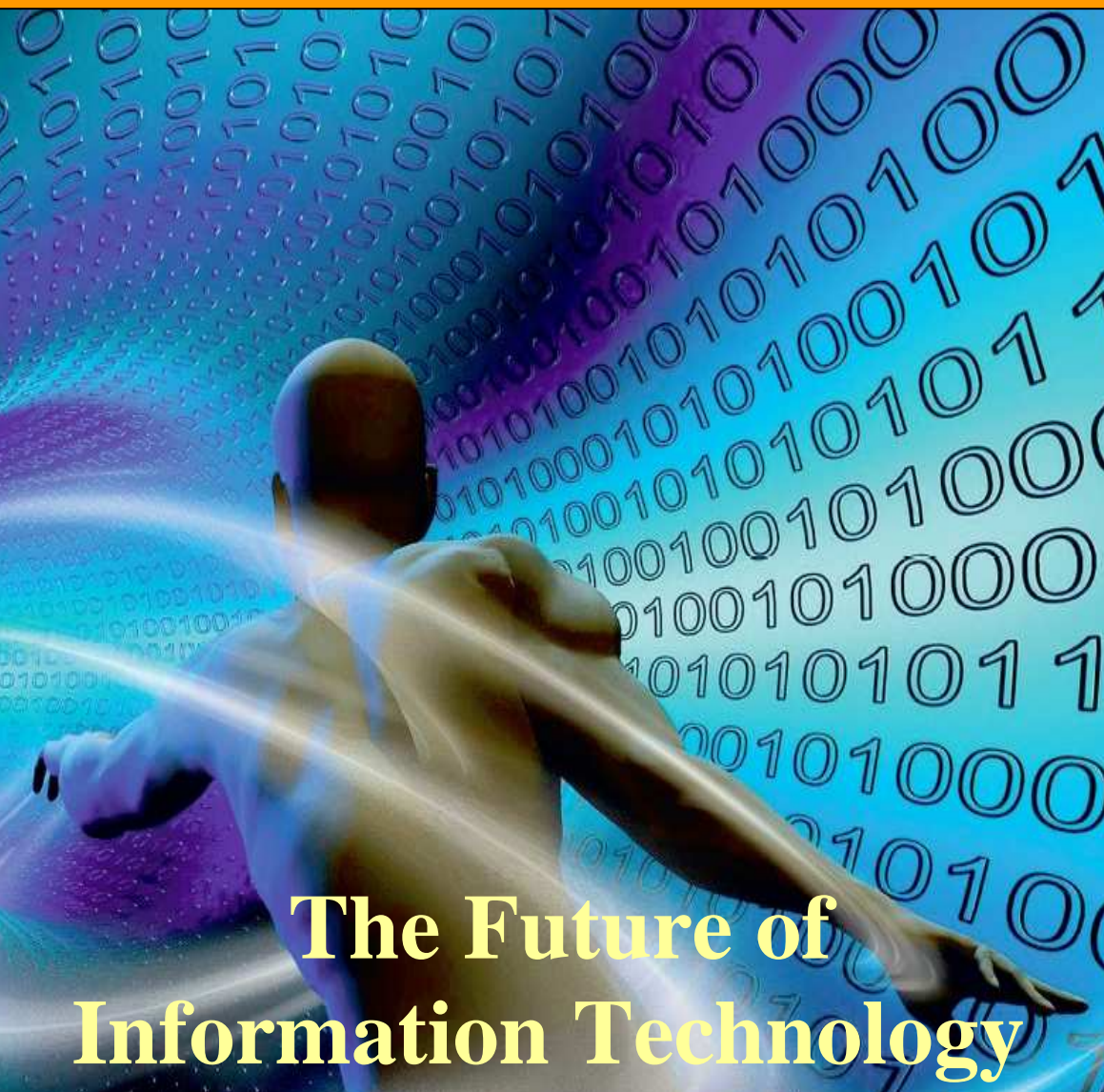


Iranian Society of Futures Studies

E-Monthly

No. 4, July 2010



The Future of Information Technology

In this Issue:

- Editorial
- The Future of Information Technology (IT)
- Emerging Technological Trends
- What Is Paradigm?
- Compensating Poverty in FS Studies
- A Futurist
- Book Review
- Web Surfing
- Virtual World
- English Abstract

Iranian Society of Futures Studies E-Monthly
On Futures Studies

Editor: Bayazid Mardukhi, member of the board of trustees at ISFS

For all of the members and who are interested in Futures Studies
www.iransfa.ir





Editorial

Futures Studies (FS) as an academic field embracing a set of principles, basics, techniques and methods...



