

MANAGING

INFORMATION AND THE FUTURE

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INTRODUCTION

1.1 DREAMS VERSUS REALITY

Human civilization and Management function are going through rapid changes with unexpected turns and twists. At the end of the last century human civilization was dreaming about information revolution and consequently economic prosperity. There was enthusiasm about the information superhighway and internet. Intellectuals were dreaming about and calculating sustained economic growth for the next 25 years and alleviation of social problems by the information management system. When everybody was waiting for the economic slowdown which started around the beginning of this century to get reversed, September 11 terror attacks on America came as a blow to every dream. September 11 attacks may not be the only cause of the problem. It may be necessary to consider financial scandals in large American companies, continuing high oil prices and still unexplained philosophical reasons for economic slowdown and recession as reasons for this continuing problem.

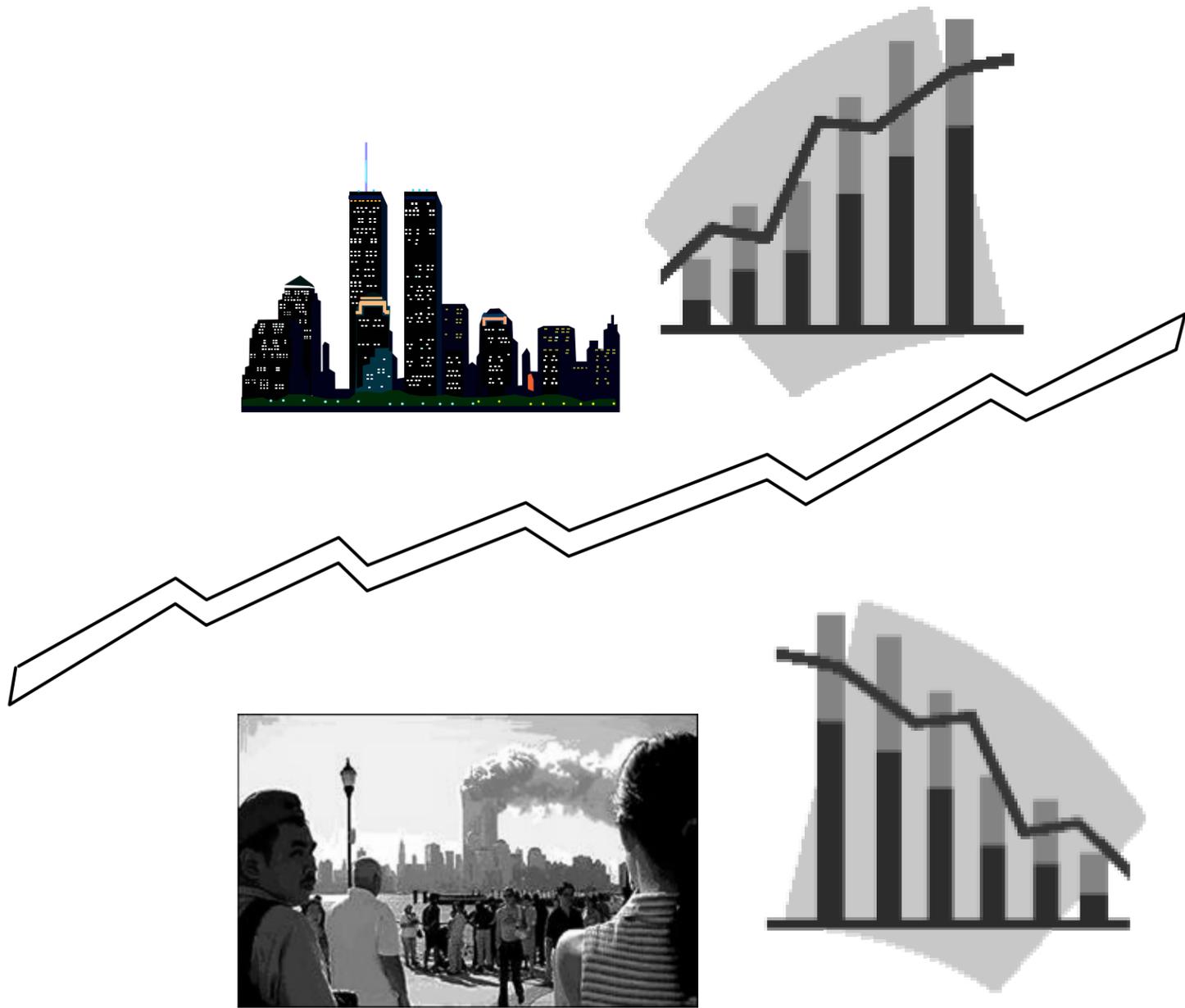


Fig 1.1: Dreams and Reality

Despite all these challenges there is expectation about economic growth and prosperity in the future. Investments are still being made on improving information superhighway and it is still considered that buying a personal computer is a better personal investment for future. If all these expectation are true information revolution is sooner or later going to break all its barriers and going to lead human civilization towards a better future and social relationship. In the past information revolution has shown that it is not going to stop it effect with certain parts of technical process or just with analog and digital calculations for which computers were initially invented. Almost all parts of social life are going to change at various levels by this revolution. One of the important aspects of the society that is going to be changed by computerization is management practice and decision-making process.

1.2 INFORMATION AND MANAGEMENT

Nowadays seeing a management office without computers or manager without computer knowledge is becoming increasingly impossible. Managers are using computers well beyond their initial use of word processing and financial management. Usually managers' computers are connected to employees' attendance sheet to schedule and quality management data bases of production line.



Fig 1.2: Computers and Managers

Beyond this managers are using computers to access important information from internet for their business purposes. Maintaining own websites and giving emails address becoming more easy and professional way of running business and maintaining business contacts. What are the advantages and disadvantages of computerization and information revolution is a big subject-matter of discussion. At least as managers we know that if we do not know anything about computers then we cannot survive in the information revolution.

