Human Development: Its Position in Iran’s Economy and its Role in Realization of the Knowledge-Based Economy

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ABSTRACT

Facing with knowledge-based economy and its upcoming threads and opportunities in Iran, choosing an appropriate strategy regarding its deal with the knowledge-based economy is an issue of great concern for the country's economy. Realization of a knowledge-based economy may be investigated from different perspectives. One the areas of concern, which is emphasized in the current study, is the relation between human development and its affecting channels on the realization of the knowledge-based economy. Human development comprises causal relations with institutions of education, health and culture. Therefore, understanding and explaining its affecting factors require applying a theoretical framework with potentials for institutional analysis. Owing to this fact, the present study uses institutional economics as its theoretical framework, employing descriptive-analytical method for data analysis. Studies suggest that: 1) knowledge-based economy needs considerable supply and demand of knowledge added to educated and skilled people to produce and apply a well-disciplined knowledge who are the key factors in knowledge-based economy. 2) Human development, among other prerequisites for the realization of the knowledge-based economy, plays an important role. 3) Emphasized skills during an era of the knowledge-based economy are all related to human potentials and abilities. Hence, knowledge-based economy relies on the presence of scientific and functional opportunities for human creativity, work and development. Also, high degree of human development alone is not enough to make development since it is a multidimensional process and human development is just one, of course an important one of them.


1. INTRODUCTION

Commonly, a gap between developed and non-developed countries is one of the important subjects of debate among economic, social and political circles. The gap, appeared since the industrial revolution, was intensified during the second wave of the revolution. Now, we are witnessing a third wave of revolution which is called information age, wisdom age, age of service and age of weightless economy. Hence, if we cannot adopt ourselves with its changes, we will straggle far behind. In this production era, knowledge distribution and use play significant role in economic activities. The question is that: with regard to occurred development, how can one remove the gap between developed and non-developed countries? Toffler suggests that: like significant differences of industrial revolution compared with agrarian economy outcomes, Wealth Entrepreneur System and unfinished under developing revolution would bring third wave of outcomes which is like feast against the sod with regard to the past. In this economic system, added to monetary capital, human and non-monetary resources are also produced (Toffler, 2006).

Knowledge productivity is increasing. Since human is the one who produce knowledge, in this era, human becomes increasingly important. Considering the development of the knowledge-based economy, if we can take the advantages of potentials of the current era, which have made it possible for non-developed countries to leap, we can even compensate for stragglage caused by industrial revolution (Momeni et al., 2012).

This study strives to find answer for these questions: what is the role of human development in realization of the knowledge-based economy? Also, what are the ways for human development to realize the knowledge-based economy?

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Knowledge

“Alan Burton-Jones (1999) defines knowledge as ‘the cumulative stock of information and skills derived from use of information by the recipient’ (Trewin, 2002: 1).

As defined, information makes the basis of knowledge. “Knowledge does not simply consist of information or ideas that can be written down and transmitted in one medium or another, so called “codified” knowledge. It also incorporates understanding of a more tacit nature, which is more difficult to acquire and slower to diffuse. By its very nature, tacit knowledge is often the basis of competitive advantage.” (Coates & Warwick, 1999: 12) It should be noted that, Knowledge is not just implicit yet the great part of it is tacit and implicit. “The Analysis and Background report recognizes the importance of non-codified or tacit knowledge and the difficulties in transferring it. Indeed, it is precisely the difficulties in transferring a company’s tacit knowledge base embedded in its staff that can be a basis for the company’s competitive advantage.” (Stiglitz, 1999: 40) Encoding is actual embodiment of personal and organizational knowledge in frames that facilitates access to knowledge for all people in need.

1.1. Knowledge-based Economy

Organization for Economic Cooperation and Development (OECD) first defined the knowledge-based economy as: “Knowledge based economies” - economies which are directly based on the production, distribution and use of knowledge and information.” (OECD, 1996: 7) according to Coates David & Ken Warwick: in a knowledge-based economy all sectors (service, agriculture, and industry) are knowledge-based. Knowledge plays the most significant role in increasing productivity and resulting economic growth. In this economic pattern, sole knowledge production is not enough for economic growth; rather, knowledge distribution and employing produced knowledge play important roles in economic growth.

