The status of future study in University of Tehran plans

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Abstract

The status of future studies in University of Tehran and the extent of attention to the position of the university in futures are the subjects studied in present research. The current situation of the university in future study field is measured by studying the relevant books, dissertations, navigating websites, the declaration of the mission and perspective of the university and comparing it to a twenty–year outlook document, strategic science and technology transformation document as well as national scientific roadmap and Iranian fifth development plan. A 26–item questionnaire was devised. It was distributed among 131 administrators of the university including deputies, heads, and deputies of schools and staff director generals. Totally, 95 questionnaires were returned and the results were analyzed by SPSS software. According to the results, current status of the university was determined and, ultimately, recommendations were provided to the officials of the university. The methodology of the research is descriptive (non-pilot) a part of which was survey and other parts was correlation.

Keywords: university, strategic planning, future study

1. Introduction

Future study is a knowledge attempts to explore different and possible futures of a phenomenon through certain techniques. By assuming that any change is likely in possible futures, one can architect a desired future by planning. Since changes in today world are mainly due to technological advances and are happening rapidly, it is necessary that governments, organizations, companies and people have better and clearer conception on future transformations. By drawing the image of possible and preferred futures, future study tries to draw the most desired future. Future study is opportunity – oriented rather than problem – oriented. In his paper titles “future – study: a new field for exploration”, Abdulrahim Pedr4am (2009) states: “future study is science and art to explore future and to shape the desired future. Future study always talks about futures. Its main aim is to explore, invent, examine, assess and suggest possible and preferred futures to build a desired future. Future researchers like to know what can (may) happen in future, which (possible) futures are more likely to be built and which futures should be establish (preferred).” Future researchers try to create novel images of future and possible explorations and perspectives as well as the results of systematic assessments on possible and preferred futures. As the most important incumbent to develop science and technology, Iranian higher education system (and University of Tehran as its top center) has no choice than studying its future situation to keep and survive in competition with other scientific centers throughout the world. In resent paper, the current situation of UT in terms of paying

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attention to future is studied and this issue is discussed by investigating the opinions of managers, instructors and elites of the university. Concerning the high importance of domestic twenty – year outlook document, science and strategic technology transformation document, national scientific roadmap and Iranian fifth development plan, the necessity of future study in the plans of the university is determined more than ever. Systems thinker and scientist, Earl C. Joseph, believes that one can do almost everything with twenty years.

2. Research goals

Recognizing the status of future study in UT and the extent of attention to its position in future

Minor goals
The 1st minor goal: identifying the extent of UT administrators’ recognition of training situation of the university in future in terms of rivals’ position
The 2nd minor goal: identifying the extent of UT administrators’ recognition of researching situation of the university in future in terms of rivals’ position

Studying the situation of future study in UT can help the development of relevant literature and future study in in Iranian local situation scientifically. As mentioned, the scheme of such discussion is realized in another ambience and studying future study in domestic cultural situation would reveal the limitations as well as the impact of spatial and cultural frameworks on it.

3. Research questions

Major question
Are UT administrators looking for exploring and studying future situation of the university in terms of rivals’ situation?

Minor questions
Are UT administrators looking for exploring and studying future training situation of the university in terms of rivals’ situation?
Are UT administrators looking for exploring and studying future researching situation of the university in terms of rivals’ situation?

4. Defining research terms

Future study: science and art to explore future and to shape the desired future
University of Tehran (UT): the parent university in Iran with 1600 faculty members, 4000 staff and 37000 students in different fields operating in Tehran and branches established on some other cities.
Rivals: all domestic and foreign universities
UT administrators: deputies, head of schools and director generals