The Future of Information Technology

The information technology has always had a trend of progress and evolution...



Emerging Technological Trends

New ITs are shaping new technological trends. A number of them are introduced here.



What Is Paradigm?

Meanings and concepts of Paradigm are defined for our readers.



Compensating Poverty in FS Studies

A number of FS resources are introduced to FS students.



A Futurist

Life and works of Eleonora Barbieri Masini, the great Italian futurist are introduced to our Iranian readers.



Book Review

Digital Enterprise Technology is the book that is reviewed in this issue.



Web Surfing

Some of useful links on futures studies are given in this section.



Virtual World

Index of the most important FS books arranged alphabetically at Lombardo's website is given here.

Editorial

Futures Studies (FS) as an academic field embracing a set of principles, basics, techniques and methods is a new founded science that can help experts of different fields including Information Technology (IT) technicians identify and introduce alternative futures. Using FS in IT requires paying attention to following key considerations:

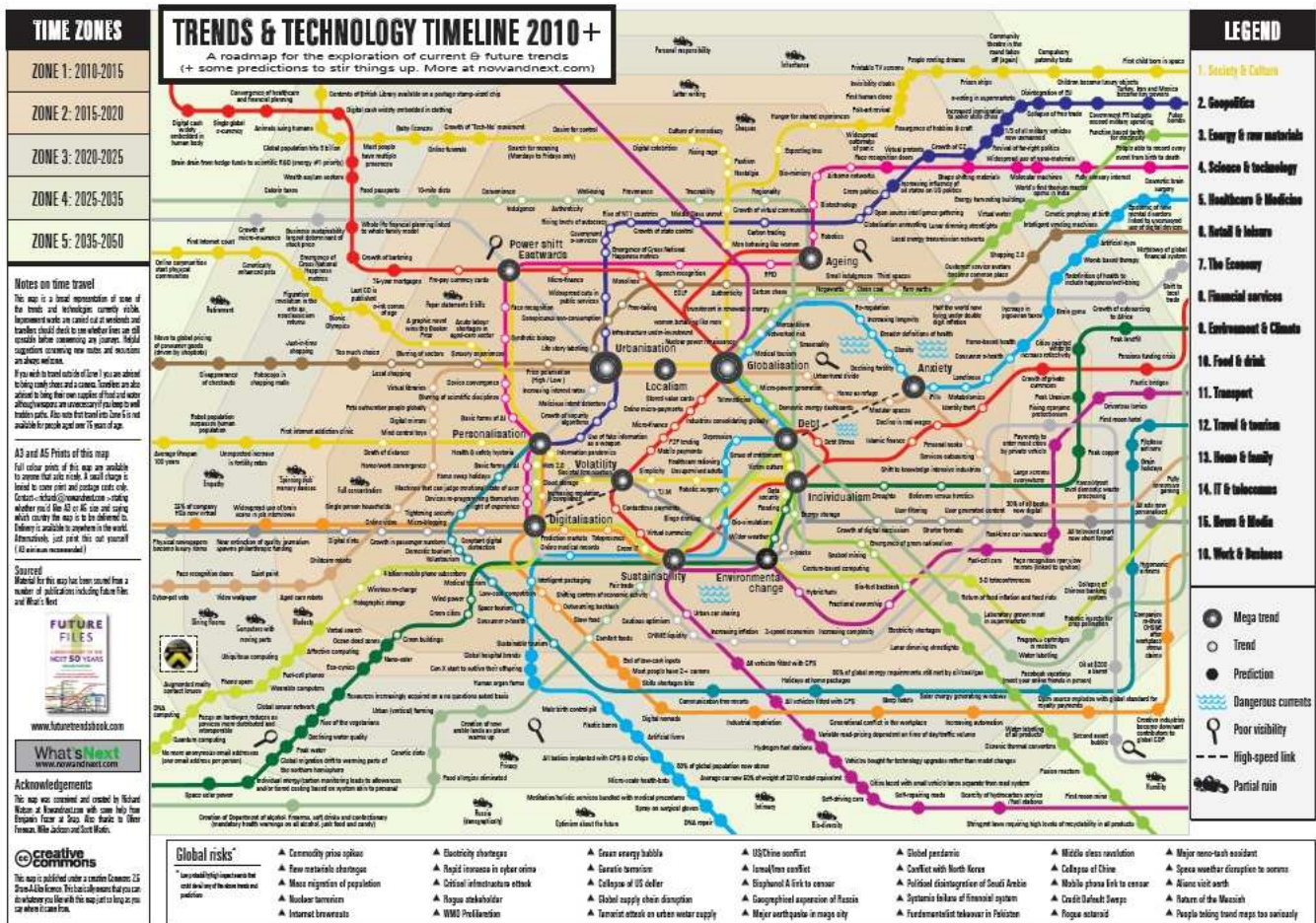
1. Profound knowledge on the subject (IT), and mastery of the laws and principles governing the emergence and development of IT from an epistemological point of view, plus adequate awareness about the current trends of IT.
2. Being informed of FS principles, basics, techniques and methods.
3. Foresight about some of IT mega-technologies such as the Internet, operating systems, office and strategic softwares belonged to organizations and experts who are "leaders" not "followers".
4. At the end of 1990s and the beginning of third millennium, the world entered a new phase of technological evolution in the area of IT. Continuing old ways based on policies belonged to past decades not only causes technological lag, but also brings about an irreparable solitude.
5. A successful IT foresight requires measuring the possibility of supplying growing applied needs for Information and Communication Technologies (ICT) with an eye on existing and potential capabilities.
