 5) Full implementation of electronic Economics and banking

*D. Implementing solutions to eliminate educational, cultural and behavioral obstacles and problems*

- 1) Develop a comprehensive educational program with government intervention
- 2) Advertise the use of e-commerce everyone is simple and economical
- 3) Training required human skills
- 4) Informing and making culture through media
- 5) To build confidence in the community

- 6) Developing and implementing a comprehensive e-commerce Culturalization
- 7) Putting the issue of electronic commerce among students' courses in different levels
- 8) Using Professors and experts to training and Culturalization

## XV. CONCLUSIONS

E-commerce as one of the most important parts originating from the economics of information technology and the importance of achieving the right information is the key to victory in the competition. It should be noted that the existing obstacles and problems to accessibility of e-commerce may be many influence on economic that impaired the resistive economy. Therefore, trying to remove obstacles and problems in the field of e-commerce processes can be improved to provide more favorable conditions. The results of this study coordinate with previous research and indicate the creation of appropriate communication media in the country, Laws and regulations regarding the proper implementation of e-commerce and education and ... Could lead to resistive economy in sanctions conditions.

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# Investigating IP Exchange in the OTC Market of Iran

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**Abstract**— Marketplaces for intellectual properties have been created with the aim of commercializing the ideas and protection of intellectual property rights of individuals and organizations with the technical knowledge. There is the possibility of trading discoveries, inventions, industrial designs and brand names in these markets and if applicable, the transfer of intellectual assets will be done with greater transparency and greater motivation will emerge to create ideas with commercialization capabilities. In this article, a report is presented on the launch of the market of intellectual properties or so-called stock exchange of ideas in the OTC (Over-the-counter) Market of Iran. It also introduces one of the most successful examples of intellectual properties markets in the United States of America named IPXI (Intellectual Property Exchange International) and goals and its various parts are briefly described. It has been trying by reviewing the necessities of setting up of intellectual properties market in Iran and forecasted process of implementation for the assignment of patents in stock exchange, to identify its strengths and weaknesses and provide recommendations for performance improvement in the future.

**Keywords**— Intellectual Property, IP Exchange, IP Market, OTC Market

## I. INTRODUCTION

THE research-scientific findings and innovation play an important role in improving the quality of human life and development of society's welfare and international social economic transformation, but as long as these findings are not applicable, they are not release to the market and not available for the applicants, they won't have enough economic importance, and not only will not compensate the costs of research and production, but also they will not be of use and will not be mass produced.

Markets of intellectual properties provide opportunities to present patents in an integrated market for inventors and owners of the assets. Also the existence of such markets will lead to transparency in the transfer of intellectual properties. However, many intellectual properties markets suffer from lack of transparency in transactions and also lack of liquidity for purchase and sale of intellectual properties [4]. The problems related to lack of transparency include lack of transparency in transactions and difficulty to detect good from bad, and the existence of uncertainty in the patent system [5].

Referred to in Article 17 of fifth development plan Act is that government is authorized to take actions to develop and disseminate technology and support knowledge based companies and in the paragraph "D." of the mentioned article is said that "financial support should be done for the creation and development of exchange of ideas and technology market in order to use scientific capacities in order to meet the needs of industry, agriculture and services." Accordance with the regulations of "Iran OTC intellectual properties market," the owner or owners after pertinent procedures and documentation necessary to establish the authenticity and identity of the owner of the intellectual property, intellectual property registration inquiries through competent authorities and submission of a business plan for a formal valuation attempted to supply intellectual property based on assets recorded in the competent authorities and its handover through Iran OTC market of intellectual property.

Assets tradable on the exchange allow cash transactions, futures contracts and options and other financial instruments. The main contracts traded on the Exchange will be cash transactions. Securities traded on the exchange include patents, trademarks, industrial designs, copyright, and many other items like geographical signs and industrial property.



## II. INTELLECTUAL PROPERTY EXCHANGE INTERNATIONAL

The first Intellectual Property Exchange known as International Exchange IPXI was established in America by the Commercial Bank of Ocean Tomo. The philosophy of foundation of Exchange was price discovery, transactions and information distribution for the owners of intellectual property. By establishing this Exchange, purposes including efficient technology transfer, help in reasonable pricing and based on the market, help to increase transparency in the market of intellectual property and contribution to the intellectual property owners to transfer their intellectual property was being followed.