Some developing societies, such as Korea, using created opportunities of the knowledge-based economy have been able to make significant progress. Indeed, knowledge has always had a significant role in economic growth and development of developing countries. Although, dominant atmosphere in developing countries has been emphasis and attention to physical aspects of development and ignoring non-physical aspects of economic, such as knowledge. {6} “For many years the received wisdom in economic development focused on building infrastructure and factories. Government officials could proudly show these constructions to visiting economists as the tangible evidence of development. The focus was on the "weighty economy" - if we use the metaphor of knowledge as the basis for the "weightless economy". We now see this strategy as being seriously incomplete - indeed as only focusing on the "easy part" of development.” (Stiglitz, 1999: 38)

according to what Stiglitz believes, capital accumulation is an easy part while filling the gap of knowledge is, in fact, a difficult and critical task in making development. Thus, considering the fact that we are living in the age of knowledge-based economy, one of the necessary steps to achieve development is paying attention to knowledge, how it is produced and the way it is used.

1.2. Institution

In institutionalism view, institution is the most important tool for explaining economic phenomena and their causal relationships. According to North: Institutions are the rules of the game in a society or, more formally, are the humanly devised constraints that shape human interaction.( North, 1990:3). {8} The major role of institutions in a society is to reduce uncertainty by establishing a stable structure to human interaction.( North, 1990:6), institutions define and limit the set of choices of individuals. Institutions include any form of constraint that human beings devise to shape human interaction (North, 1990: 4).

“Institutions are rules or humanly devised constraints that shape human interaction.” Due to limited mental capacity and deficit knowledge, human is faced with lack of confidence. So, they set the rules and norms in order to reduce the amount of risks and uncertainties. These very rules and norms makes up an institution. People can make choices, decide and act within these institutional frameworks. Therefore, institutions are directly involved in individuals’ decision making process.

1.3. Human Capital

In 1960, Theodore Schultz introduced his theory of human capital. “Human capital includes education, skills, and professions; in general, a set of factors that leads to improved quality of human resources. These factors develop human productive capacities which will increase labor efficiency. Through increasing useful knowledge and promoting health, increased capacity will provide grounds for human creativity, strength and skill. Investment on human resources, in addition to formal education, includes any kind of skill and profession disregarding its source. Educations that somehow provide social health or learning by doing educations are an important parts of these investment” (Schultz, 1961). The term human capital formation and accumulation governs “the process of gathering
and increasing the numbers of people with technical skills, education, and experience and their existence is important for economic and political development.” As a result, human capital formation is accompanied with investing on human education and developing creativity and inner potentials (Ghare Baghian, 1995, P: 656).

The concept of human capital is regarded as a step forward to its previous developing views. Because, it opens up the narrow initial view, emphasizing only on physical force of production and development process while considering human as an integrated production factor which is interchangeable with other factors. It focuses on physical capacities, scientific, rational and creative abilities of human. Yet, the theory still gave priority to productive abilities of human and looked upon man as a tool for development rather than its object. In any way, introducing human capital view provided the ground for deeper insight toward human and his status from developmental perspective.

1.4. Human Development

Before 1980s, human was only regarded as a tool for growth and production. Since 1980s, human development has been at the center of attention (Sen; 1981, 1983, 1985). During 1980s, Amartya Sen regarded lack of concern to people’s capabilities and deserve, and paying excessive attention to economic growth and national product as an area of weakness in traditional economic development. Thus, toward the end of this decade, the pattern of basic needs was formed by Rawls (Griffin and Night, 1989). In 1990, Mahbub al-haq stated that: development has long been regarded as GDP growth, while economic growth is a necessary but not sufficient condition for economic development. In this process, quality is as important as quantity. Man should be at center of development striving to reach the main goals such as fundamental poverty reduction and having equal economic opportunities (Griffin & McKinley, 1994).