This book introduces and explains a detailed definition of information, how computers help us to access and analyze this information. In chapter two I will define and explain what we mean by the word information and in chapter three I will explain in detail about computers. Chapter four will explain about computerization and social challenges faced on computerization and chapter five will explain important information which can be gathered from the work site and how this information can be organized and analyzed using computerized information management system. In chapter six I will summarize and explain important changes due to information revolution, how to manage these changes and the future.

INFORMATION

2.1 DEFINITION OF INFORMATION

Defining information or giving detailed explanation for it which is acceptable for all educational disciplines may not be an easy target. Each educational discipline will try to have a comfortable definition for them. As the matter of discussion of this book is how computers help us to analyze information it is better to define information on that basis. In computer science the most popular way of programming information management software is called Object Oriented Programming. Let us try to have a detailed understanding of the object and object-oriented programming.

The world is made of several objects and functions which directly or indirectly influence other objects and existence. Before going into a detailed discussion of these objects, it become essential to understand in what context the word object is used in this discussion. As information management software is designed to collect information regarding individuals, groups, institutions even inanimate objects, process or functions, it is necessary to include all the above within the word "object". For example the software designed for banking accounts is actually designed for a function or procedure. In computer science it becomes necessary to include that function as an object for further understanding of its performance. Again the objects in an environment may be grouped under different categories. It may be people, inanimate

objects, tools, machines, functions, procedures may be some example for these groups. All these objects and groups influence other objects and groups directly or indirectly.

“After giving definition for information on the basis of objects and its properties and functions, this chapter will explain other commonly used words like property, variable, data, knowledge, common sense and Comet’s basic organization of knowledge fields.

COMPUTERS

3.1 INTRODUCTION

Computers are basically a microelectronic system which receives input, perform some predefined process for the input and provide the output. A microelectronic system which is the basic architecture of a microcomputer system contains input devices to receive the information from the environment, microprocessor to perform necessary process to the information and output devices to perform the output. The microprocessor will be connected to a program memory where it stores all the necessary information to perform its function.