5. Reviewing research literature

Today, future study enjoys a broader scope compared to its golden age in 1960s and early 1970s. In contrary to that time, future study is not limited to a few numbers of authors/instructors. Rather, in business world, governmental officials and thinkers are invoking and conceiving the fact that we should focus on future if we want to have successful future. Future study is a knowledge which opens the eyes of people to possible events, opportunities and risks and reduces their disruptive uncertainties, doubts and concerns. Thus, future study should be considered as the science of decoding the future (Malekifar, Aghil, 2006). Today, future study is not simply a tool to explore trading, defensive, industrial or technological opportunities; rather, it is a tool to create a splendor social or organizational cultures called as hope culture. Elvin Toffler has a universal glance to global transformations. Through a comprehensive attitude toward the transformations of the societies in macro aspects, he attempts to provide the
basics of forecasting. He believes that by paying attention to future, all affairs are led into a direction by which the third wave of human values is realized (Iranzadeh, 2005: 15 – 18). Future is identical to uncertainty. However, the effects of information and realities stemmed from the past and present can lead us to future. Keeping on “decision making for several possible futures based on past experiences” is to neglect monitoring future changes and is doomed to failure. For some, latent uncertainty in future justifies their lack of foresight while it is a viable source of opportunities for others. According to Edward Cornish in his book on future study, there are several useful methods. They are secreted or coded by using the geomancy and crystal ball by which the knowledge cannot be easily accessed. We are talking about normal and easy procedures we use them occasionally in our daily life. During past half century, a few preliminary and simple methods are acquired since rapid changes in modern age have confronted governmental officials, entrepreneurs and managers with paramount challenges and different investments are done in different countries to find better ways to think about future.

Some of these methods are developed by business world researchers and governing agencies. Many methods are known since we have relatively used their raw versions. However, we are not so familiar with the complicated versions. Familiarity with their details and applying them is so useful in thinking about future for organizations, for our professional life and for other purposes.

Some methods of future study stem from four different approaches: polling, gaming, modeling and simulation and visioning, even though their application is not as common as approaches such trending and scenario building. However, pointing out these approaches would at least show the broad scope of methods to think about and to be prepared for future.

Each method has its own strengths and weaknesses and is proper for a certain purpose. Therefore, each method can have an important share in conceiving future threats and opportunities and in being ready against them.

As the head of Institute for Alternative Futures in Alexandria and based on his long term experience on visioning, Clement Bizild believes that the process of visioning consists of five steps:

a) Identifying the problems
b) Listing past successes
c) Clarifying future dreams and wishes
d) Setting measurable goals
e) Identifying resources to achieve such aims

Today, visioning is highly supported by managers and companies and it seems that it is effective despite of suspicious against it. American Business Studies Center of Washington University in Saint Louise has considered visioning in its evaluation on common techniques in businesses and has called it as a “fruitful instrument” to empower employees and organizational motivation. However, the officials have alarmed that “the real arm is to convert the vision to a result.”

Imam Ali (PBUH) states: “those ones who welcome the future are the most clear – sighted and those who neglect the future would at last wander.” We know that many predictions during past decades on the future of the world in the last years of 20th century and early years of 21st century. It is obvious that more velocity of global changes would decrease the possibility of predicting the world in long terms. When future is unpredictable, it is said that future is accompanies with uncertainty. Uncertainty can be in higher or lower levels while contemporary future researchers generally believe that long term future is accompanied with deep uncertainty. It means that future is conceived with unexpected events. Peter Senge believes that the world is full of paramount unexpected events and possibilities called as “unavoidable surprises” in future study literature. Increasingly growth of such unavoidable surprises has faced the future with a situation to which “deep uncertainty” seems a proper name.

If future especially long term future is so much unpredictable, then what is the meaning of strategic planning for next 20, 30, 50 or 100 years? Is really the age of strategic planning expired and nations, armed forces, and organizations should limit themselves to periodical/tactical planning in short term (multiyear) horizons? Since the efficiency of nations, armed forces and large organizations is intertwined with strategic planning, the wisdom cannot accept the expiration of strategic planning age.

In Iranian twenty – year outlook document, it is elucidated that Iran should be a top knowledge – based country in Southwest Asia during next 20 years. Since we are going to plan for next 50 years, we should clearly and
courageously announce that we should be a great global power in such horizon. Now the question is that what should be the global rank of UT based on national twenty–year outlook document (2025) and its mission and outlook maxim in next 20 or 30 years?

Such glance to future begins from future not present and creates a value–based vision on futures which is so-called a normative vision (in contrary to traditional one that begins from present and enters the future and is called exploratory vision). Then, you can determine the appropriate future normatively.

Overall, there are two important approaches on studying, exploring and creating the futures called as future study approaches:

a. Analytical future study which is also called as exploratory future study. This approach is more used in those organizations that concern traditional concept of “planning” on “improving” the performance. This approach tries to explore (predict) future from present time and it attempts to forecast pending events, trends and paradigms. It assumes that seeds of future are cultivated in the ground of present and past time and they will grow naturally in future.

b. Normative future study which is also called prescribed or idealized future study. It is based on intellectual and practical basis in contrary to exploratory approach. It starts the job from future. Future is a starting point for all people, organizations and nations that are committed to build magnificence, splendor and competent futures for their own beliefs and values (Malekifar, 2006).