Therefore, it is clear that human development seeks to improve the quality of life. This attitude gives more concern to human capabilities and their way of living. So, a new attitude is formed with approach to poverty alleviation and meets the basic needs of any developmental process. As Todaro and Smith argue: “Resolving problems to achieve development is a complicated task. Increasing national production, raising levels of living, and promoting widespread employment opportunities are all as much a function of the local history, expectations, values, incentives, attitudes and beliefs, and institutional and power structure of both the domestic and the global society as they are the direct outcomes of the manipulation of strategic economic variables such as savings, investment, product and factor prices, and foreign-exchange rates (Todaro & Smith, 2011: 13) therefore “Development as the sustained elevation of an entire society and social system toward a "better" or "more humane" life.” (Todaro & Smith, 2011: 20)

“Development economics, to a greater extent than traditional neoclassical economics or even political economy, must be concerned with the economic, cultural, and political requirements for effecting rapid structural and institutional transformations of entire societies in a manner that will most efficiently bring the fruits of economic progress to the broadest segments of their populations. It must focus on the mechanisms that keep families, regions, and even entire nations in poverty traps, in which past poverty causes future poverty, and on the most effective strategies for breaking out of these traps.” (Todaro & Smith, 2011: 8)

To this end, the concept of human development is introduced as a process. So the theory of human development appeared with a basic premise that income is not all in a human life and human progress may not be measured only by per capita income.

‘Human capital’ relating to broadening the account of ‘productive resources’ is certainly a wise move but it needs supplementation. Because, as Sen (1999) points out, “human beings are not merely means of production, but also the end of the exercise”.

Human capital tends to entail creativity, innovation, productivity in light of increasing knowledge and mastering work skills while human development refers to broadening the range of human alternatives. In fact, human capital, as a social process, paves the way to realize human development since creativity and efficiency broaden the range of available options. “Human development is a process of enlarging people’s choices. The most critical ones are to lead a long and healthy life, to be educated and to enjoy a decent standard of living. Additional choices include political freedom, guaranteed human rights and self-respect what Adam Smith called the ability to mix with others without being “ashamed to appear in public.” (UNDP, 2010: 24)

Based on human development approach, human status has reached its highest position throughout human history. So human beings are no longer means of production for the man has gained his importance through being the goal in a developmental process. In fact “Human development is a very broad notion, defined as improving the choices of individuals so as to enable them to lead longer, healthier, and fuller lives. It encompasses far more than the accumulation of stocks of human capital” (Tavneet, 2011: 506 ).
In this way, human development widens the range of opportunities and the scope of human options. It also fosters and realizes features like long life, health, working knowledge and skill, creativity and innovation. “Human beings are not only the most important means of social achievement, they are also its profoundest end.” (Sen, 1998: 734)

Human development approach states that community development cannot be measured only by per capita income. Hence, it also needs to train and develop human capacities and talents in addition to reach to higher levels of income so as to have a better life. Generally, intellectual and value-based basis of human development discussion is considering the key role and status of human in a developmental process. In other words, the question of “for whom to develop?” is raised in response to the idea of human development.

Human development is the ultimate objective of economic development and also a means for promoting development (Griffin, 1994: 21). Therefore, in addition to being an objective of development, human development is the best means to reach development, as well.

In fact, the goal of development is not merely to increase production, but rather to increase capabilities of people to lead full, productive, satisfying lives.

1.5. Capability Approach

In human development discussions, capability is one of the key concepts. The concept was initially introduced by Sen in 1980 (Sen; 1981, 1983, 1985). Sen employed the concept as a criterion reinforcing human right and freedom while weakening environmental constraints, ignorance and different conditions that limits human right to choose.

Capability means what an individual is able to do. Indeed, it refers to conditions that offer different options to choose. As defined, it is clear that freedom of choices is meaningful when there are different options for human being to choose among them.

Unlike other schools of thought based upon desirability or resources, capability approaches assess advantages of each person according to his ability to do activities that he considers them valuable. The core focus of capability approach is on a real individual freedom. Freedom respects us through setting us free to determine what we want, what is valuable to us, and what we finally choose. Thus, the concept of capability is so much related to opportunistic aspect of freedom in term of inclusive opportunities (Sen, 2009). A most significant point which is referred to in this theory is that freedom without the ability to use it, is a meaningless concept and it cannot affect the improvement of human life.