IPXI international stock exchange through a series of organizations does the task of publishing, selling, trading, arbitrage and related administrative activities related to the ULR (Unit License Right) contracts. The term ULR contract refers to a authorized product that will provide a non-exclusive license to a specific intellectual property about make, use, sell, offer for sale, or importing a unit. Contracts of Unit License Right allow the intellectual property holders to make money more effectively from their inventions. ULR contracts with market transparency, smooth technology transfer and increased efficiency of cost, changed confidential licensing in traditional approach to licensing for a tradable commodity. These contracts reduce greatly legal costs for the buyer and seller of intellectual property.

IPXI adjusts a document. The document must be a valid contract for the transfer and ownership of authorized goods. IPXI registers the transaction in a suitable account for all members. No transaction that results in a change of ownership is a licensed product will not be effective, unless it is registered in the document. All information of parties to the transaction that has been recorded in the document, will remain confidential and will not be made public.

Before the transaction, the buyer should identify that his goal of purchasing a product is to sell it in the future or that there is a possibility of its use by the buyer. If in the future, the goal of buyer for purchasing the product changes, IPXI must be notified.

In Figure 1, the ownership structure of the specialized parent company is presented and in the following the role of each company is mentioned briefly.

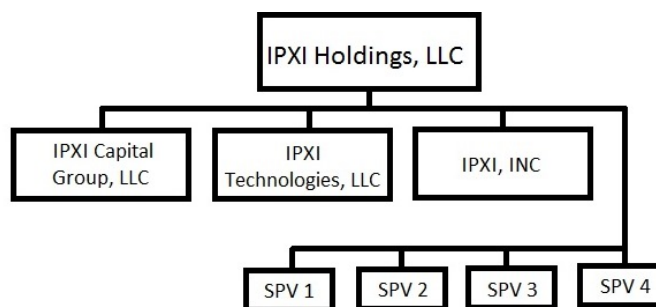


Fig. 1 ownership structure of IPXI. Source: ipxi.com

IPXI Technologies is the IPXI software manufacturing company and one of the subsidiaries of the parent company. It is also the owner of some of intellectual property rights used by IPXI. IPXI Investment Group is fully owned by the specialized parent company of IPXI. In case required, the investment group of IPXI provides the liquidity required to buy shares of intellectual property listed on the exchange as the ULR contract.

Patent owners who wish to accept and list ULR contracts on international stock IPXI have to transfer proprietary intellectual property to Special Purpose Vehicle (SPV). Issuance of any ULR Contracts must be performed by an intermediary institution (Special Purpose Vehicle). For any purchase in IPXI, also the buyer must deliver payment to a third party financial institution (bank agreed). After complete transfer of funds to the bank agreed, the bank will transfer the funds to the seller's account and send a confirmation based on that fund transfer is done to IPXI. After that, IPXI in documents relating to the transaction, change the seller status to debtor and the buyer to the creditor and will deliver an electronic confirmation to the buyer and seller.

Initial supply of ULR contract is done using two methods of sealed and bid proposal in Dutch auction method with a minimum price or based on uncertain demand-based pricing in order to guarantee pricing based on demand. The auction is usually used to determine the price of goods that are difficult to evaluate, especially if they are unique. That is, they are unique in the world and comparing them to other commodity pricing is not available [6]. It should be noted that the auctioneer or auction is only part of the transaction; and transaction success largely depends on what happens before and after the auction [7]. Sales are only limited to known institutions that are known to buy for their personal use or to legal qualified purchaser who experienced transaction of intellectual property or those who are not dependent on others [3].

### III. INTELLECTUAL PROPERTY MARKET OF IRAN

Iran intellectual property stock market also called idea stock, after the increased emphasis on the need for innovation in tools and services in line with fulfillment of the paragraph "d" Article 17 of the Fifth Development Plan, has started working since the winter 2013. In the following, executive procedure of assignment of ` property in the market has been described.

In the first phase, the applicant refers to financing advisor or Investment Company and provides the authentication and originality documents of inventor and patent. Then he will send the supply application and other documents required through the investment adviser or the funds to OTC Market of Iran. That is the principally agreement of Iran supply OTC Committee and supply of intellectual property that is the third phase of preparation of intellectual property which in this phase needs to establish a joint-stock company and transferring intellectual properties supplied to the company.