6. Some methods used in future study

By using different techniques (rational, scientific and empirical), futurists predict and evaluate future events. These techniques have no relation to divination or fortunetelling. In some books like “future study alphabetic” (Malekifar et al) and “advanced future study” (Edward Cornish), a few examples on the commonest future study techniques are mentioned as below:

6.1 Search
It is constant effort to identify main changes in surrounding environment of a group or organization. It usually focuses in structured surveys on newspapers, publications, websites and other media to find important symbols of changes in future. It concentrates on trends – changes that happen over time – more than events – changes that happen rapidly and have no considerable contribution in understanding future world.

6.2 Scanning
Generally, it means to monitor on a certain scope to identify future challenges and opportunities in that scope. In addition to future, it is conducted for issues in time proximity to current paradigms. Particularly, it is useful for initial determination of key areas in order to conduct deep analyses and to draw a scenario or roadmap. If we neglect scanning, we will be surprised by technology transformations, we will decide in darkness and we will spend our resources in the past rather than for investing in future (scanning: concepts, methods and bases, Foresight Center on Defensive Technology and Science, Defense Industry Research and Training Institute, 2009, p. 5).

6.3 Delphi
It is a two–step consulting. In the first step, a questionnaire is distributed to achieve the initial viewpoints of a wide range of experts in a given field. Then, the responses are gathered and resend to all participants for their statements. Another question asked from the participants is their self – evaluation on the level of their competency to answer the questions. Delphi is a good technique to acquire a general image on what is happening in a given field. Resending the questionnaires would finally lead to an agreement on predicting the future in a given field. It was invented by Olaf Helmer, Nicholas Reischer and Norman Dalki in Rend Institute (Ghadiri, Ruhollah, 2005, studying and recognizing future study methodologies, p. 129).

6.4 Trend analysis
Studying a trend aims at identifying the factors, progress velocity and possible effects. Trend analysis should be done smartly since a trend can have paramount and different impacts on various aspects of human life while many effects are not revealed at the beginning. For example, human life increase can raise the number of people who need
water and food while it can also increase the number of actors in different economic and social arenas (advanced foresight, Edward Cornish, 2009, p. 114).

6.5 Trend monitoring
One can monitor very important trends. It means to monitor and report the results regularly to decision makers. For example, increasingly unemployment rate or the incidence of a new and killing disease can highly impact on many organizations and societies (Advanced Foresight, Edward Cornish, 2009, p. 115).

6.5 Scenarios
According to Peter Schwartz, clear definition of scenario is “a tool to organize the understanding and image of a person toward future environments in which decisions by a person maybe happened (Peter Schwartz, endogenous art, 2009, p. 6). Scenarios may draw possible futures for strategists albeit they do not address to future (scenario writing and its different approaches, Defensive Technology and Science Foresight Center, Defense Industry Research and Training Institute, 2009, p. 5). The conditions from progress in realizing a strategy or occurrence a big and surprising event can be expressed in the format of a story or a general scheme called scenario. Usually, various scenarios are devising. Decision makers know that future events can nullify the scenarios used by them for planning (Advanced Foresight, Edward Cornish, 2009, p. 115).

6.6 Visioning
It means to observe the future before it happens. Vision is a mental image on our fate. Allah has granted vision gift to human (the power of vision, Miles Monroe, 2006). Since future study is beyond prediction, most futurists look for drawing images and visions from a desired future for nations, organizations and people. Typically, futurists have started their jobs by reviewing past events and present situation and then they build a vision on a desired future and try to find clear and creative ways to shape such futures (Malekifar, Aghil, future study alphabetic, p. 75).

6.7 Polling
Gathering different attitudes on future and other issues can be conducted by face to face conversation, phone interview and/or sending polling docs through electronic or ordinary mail. Delphi method which is highly applied by futurists uses a complete structured process to make right predictions (Advanced Foresight, Edward Cornish, 2009, p. 115).