Regarding the link between human capital and human capability, Sen argues:

“The literature on human capital tends to concentrate on the agency of human beings in augmenting production possibilities. The perspective of human capability focuses, on the other hand, on the ability - the substantive freedom- of people to lead the lives they have reason to value and to enhance the real choices they have.” (Sen, 1999: 293)

Capability approach is based on the idea that man is no more seen as means of production, rather concentrate on a human life at its highest manly level.

Capability approach focuses on human life not only on some individual welfare objectives, such as income or property owned by a person, often looks at it as a main criterion of success. However, the approach implies getting away from means of living and gives more concern to actual life opportunities. This also helps to distance from means-based evaluative approaches (Sen, 2009).

2. Research Problem

Iran is a developing country; the main concern in these countries is to achieve development. Facing with knowledge-based economy and its associated threads and opportunities in Iran (Momeni et al., 2012), the main issue a head of Iran’s economy is how to encounter with the knowledge-based economy because human development is one of the influencing factors and also one of the main aspects of achieving development. In the era of knowledge based economy, knowledge is the most significant input to be produced while human is the producer of that knowledge. Therefore, the role of human is getting increasingly important compared with the past. Although in an era of knowledge-based economy more concern is given to development, statistics, as shown below, are indicative of unfavorable condition for human development and lack of attention to it in Iran.

Human development is one of the most significant prerequisites of economic development. However, many developing countries, like Iran, are far away from human development. With regard to this problem, we are going to investigate the role of human development in realization of the knowledge-based economy.
Table 1. Human Development Index ranking of Iran during 1991 to 2011

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<tr>
<td>Ranking</td>
<td>92</td>
<td>90</td>
<td>103</td>
<td>86</td>
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<tr>
<td>Ranking</td>
<td>90</td>
<td>98</td>
<td>106</td>
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3. Research Questions and Research Method

Based on the research problem, the present study poses four questions to be answered.

3.1. What is the role human development in realization of the knowledge-based economy?

3.2. What are the ways for human development to realize the knowledge-based economy?

Descriptive-analytic method of data analysis is employed as a research method in this study. Based on existing theories of the era of the knowledge-based economy, it determines the role and status of human development. The present research is based on institutional economic framework and achievements. In doing so, the emphasis is on studying channels influencing human development in order to realize the knowledge-based economy. Human development comprises causal relations with institutions of education, health and culture. Therefore, understanding and explaining its affecting factors require applying a theoretical framework with potentials for institutional analysis. To do so, it is necessary to pay attention to various institutions, like educational institution, and modify them (if necessary) so as to achieve development, more quickly.

4. LITERATURE REVIEW

<table>
<thead>
<tr>
<th>Title</th>
<th>year</th>
<th>Writer</th>
<th>Methodology</th>
<th>Results</th>
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<tr>
<td>1 The Economics of The Knowledge Driven Economy</td>
<td>1999</td>
<td>Stiglitz</td>
<td>Institutionalism</td>
<td>Cultural institutions play an essential role in the process of development and changing in cultural institutions should accompany the new knowledge-based economy.</td>
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<td>2 Implementing Human Development Strategy</td>
<td>1994</td>
<td>Griffin &amp; McKinley</td>
<td>Institutionalism</td>
<td>Human development must be accompanying participatory development. Development is for the people and should be achieved by the people.</td>
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<td>3 Economic development and social opportunity</td>
<td>1995</td>
<td>Dreze &amp; Sen</td>
<td>Institutionalism</td>
<td>The success of development programs cannot be judged merely in terms of their effects on incomes and outputs, and must, at a basic level, focus on the lives that people can lead.</td>
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<tr>
<td>4 Beyond the Crisis</td>
<td>1999</td>
<td>Sen</td>
<td>Institutionalism</td>
<td>Major part of the success of East and South East Asia caused by using the different and complimentary institutions, particularly utilizing human development.</td>
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<tr>
<td>5 Development as Freedom</td>
<td>1999</td>
<td>Sen</td>
<td>Institutionalism</td>
<td>Various institutions involved in the development process. The formation of values and abilities is a Part of development process that should be considered in addition to functioning markets and other institutions.</td>
</tr>
<tr>
<td>6 Education in the Learning Economy: a European perspective</td>
<td>2008</td>
<td>Lundvall et al</td>
<td>Institutionalism</td>
<td>The education system has a key role to play in the learning economy. Educational principles and cultures focusing on interdisciplinary collaboration and engagement with real-life problems are needed to prepare people for flexible and innovative participation in the economy and society.</td>
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<tr>
<td>7 Paths to Success: The Relationship Between Human Development and Economic Growth</td>
<td>2011</td>
<td>Tavneet Suri et al</td>
<td>Panel Data</td>
<td>HD levels are important for determining growth trajectories and that policies to improve HD must precede or at least complement growth-oriented policies if growth is to be accelerated and sustainable.</td>
</tr>
<tr>
<td>8 Primary Education and the Future Development of Iranian Community</td>
<td>2012</td>
<td>Azimi</td>
<td>Institutionalism</td>
<td>Contributing to the cultural change is the most important role of basic education in developing countries.</td>
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</table>
6. The Importance of the Knowledge-Based Economy