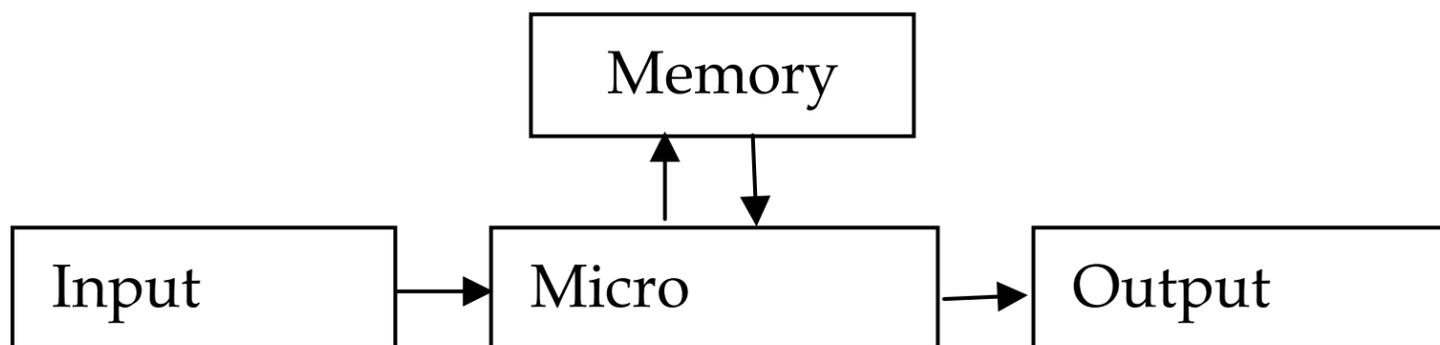


Fig 3.1 Microelectronic System

Any computer whether small or large needs two different components for its functions. First one is Hardware next one is Software. The word hardware means all the physical components of computers. Video Display Unit, a TV screen like part; Keyboard, a typewriter-like part; System Unit, a box-like part where hard drive, floppy disk drive and all-important chips are held together and every other physical components joined to the computer are called hardware. Even if they are connected

properly all the above mentioned hardware are not capable of working alone. They need electronic instructions to perform each function.

3.4 DATA BASE MANAGEMENT SYSTEM

As we have seen earlier, it is the most important subject a management person likes to know in computer science. It gives a convenient platform for managers where they can store different kind of information like employees' attendance to their photos and utilize such information in management function. A Data Base Management System is essentially a collection of interrelated data and a set of programs to access this data. Usually DBMS offers the following services.

- **Data Definition:** It is a method of defining data types that need to be stored.
- **Data Maintenance:** It checks whether each record has fields containing all information.
- **Data Manipulation:** Allows data in the database to be inserted updated deleted and sorted.
- **Data Display:** This helps in viewing data.
- **Data Integrity:** This ensures accruing of the data.

When a DBMS meets certain standards of American National Standard Institution [ANSI] it is called Relational DBMS [RDBMS]. An RDBMS can support a common computer language called structured quarry language [SQL]. With the help of SQL you can create a database, maintain data in it and revise necessary information whenever you need. Examples for RDBMS are Oracle, Sybase, SQL Server, and DB2 etc.

"With this Introduction about computers and relational data-bases, this chapter explains the different kinds of software and functions of a compute".

COMPUTERIZATION

4.1 INTRODUCTION

Computerization studies how the usage of computers influences and changes individuals, groups, organizations, relationships between these social components and society as a whole. This field tries to examine and answer the following groups of questions:

- 1) What is the impact of computers on industrial production? Dose it improve productivity? Is it increasing the risk of unemployment? Do computers empower the workers especially women or does it actually weaken them against market forces?
- 2) How do computers help to improve service sectors like health care, educational services and government services?
- 3) How do electronic mail and internet influence individuals, social groups and human relations? Does it help to form new communities or does it undermine intimate interactions and lead to social isolation of individuals?
- 4) How do computers bring about changes in morals and social values? Do computers reduce privacy and personal freedom?
- 5) How can computers help us to improve the information management system and bring about a new culture in management practice?

Though the first four sets of questions discuss important information about computerization the fifth question how a new

culture of management can be expected by computers is more important for this discussion.

4.3 SPECTRUMS OF SOCIAL SYSTEM

In order to understand how society influences computerization and computerization influences society, we must understand how each social system such as legal systems, religious systems, market systems and information management systems get organized into different spectrums. All social systems can be divided into four distinguishable spectrums.