6.8 Brainstorm
Generating new ideas by a small group of people who have gathered to think creatively on a given subject would persuade them to breed their ideas and to avoid any blaming or criticizing the ideas of other members. Brainstorm is proper to identify possibilities, opportunities and risks. To generate an idea or to resolve a problem, other methods are also used such as idea mapping, impact analysis and structured identification of all existing variables (Advanced Foresight, Edward Cornish, 2009, p. 115).

6.9 Modeling
Modeling is to use something for another thing which is harder or impossible to work it. In addition to objective models like airplane models, one can use a set of mathematical equations to show a complicated system. In such case, one can enter the model to a computer to simulate system’s behavior under different condition (Advanced Foresight, Edward Cornish, 2009, p. 115).

Gaming or simulating
Simulating is an objective situation by the help of the people who play different roles. In war games, real solders may play the role of solders in an artificial was. It helps them to touch closely the condition of warfare and also allows the commanders to test different strategies and tactics which may be used in future (Advanced Foresight, Edward Cornish, 2009, p. 116).

6.10 Historical analysis
It is to use historical events to predict the results from current progresses in historical analysis. Often, one can compare the status quo to one or more historical situations that seem identical (Advanced Foresight, Edward Cornish, 2009, p. 116).
7. Integrating different methods of future study

The best initiative is to use different numbers of future study approaches in a project since each alone technique is insufficient to back up complicated decision making along with deep uncertainty. Therefore, one should see how to combine the strengths of each technique and to decrease their weaknesses in order to build the foundation for long term policies in long term.

8. The status of future study in Islam

In different verses of Holy Quran, “future” is referred like “let every soul look to what it has forwarded for the future” (Al-Hashr ‘Exile’: 18); “send him with us tomorrow to frolic and play. We will look after him” (Al-Yusef, ‘Joseph’: 12); “do not say of anything: ‘i will do it tomorrow” (Al-Khav “the cave”: 23); “no soul knows what he will earn tomorrow; and no soul knows in what land it will die” (Luqman: 34); “tomorrow they shall know who is the arrogant liar” (Al-Ghamar ‘the moon’: 26).

In a seminar on Islamic World Futures, Professor Mahdai Al-Manjara concluded that the first verse calls for exploring the future by the aim of fostering believing to Allah while third and fourth verses nullify any fortunetelling and divination and invite us to improve our capabilities in order to face with future requirements, to predict or prosperity and to create different options. Therefore, we should take a pluralistic approach on future (we should observe different futures not a certain one) and see wide range of options.

Aghil Malekifar believes that future study is “the science of expectation”. If expectation is not negative, it is constructive per se and creates a so-called “creative pull” for excellence. Celestial revelations have granted a Holy expectation to us which would clarify human ultimate future through a universal and excellent expectation. It makes us more alert and produces more cause and effect to build a world free of inequality and oppression.

In a paper titled “religious points on future study” (future study alphabetic, Mohsen Alviri), religious instructions on future are divided into two macro levels of foresight in religion and also in a micro level. The macro level of foresight in religion is revealed in two directions: a. the end of existence and the next world and b. the end of human and realizing an ideal society (i.e. Mahdaviat that breeds foresight human). The main function of the macro level is to guide human and paying his attention to spiritual growth.

In micro level relates to near and predictable future of a person, group and society such as general recommendation on initiative, prying for a good conclusion, avoiding the causes of a bad conclusion, thinking about death and thinking about the result of works.

9. Future study in Iran

Since past decade (and very late) future study was paid attention by domestic authors and thinkers. However, we should accept that due to officials’ unfamiliarity and support as well as the lack of needed cultural and intellectual underpinnings, such knowledge is not competently institutionalized in Iran and it has not dictated itself to senior managers and policymakers in the highest level in contrary to developed countries.

So far, many public and private organizations have worked on future study including Technology and Industry Research Center, Defensive Technology and Science Future Study Center, National Scientific Politics Research Center and Planning and Management Research and Training Higher Education. Together, they have established Iranian Foresight Association. Due to different reasons, however, including lack of needed intellectual and cultural infrastructures in the society and lack of officials wills, no credible project is conducted yet (however, one should appreciate the devising of domestic 20 – year outlook document).

In domestic twenty – year outlook document, it is clarified that in the shadow of beliefs, national will and collective planned efforts as well as emphasis on software movement, knowledge generation, accelerating and constant economic growth, relative enhancement of per capita income and full employment, Iran would achieve the top economic, scientific and technological rank in Southwest Asia (including Central Asia, Caucasia, the Middle East
and neighboring countries). It requires executing such plans to which universities and research centers play a vital role.

