

## Chapter II

### Introduction to Information Technology (IT)

*The computer revolution is the most vocal revolution in the world's history, and the funny thing is that we still underestimate its effects.*

**Herman Kahl**

What is this technology discussed every day in newspapers, television, radio and the Internet under the names of Knowledge, Information, Computer, Informatics, Internet or Digital Technology? Why is it everyone's tongue? Why is it important? How does this technology relate to social and personal life? Furthermore, what kind of dialectic relationship is there between these technologies which are called Information Technologies and society? Do ITs corrupt socio-cultural life or do they diversify and enrich their lifestyle? Are the ITs destroying national borders, facilitating the management of international organizations, and cutting the bottom of the national state? How are new international relations influenced by ITs? What are the roles that ITs play for a more democratic participation in the management of countries and cities? What are the effects of ITs on the development and change of cities? How do ITs affect workers, employers, officers, public managers, teachers, students, children, young people and the elderly?

In the workplace, IT requires the worker, officer, manager, and even the owner to change their behavior. It makes it necessary to renew the management and working methods in the workplace so that they can compete with the global world. How is this consistent with national, racist and dogmatic ideologies? In this digital world where financial investments, production of goods and services, environmental pollution, consumption and even terrorism are globalized, is it possible to live without ITs? More than hundred questions can be added to these.

Despite the increasing importance of IT, it is observed that there is not enough, satisfactory and detailed research on the impact of IT on social, economical and socio-cultural structure in science, university and industry circles all over the world. **How accurate is it not thinking or learning anything about a technology that will soon create the concept of "World Citizenship" and turn the world into a global single economic structure in the coming years.**

"Information Technology" means the process of processing, transforming, storing, protecting, transmitting, sharing and securely accessing the

information through computers and softwares, as well as the examination, design, development, execution and management of computer-based Information Systems, software applications or computer hardware (Aydin-Çetin, 2010). The software systems developed to solve problems and follow up the processes using ITs are also briefly called Information Systems (IS).

The society in which ITs and ISs are used intensively is called the "Information Society". In a sense, it can be said that the society that meets the information needs by using computer technology is the "Information Society". While rapid changes in IT cause various economic and social problems in the society on the one hand, on the other hand, it gives birth to economically powerful Information Societies or countries (Aydin-Çetin, 2010:257). Therefore, digital economies developing in the world are also called Information or Informatics Economy.

## **2.1. Is Knowledge Technology or Information Technology?**

A very important technology that is not understood clearly and cannot be considered as good or bad is rapidly changing the social structure and personal life. Today, these technological tools and methods are called Information Technology. IT makes the same effects that steam and electric power made in 19th and 20th century societies to the societies of today.

It is obvious that this event, which shapes and affects the daily life, should be defined and expressed correctly in Turkish or other languages. Today it is seen that different names are used to define the concept. The professors who give lectures in this field at the university, the people who write about this subject and the public use different names. As it mentioned above, Knowledge Technology, Information Technology, Informatics Technology, Internet Technology and Digital Technology are some of them. So what is the correct term and what should be used in Turkish?

The main reason for this chaos is the use of the word Knowledge to express very different concepts in Turkish. The word Knowledge is mixed with the words Data and Information (see Section-2.6 for definitions of Data, Information and Knowledge). In Turkish, while the Data and Information should be used for encoded, recorded and explicit knowledge, and Knowledge should be used for non-encoded, non-recorded and implicit knowledge, the word 'Knowledge' is used for all of them. **In other words, the word 'Knowledge', in Turkish, is used for both encoded data/information and non-encoded knowledge.**

As will be explained in detail in Section-2.6, knowledge is the meaning that people produce from data and information. These cannot be encoded or recorded on a paper and they are records in the brains of people. **When knowledge in the brain of the people is encoded and transcribed, it**

**becomes information or “Malumat” in old Turkish.** What kind of tool or technology can be used for processing, transferring or storing non-encoded information, that is, a phenomenon or concept in the human brain? **At present, there is no known “Knowledge Processing” technology (Data Processing is a separate activity) other than the Human brain.**

Some of the digital tools which are previously different fields in the world, such as communication, data processing, software, publishing, broadcasting and even computer games are merged (integrated) over time and it is defined as “Information Technology”. The common feature of these activities is that they process digitally encoded data. The encoded Data obtained from processed data is “Information” or “Malumat” in old Turkish. The Turkish equivalent of “Information Technology” in English should therefore be “Bilişim Teknolojisi” because it has the meaning of technology of processing, displaying, or encoding encoded data or information. The English equivalent of “Bilgi Teknolojisi” which is used in Turkish must be “Knowledge Technology”, which is not the case in English. There is only the term “Knowledge Management “, which can be translated as “Bilgi Yönetimi” in Turkish.

It seems that there is only the technology of data or information processing, displaying or encoding. In addition, data and information processing as well as communication and cognitive activities related to them need to be expressed. On the other hand, the concept of “Bilişim” in Turkish is a cognitive concept that includes data and information as well as processing and communication meanings. In these respects, it is more appropriate to use the word “Bilişim” (Informatics) in Turkish.

**Therefore, it is useful to use the term in Turkish as “BİLİŞİM TEKNOLOJİLERİ” and as BT for short.**

On the other hand, as in the word “Computer”, it can be said that the term “Knowledge Technology”, can be used even if it has a wrong meaning in the Turkish language structure instead of spending time to ensure the use of the correct word. However, it is more accurate and scientific to use a word that is both true and appropriate to Turkish. For example, the meaning of the ‘computer’ in Turkish should be the machine that counts the information, but it is known that computers do not just count the information but it creates it. More precisely, it is impossible to count something that cannot be encoded as a picture, letter or number. (See Section-3.1 for computer description). However, it should not be forgotten that a word which is more appropriate to the word “Bilgisayar” in Turkish is not suggested until today.

In this book, the word “Information Technology” and IT abbreviation is used instead of “Knowledge Technology”, which is believed to be a more accurate word and its usage becomes widespread.