In the era of the knowledge-based economy, knowledge as the most important production factor is associated with other factors. In this era, the share of physical material in the production of knowledge-based stuff is dramatically decreasing, the importance of knowledge and innovation is rising and it plays an important role in creating added value. Despite limited natural resources, Eastern Asian countries have experienced tremendous growth rate by benefiting from production pattern of the knowledge-based economy. Due to relative decrease in prices of raw material from total added value, developing countries, with emphasis on natural resources would not be able to achieve considerable growth. These countries would be able to make up their backwardness through using growth opportunities made available to them by the knowledge-based economy. Regardless of the knowledge-based economy, international inequalities of the past will increase with more pace and depth.

7. Features of the Knowledge-Based Economy

Knowledge-based economy features many characteristics. Here, we refer to those kinds of characteristics that are in line with the objectives of the present study.

1. The role of knowledge and innovation as a key production factor: in the knowledge-based economy, knowledge is regarded as the most important factor of production and added value creation. Knowledge, in this economy is the main stimulus for growth, creating wealth and employment in all industries with high and medium technology. The economy uses knowledge more than traditional elements, including work force, capital, and added value. Now a days, according to performed studies, it may be said that:

“It is estimated that more than 50 per cent of Gross Domestic Product (GDP) in the major OECD economies is now knowledge-based.” (OECD, 1996: 9)

In the era of the knowledge-based economy, knowledge as the most important production factor is associated with other factors. In this era, due to the increased share of knowledge and innovation in production and added value creation, the share of raw material in created added value has tremendously decreased. In producing computer software or other kinds of knowledge-based products, small amounts of raw material is used since it is just knowledge and innovation which ends in production of the software. Knowledge, as a production factor, features special characteristics. One of these features is abundance. However, the main feature of human capital, as the most important production factor during first and second waves of industrial revolution, was its scarcity. In this regard, natural resources have a feature in common with physical capital. Viewing these characteristics of knowledge, Toffler argues that: an outstanding difference between oil and knowledge is that the former will decrease by wider usage yet the latter becomes fresher through wider circulation. This feature alone is the biggest obstacle in the way of economic growth at the present time. It is no more possible to consider economy as a science for proper utilization of scarce resources. Knowledge is an infinite and unlimited source (Toffler, 2006).

2. Importance of human: as explained before, the knowledge-based revolution primarily relies on the use of ideas with less emphasis on physical resources. In this economy, knowledge, as the most significant production factor, is developed and applied by new methods. Also, production cycles are shortened in duration with the upmost need for creativity and innovation (Emad Zade, 2009:43). Therefore, in order to realize the knowledge-based economy, it seems necessary to pay attention to development of human resources since it is the heart of human creativity and innovation.

3. Human capabilities are function of the level of human development, thus human development is becoming important.

As far as knowledge is product of human intellectual effort, capabilities and effective abilities in producing knowledge and creativity, human status in the production process has raised up to its highest level throughout the history of economics. Knowledge-based economy is basically relied on application of ideas with less attention to users’ physical abilities. It is evident that human is the producer of ideas so we need developed peoples for innovation. Thus, in this economic system, human development is of utmost importance, because knowledge production requires specific culture and thought which produced by human development.