Since Islamic revolution, five-year plans are devised by the collaboration between the government and public/private organizations and approve by Iranian Parliament as short-term plans. In 2010, the fifth domestic five-year plan was ratified by Iranian Parliament to be executed between 2011 through 2015. Expanding theorizing, criticizing and free thinking chairs as well as conducting interdisciplinary studies, developing scientific poles, generating domestic science, establishing supervision and evaluation comprehensive system, rating universities and higher education institutes with aim of promoting research and training quality, revising the recipes to promote faculty members, building necessary capacity to increase the percentage of acceptances in higher education, promoting the quality, planning and supporting the provision of needed faculties for universities and higher education centers to enhance the ratio of full time faculties to students are all considered in this document.

Other items include establishing and equipping applied labs in universities, increasing the share of researches in GDP to 0.5% annually and to 3% till the end of the plan, promoting universities both qualitatively and quantitatively based on educational justice and priorities of outlook documents, amending the charts of full time faculties including both public and private by paving necessary grounds and emphasizing on meritocracy, expanding scientific relations to international credible training and research enters through establishing joint universities, organizing joint training courses, implementing joint research plans and sharing instructors/students in terms of domestic comprehensive scientific map with the aim of developing the country scientifically, empowering faculty members, policymaking, planning and monitoring in macro levels by the Ministry of Science, Research and Technology and Science, Research and Technology Higher Council, devising and implementing the plan to measure research and higher education needs in order to develop both public and private research and higher education centers by regarding the needs and facilities, establishing the integrated system on evaluating domestic science and technology under the supervision of Science, Research and Technology Higher Council and coordinated by Iranian Statistics Bureau in order to navigate domestic scientific situation in national, regional and international levels and to determine the realization of goals, necessary legal initiatives to finalize and execute national comprehensive scientific map to realize main indicators of science and technology including income share in exporting products and services based on state-of-the-art technologies, per capita GDP from science and technology, the number of patents, international scientific products, the ratio of external investment in science and technology fields to domestic research costs and the quantity of knowledge-based companies. At the conclusion of article 16, the government is obliged to plan so that Iran achieves at least to the second rate in the region.

10. The advantages of future study for universities

According to studies, future study can lead universities in determining new research fields, new applications of current studies and in establishing new partnerships and networks. Likewise, future study can raise the awareness of those organizations and sectors that are less familiar with academic operations. In the meantime, setting future study priorities can help to attract research capitals (Jamali Jafi, 2009, pp. 75 – 76).

11. Methodology

In present study, insights and attitudes on future study are investigated by studying relevant books, dissertations, and different researches. To identify the viewpoints of University of Tehran administrators, a questionnaire is used. It consists of two training and research parts. To measure each part, several items (26) are selected to measure the status of future study in UT planning. Data analysis is conducted by descriptive statistics and single variable and crossed frequency tables. To measure the reliability of the questionnaire, 20 questionnaires were randomly distributed among research population and they were asked to answer the questions. Then, its Chronbach’s alpha was computed by SPSS15 which shows its acceptable reliability. Chronbach’s alpha ratio was 0.873 for questions and 0.817 for total questionnaire. Since the necessary condition for the acceptance of a questionnaires is +0.7 reliability, the reliability
of the questionnaire was accepted, research populations consists of 131 UT administrates including deputies, heads, and deputys of schools and staff director generals. Due to population limitation, sampling method was not utilized and data was collected by enumeration method.

12. Conclusion

According to the results, 93.6% of respondents were male and 6.4% were female. Respondents’ frequency distribution based on age was 30 – 39 years – old (10%), 40 – 49 years – old (43.2%) and =50 years – old (46.3%). In terms of services, it was 1 – 5 years (14%), 5 – 10 years (9.5%), 10 – 15 years (15.8%) and +15 years (60%). In terms of management level, it was unit head (16.8%), deputy (62.1%) and director general (21.1%). Finally, in terms of employment, 10% of respondents were contractual and 89.5% were official employees.