6. FS in IT should be based on the model of developing a knowledge-based society. Foresight about ICT systems applications should be also performed upon this model. In this model a set of issues are discussed including: general and global access to information and science, respecting multicultural and multilingual diversities, and equal access to desirable education for developing IT literacy. This model promotes qualitative and quantitative development of the Internet. It regards the Internet as an opportunity not a threat.
7. The goal of foresight in IT is the progress of a society in all related aspects including the economics of information. FS in IT can facilitate the removal of inequalities in the area of information. Pervasive education of IT literacy is a necessary step in realizing this goal.
8. Identifying top trends in IT is one of the issues discussed in FS on this technology. In the light of determining these mega trends, related micro trends can be also studied. Also in order to remove digital gaps between leader and follower societies, suitable measures and solutions are offered.
9. Vision building is another topic in the field of IT foresight. In the process of building a vision for the future of IT applications; personal, organizational, national and regional needs are being considered. Visions should be made realistically and seem as achievable. IT alternative scenarios should not be scattered or numerous, because too many scenarios will lead to more confusion rather than solving the problems.
10. Global conditions are set to become appropriate for the deployment of a universal information society until 2015. Since 2005 when the second summit of world leaders on information society held in Tunisia, a 10 year equal opportunity considered for all countries to join this global society. What kind of measures and plans are required to be designed or executed by us to join the society?
11. The strategic goal of IT foresight is making new opportunities. It is going to detect and introduce new chances for the removal of digital gaps, but does not guarantee any kind of miracle to happen. Removing digital gaps does not occur within a night. It needs long and interim planning.
12. Futures Studies in the field of IT embraces four phases: a) technology foresight; b) futurist policy making; c) executive planning & applying the technology; d) periodic and continuous assessment of conducted foresights. Without orderly conducting these phases any kind of so-called research or study in this area will be playing with scientific concepts and words and will also waste personal and organizational time, energies and resources.