“as soon as wisdom enters production function, one implication is that human status has raised to its highest position throughout man’s history which means, due to multidimensional nature of human, his weight and share of physical ability in creating new added value tends toward zero, while the share of his mental abilities are tending toward hundred. In such a condition, it is natural to see that weight and position of non-economic factors affecting economic performance increase significantly. It is because the share of cultural, social and political elements in motivating people during productivity revolution and
Since the emergence of the knowledge-based economy, it was supposed that knowledge is produced only in laboratories. But now, in the era of the knowledge-based economy, knowledge is produced via circulating information. Consequently, all those involved in the use of information can also play a role in the process of knowledge production. Their ability to produce knowledge is relative to the level of human development. Viewing from intertwined aspect of science and practice, the subject of knowledge-based economy is tied to human development, as well.

8. Role of Human Development in Realization of the Knowledge-Based Economy in Iran

In relation to realization of the knowledge-based economy, the most important factors include human, his knowledge and skills. All knowledge production, distribution and application processes are performed by human beings. So man plays a key role in realization of the knowledge-based economy. “Once again, Japan’s development experience proved the fact that actual meaning of development is to be found in human thoughts and characters. Without human growth, economic, industrial and social development would not be possible. Development of opportunities and economic growth, in any society, depends to a large scale on prosperity and optimal guiding of all people of the society” (Sarkar Arani, 2004: 97).

Knowledge-based economy necessitates knowledge supply and demand so educated and skilled people capable of creating and applying knowledge are the key factors to this economy. Having said that, realization of the knowledge-based economy requires the realization of both supply and demand dimensions; whenever knowledge is supplied, the ways of handling it should be taught, as well. Following the preparation of the ground for human development, creative and innovative people should be trained to make innovation and produce knowledge which result, in parts, to successful knowledge-based economy. “Learning new skills demanded by new jobs requires a scientific and technological basis and also a set of social skills such as problem solving, flexibility, agility, innovation, collaboration and teamwork, how to learn, and entrepreneurship” (Drakseler, 2006). It is worth noting that wisdom era is not just looking forward elitism, however; they are the main driving force. Yet, all people should enhance their most manly feature, i.e. production of thought and idea (Chaharband & Momeni, 2010:29).

On the other hand, i.e. economically, demanding knowledge-based product needs high levels of knowledge. In general, both from energy consumption and energy production aspects, implicit knowledge production and personal knowledge needs people with high levels of knowledge. Generally, both from power consumption and from tacit knowledge energy production requires people with high levels of income. “Wisdom-based economy looks for knowledgeable customers who basically choose according to knowledge and cognition. This economy requires producers who choose institutions as one of the factors determining their success” (the same: 29)

The main characteristics of the technology revolution are not only centrality of knowledge and information, but also application of them in production, distribution and consumption. In addition to manufacturing, due to having high technology, consuming knowledge-based products usually needs especial training. Therefore, in terms of consumption and demand, again education and human development in the era of the knowledge-based economy has become so much centralized.

According to Schultz “now a days, considering the quality of people and knowledge is a fundamental principle and an undeniable necessity which refers to Marshall quote that knowledge is the most important driving factor” (Schultz, 1992:42). In the era of the knowledge-based economy, human has become the center of focus. Hence, society should be flourished with specially trained people having potential skills and capabilities in order to use their knowledge and insight in association with social and economic development. Paving a new way, in the knowledge-based economy, is not possible without new coming people (Momeni & Chaharband, 2010: 31)