First phase: Owners of intellectual property securities who want to offer their intellectual property rights arising from intellectual properties, by referring to one of the investment adviser or fund companies, licensed by Securities and Exchange and providing following documents pose the request of offering his invention in the form of a joint stock company with legal personality:

- Identification Papers of Plan Inventor
- Identification papers of the owner of financial rights resulting from the intellectual property (natural or legal person)
- Papers related to registration of Intellectual Property to General Office of Industrial Ownership Registration of Iran

Second stage: an investment advisor or financing company, after receiving these documents, offers the request of the applicant supply along with the documents to Iran OTC Market.

Third stage Step: After receiving request by Iran OTC Market, it is appropriate the following steps be performed and completed by OTC Market of Iran and investment or financing corporate of the applicant:

1. Referring of experts of OTC Market to the website of Industrial Ownership General Office for proving originality

and identity of the patent or Inventor.

2. Presentation of required report about the assessment of merchantability and licenses required for the operation of the project and assessing the maturity level of technology level of supplied plan in the form of a business plan (regarding the plan pilot and its ordinary proceeds) by financing or investment adviser company of the applicant.

3. Offering principal agreement by Iran OTC Committee to financing or investment Adviser Company of the applicant, after receiving the above documents.

4. Registering a new company with legal personality "joint stock" and consistent with "typical OTC statute" with reference to company registration, by the investment adviser or financing company of the applicant and providing full copy of registered documents to OTC Market of Iran.

5. Complete transfer of patent rights to release to the company registered above, through the regulation of document in official document bureau.

6. Valuation of "stock company", in case of supplier wish, can only take place by financing companies, or investment adviser licensed by the Securities and Exchange. Obviously, evaluation reports of securities based on intellectual property is only unheard if it is offered by licensed investment adviser or financing companies having the license of Securities and Exchange Organization.

7. Presentation of official gazette advertisement about the Board of Directors

8. Presenting the document of intellectual ownership of assets transfer set in the official bureau consisting of transfers and related obligations.

9. Release of the company's shares after committee agreement through OTC thirds market of Iran.

10. Notifying the transaction to and industrial property General Office and Companies Registration reference by Iran OTC Market.

Table I, shows the estimation of the turnover of idea in OTC of Iran. The estimates is conducted by the Securities and Exchange Organization of Iran and in the calculations, the approximate value of each industry is equal to one billion rials [1]- [2].

Table I . Estimation of Ideh (idea) turnover on the exchange (unit: billion rials)

Trades type	Commodity	First year		Second year	Third year	Fourth year
		Turnove r size	Value of transactio	Value of transactions	Value of transaction	Value of transactions

			n		s	
Cash transaction s	Patent	960	1920	3150	3480	3480
	Trademarks	1390	700	1150	1260	1450
	Certified industrial designs	375	375	545	600	650
	Compiling and publishing Certificate	-	-	-	-	-
Derivatives transaction s	-	-	-	-	-	-

#### IV. CONCLUSION

Although creating market for intellectual property cause support of holders of knowledge of technology and invention patent for intellectual valuation and facilitation of the transfer of technology, but lack of the specialized processes and precise implementation procedures prohibit the success of this project ultimately. At reviews conducted, one of the plan flaws is the necessity of company to register for transferring an intellectual property in OTC Market. It's not common elsewhere in the world markets, intellectual property and patents, in addition to the extra steps in the patent handover process, causes an increase in abuse and registration of superficial companies. The lack of expertise procedure and existing legal damage can spoil researchers insurance to existing processes. It is also necessary to take action to complement the information provided about the intellectual property market and its more introductions.

Having no background or less importance of intellectual property rights in Iran than many countries in the world in past few years, leads to an inability to evaluate plans by government agencies and lack of professional organizations for validation and evaluation. Also, in case of disputes, there are no professional and special bodies related to the investigation of violations of intellectual property rights and the procedure is also ambiguous.

Despite all the weaknesses, there is the hope that by rectifying them and reforming the practice, a step is taken closer to the success of intellectual property market of Iran.

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