The findings indicate that future study is not in a desired situation despite of its huge importance and the emphasis of UT administrators on the necessity of such attitude to improve the situation of the university. Most items show the amount of attention to future study is not welcomed by respondents and middle to low items are selected by them. Therefore, future study should paid more attention by the university and its top managers. The existence of 93.4% male respondents indicates very low participation by women (6%) in UT managerial positions. In the meantime, there was no manager less than thirty-year-old while 46% were +50 years – old. 60% of respondents had over 15 years of experience and 89.5% were official employees. Over 50% of head units had selected high and very high options in six questions (1, 2, 13, 15, 22 and 26) while it was six questions for deputies (1, 2, 11, 13, 16 and 20) and twelve questions for director generals (2, 8, 10, 11, 13, 14, 15, 17, 18, 20, 21 and 26). Due to the high number of deputies (62.1%), they are highly influential over research results.

Concerning research main and an 1st and 2nd minor questions that have addressed particularly to the research and training situation contrast to rivals as well as research findings and surprising changes in different fields dominated on UT, it is more necessary to set the goals and missions of the university in short, mid and long times. In this line, concerning the unique situation of UT in Iranian higher education system within past 70 years, it is necessary that the University can identify and prepare for future transformations and ramifications through planning. UT should attempt to increase its share in knowledge generation and guarantee its survival in order to act not react in domestic educational and training era.

13. Recommendations

Applied recommendations on developing the status of future study in UT planning:

To improve the status of future study in UT planning, below recommendations are provided and expected to be respected by the administrators of the university especially major planners:

13.1 Concerning outlook document, domestic science and technology strategic transformation, national scientific roadmap and the fifth development plan, it is recommended to aware all faculty members and employees of University’s outlook document and mission declaration and ask them to share their opinions in this regard.

13.2 University is recommended to build groups to study on its future situation and to create a future study center. It should act as a pioneer in the country and should plan to localize it.

13.3 To involve the administrators of the university mentally, it is better to aware them through annual and five – year plans and the university asks their opinions to improve future study and grants awards to the best opinions.

13.4 Concerning mentioned two documents and two plans, the university should choose its path and outpace its rivals in the country and the region through devising numerous scenarios as well as precise planning, constant implementation and revising based on foresight.

13.5 Concerning intense competition among universities in their global ranks and attracting further students, the administrators of the university should analyze the future situation of the university precisely, periodically and constantly, monitor on rivals and conduct effective, broad and constant initiatives based on scientific future studies in order to discover and study its future situation concerning the status of rivals particularly in training and research sectors.
13.6 UT should have a long term and serious planning to attract further foreign students.

References

R Future study (concepts and techniques): Defensive Science and Technology Future Study Center, Defensive Industry Research and Training Institute (10 papers), 1st edition, 2009
Cornish, Edward (2006): advanced future study: a deep glance to principles, basics and techniques of future study, Technology and Industry Research Center, IRIB
Cornish, Edward (2009), future study techniques, Ordibehest Publications, 1st edition
Iransadegh, Suleiman (2005): the fourth wave, Ofogh Daneish Publications
Comparative analysis in future study system of six nations, Defensive Science and Technology Future Study Center
Schwartz, Peter (2009): foresight art, Defensive Science and Technology Future Study Center, Defensive Industry Research and Training Institute
Searching, concepts, techniques and bases (2009): Defensive Science and Technology Future Study Center, Defensive Industry Research and Training Institute, 1st edition
Deiry, Ruhollah (2009): studying and recognizing future study methods, Defensive Science and Technology Future Study Center, Defensive Industry Research and Training Institute
Lampert, Robert; Popper, Steven & Benks, Steven (2006), sustainable planning for a century: an new approach on strategic planning for next 100 years, Technology and Industry Research Center, 1st edition
Mirshah Veayati, Farzaneh (2009): A practical guide to devise vision, Defensive Science and Technology Future Study Center, Defensive Industry Research and Training Institute, 1st edition
University of Tehran website
Scenario writing and its different approaches (2009): Defensive Science and Technology Future Study Center, Defensive Industry Research and Training Institute
Domestic science and technology strategic transformation document
Iranian twenty – year outlook document
Iranian fifth five – year development plan (2011 – 2015)
Monroe, Miles (2006): vision power, Defensive Science and Technology Future Study Center, Defensive Industry Research and Training Institute
Domestic scientific roadmap
B runo Herault (2006): Public futures studies: themes and diagnosis for strategic foresight
Jan lee Martin (2008); Power of Story
Jim Dator (2005): De-Colonizing The Future
Peter Saul (2009): My Journey as a Futurist Variations

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