Therefore, in order to realize the knowledge-based economy there seems to be necessary to make human development. Through promoting human development, we are dealing with healthy, creative and skilled people with rich culture. So people can be made aware to make use of their constructive contribution by improving human development. Participation in the modern technological world requires high levels of scientific and technological
understanding. In this regard, Amartya Sen believes that an appropriate approach to development cannot actually rely on those who are in power. The circle should be wider; the need for public participation is not just nonsense piety. In fact, the idea of development cannot be separated from public participation (Amartya Sen, 1999). Knowledge flows from other processes to the channel of knowledge production. Using knowledge makes its fresher and producing new knowledge in this process leads in increased productivity. Indeed, this process makes knowledge implicit in order to be effective in the process of knowledge production. As a result, the better trained and more developed workforce, the more is their contribution in making knowledge implicit. Public participation is therefore crucial in realizing development. In developing countries, although facing with great challenges, it becomes even more important. Since being dependent to developed countries before, developing countries should now consider the fact that investing in human capital may account for new opportunities in new era so as not to be dependent to other countries any more. In case of seriously following human development strategy, human capital would prove itself as the main relative advantage of the country. Human capital formation may change the main relative advantage of a country from unskilled to skilled activities (Griffin & MC Kenely, 1994). Emphasized skills in the era of the knowledge and the way to apply it. In the emerging information society, a large and institutionalized production capacity and knowledge application, that is: Knowledge, as a key production factor, is not rare in the knowledge-based economy. Knowledge flows from other processes to the channel of knowledge production. Computer literacy and access to network facilities tend to become more important than literacy in the traditional sense. Although the knowledge-based economy is affected by the increasing use of information technologies, it is not synonymous with the information society. The knowledge-based economy is characterized by

9. Channels Influencing Human Development and Realization of the Knowledge-Based Economy
Knowledge, as a key production factor, is not rare in the knowledge-based economy. What limits countries ability in reaching economic growth are institutionalized production capacity and knowledge application, that is:

1- innovation 2- learning capacity 3- flexibility 4- believe in science

9.1. innovation
Innovation is a key element of progress in the era of the knowledge-based economy. “Lack of innovation is a key factor contributing to low levels of economic growth in developing countries. As long as, innovation, education of science and knowledge, and the level of professional skills have not been promoted in these countries, productivity, labor efficiency and capital would remain low and declines economic growth. The main idea of innovation is based upon the point that innovation leads to increased productivity and economic growth by increasing individual capacity in the end. What is more, innovation helps to increase the productivity of physical capital by using human capital. In order to promote human capital, it is necessary to put emphasis on innovation and human capital” (Rabiee, 2010: 125-126). One of the major factors playing an important role in the economic development is to take part in global competition and to increase competition ability. During the industrial revolution, the competition was on the price and quality of goods. But in the era of the knowledge-based economy, the main focus is on innovation to create products with new technologies. Accordingly, human development and training innovative work force will increase innovation capacity and competitiveness, thus provides the ground for realization of the knowledge-based economy.

9.2. Learning Capacity
For the purpose of realizing the knowledge-based economy, with regard to accelerating changes, work force training should constantly continue to prepare them with the new knowledge and the way to apply it. “While information technologies may be moving the border between tacit and codified knowledge, they are also increasing the importance of acquiring a range of skills or types of knowledge. In the emerging information society, a large and growing proportion of the labor force is engaged in handling information as opposed to more tangible factors of production. Computer literacy and access to network facilities tend to become more important than literacy in the traditional sense. Although the knowledge-based economy is affected by the increasing use of information technologies, it is not synonymous with the information society. The knowledge-based economy is characterized by
the need for continuous learning of both codified information and the competencies to use this information.” (OECD, 1996: 13) by increased learning in the knowledge-based economy, we do not mean more theorizing, rather; the purpose is to use further more applied knowledge. “Knowledge is best acquired not by passive rote memorization but by the active involvement of the learner. Learning is by doing, not by watching or memorizing. To foster the active involvement of the learner, the motivation should at best be intrinsic to the activity, not a super-added carrot or stick.” (Stiglitz, 1999: 40)

In the knowledge-based economy, individuals should increase their learning capacity. A proper basic training through development of basic skills for teaching and learning is associated with increased human capital and promotion of human development, as well as increased learning capacity. In this way, it helps realizing the knowledge-based economy.

9.3. Flexibility

Theoretical effort and historical-experimental studies of theorist has shown that the level of success in any society is amazingly relative to communities’ strength and flexibility to demonstrate their thoughtful action in a proper time in response to society changes. One important phenomenon that has been introduced since the first wave of industrial revolution and has found unprecedented dimensions by the wisdom revolution is accelerated growth of scientific and technical achievements that has never happened before, in such a way that according to some estimations, in the current situation the amount of created data in every six month is parallel to all produced information from the beginning of human civilization till the end of the twentieth century (Momenni, 2010: 265). Technology change is one of the most known factors of social-institutional changes which alter the whole system of social life.