The Future of Information Technology

The information technology has always had a trend of progress and evolution and sometimes the pace of this trend is cruised more rapidly. This has been significant due to shaping other technologies such as nanotechnology and emerging global media like the Internet. Considering the fact that each year or month new technological phenomena enter the digital world, prediction of the future of this technology is not an easy task and many of predictions have been limited to the general scope of IT. They have been mostly general estimations on future conditions. In fact, no one knows how the future of IT will be. Just based on some signs and signals, its general image can be imagined. What is offered at the rest of this article is prepared by keeping this notion in mind.

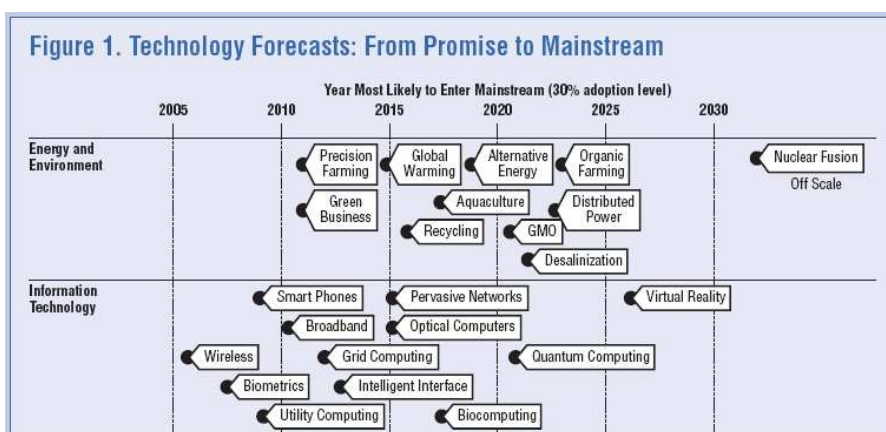
One of leading foresight organizations is Now & Next think tank. This institute has offered interesting forecasts regarding the future of different technologies and one of their new ones is Trends & Technology Timeline 2010+ that was publishes this year. The map embraces 16 scientific and technological trends from 2010 to 2060 and is regarded as a 50 year unique map of trends.



The information technology is studied within the number 14th trend of this map. Some of phenomena are predicted to emerge in this trend within next 50 years. It should be reminded that this map of trends is designed after summing up expert's views of different sciences and technologies including IT. Some of the most important indicators of this trend are mentioned within the following timelines.

2010 ~ 2015	2021 ~ 2025
<ul style="list-style-type: none"> - Gesture-based computing - Data security - Virtual currencies - Green IT - Telepresence - Online medical records - 4 billion mobile phone subscribers - Wireless re-charge - Holographic storage 	<ul style="list-style-type: none"> - Fragrance cartridges in mobiles - Ubiquitous computing - Fuel-cell phones - Wearable computers - Phone spam
	2026 ~ 2035
	<ul style="list-style-type: none"> - Fully immersive gaming - Augmented reality contact lenses - Focus on hardware reduces as services more distributed and interoperable
2016 ~ 2020	2036 ~ 2050
<ul style="list-style-type: none"> - 3-D teleconferences - Verbal search - Affective computing 	<ul style="list-style-type: none"> - DNA computing - Quantum computing - One email address per person

Studying this map and other similar works that have been published about the future of IT, reveals that the history of such estimates go back to a survey conducted by TechCast Company of Assessing Technologies whose results were published in an article titled "Technology's Promise" in the Futurist magazine in 2006. In this survey the futures of some of technologies were estimated until 2030. Some phenomena such as: Wireless, Biometrics, Utility Computing, Smart Phones, Broadband, Grid Computing, Intelligent Interface, Pervasive Networks, Optical Computers, Biocomputing, Quantum Computing, and Virtual Reality regarding IT.



Sources:

1. www.technologyreview.com
2. www.dvice.com
3. <http://petit invention.wordpress.com>
4. 2009⁺ 10 Trends: Predictions & Provocations, Map by Richard Watson with help from Ben. www.nowandnext.com
5. Technology's Promise, the Futurist, November-December 2006, p. 43-45