In the era of the knowledge-based economy organizations are forced to constantly update their product and connections. Customers’ needs and demands, financial requirements and forces affecting markets are changing with increasing pace (Toffler, 2006). Instabilities of the current age compel organizations and managers to adopt themselves with time. In accordance to this, if managers and community labors be prepared with high levels of knowledge, they can match themselves with global changes very quickly. Here again, human capital and above that, having high levels of human development seems to be necessary for the realization of the knowledge-based economy.

9.4. Believe in Science

Believe in science refers to dominance of knowledge and scientific rules in a process of choose and act in all daily activities, whether personal or social. At first, you may think that human has passed the stage long ago. But, it is not the case. In any society, even developed ones, there is a long list of rivals that act as a reference group in the process of choose and act (Toffler, 2006). Thus, it still needs careful investigations. “According to India’s first prime minister, Jawaharlal Nehru, what underdeveloped nations need is 'a scientific and technological society. It employs new techniques whether it is in the farm, in the factory or in transport. Modern technique is not a matter of just getting a tool and using it. Modern technique follows modern thinking. You can’t get hold of a modern tool and have an ancient mind. It won’t work’. The quest for rationality implies that opinions about economic strategies and policies should be logically valid inferences rooted as deeply as possible in knowledge of relevant facts.” (Todaro, 1997: 113)

Figure 2: Human Development and channels of influence in the knowledge-based economy
Believe in science can be institutionalized in individuals of a society by educating people. Indeed, promoting human development through institutionalization believe in science can leads to the realization of the knowledge-based economy.

10. Conclusion

Given that the world is in transition to the knowledge-based economy, knowledge and information play key role in growth and development of societies. As far as knowledge is product of human intellectual effort, his capabilities and effective abilities in producing knowledge and creativity, human status in the production process has raised up to its highest level throughout the history of economics. Knowledge-based economy is basically relied on application of ideas with less attention to users’ physical abilities. Accordingly, finding the ways by which one can reaches to knowledge and information and changes traditional economy to the knowledge-based economy is vital for the societies. It is evident that human is the producer of ideas and we need developed human to have innovation. Thus, in this economy, human development becomes considerably important. Owing to the fact that, knowledge necessitates special culture and thought which is produced by human development.

Results indicate that education, health and culture are among the affecting factors in achieving human development. Having said that, Iran is still is far away from having knowledge-based economy, entering this new economy and using growth and development capacities that it provides are conducive to country’s growth and development. Human development is a core factor affecting the realization of the knowledge-based economy. But, considering the statistics of human development indicates that Iran is not situated in a good position from this perspective. As regards, during the last two or three decades, given the tendency of institutions to provide systematic methods of explanation for formation mechanism, efficiency and institutional change are more prominent. To this end, paying attention to various institutions, like educational institution, and modifying them (if necessary) facilitate the process of achieving to development.

Different ways are associated with human development in realization of the knowledge-based economy. Some of the ways studied in this research include: 1- innovation 2- learning capacity 3- flexibility 4- believe in science. Production, accessibility and accumulation of knowledge and making more capacity in the knowledge-based economy are regarded as necessary condition for development. While creating a perfect environment and knowledge application are regarded as sufficient conditions for development. Countries, having sufficiently invested in developing capabilities of people, (especially education) and having adjusted their direction, method, and content of their educational system to achieve developmental goals, would be able to reach an acceptable level of development.

Finally, we come to this conclusion that in order to realize the knowledge-based economy it is necessary to have human development. After promoting the level of human development, we will have healthy, creative and skilled people with rich culture. So people can be made aware through human development to benefit from their constructive contribution. Participation in a modern technological world requires high level of scientific and technological understanding. Emphasized skills in the era of the knowledge-based economy are all related to human capabilities and potentials. Knowledge-based economy relies on the existence of scientific and applied environment for human creativity, work and effort. Following the investigation of statistics of human development collected from different countries, it is concluded that human development is accounted among essential factors to achieve development and has an important place among prerequisites of realization of the knowledge-based economy. A holistic development is a multidimensional process in which human development is of course one of the most important aspects of this process.

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