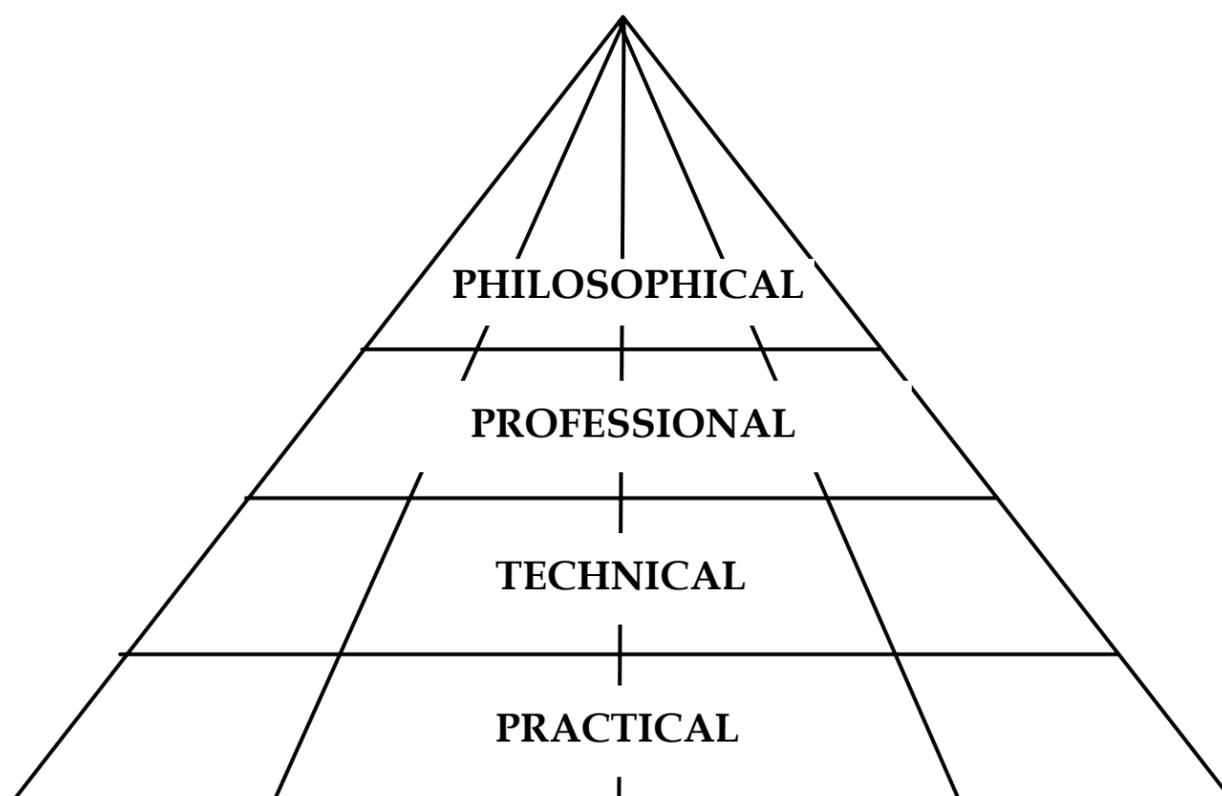


Fig: 1 Spectrums of Social System

"This chapter will explain in detail the social challenges of computerization and reasons for the time delay in computerization. It also explains the disadvantages of computerization".

THE INFORMATION OF THE WORK SITE

5.1 INTRODUCTION

Information revolution is helping several different sectors of the society and lots of different functions of our daily life. With the increase of productivity in production sector, health, educational and government services also improve their services with the help of information management system. Computers are being used from running washing machines to weather forecasting. Though computers and computerized information management systems are helping us in numerous different ways, the scope of this study is to understand how worksites in production and service sector can be benefited from computerized information management system. As discussed before every worksite is made of much different kind of objects. Important among them are employees, resources of production, tools, furniture, procedure and products. In addition worksite itself can be considered an object which has important properties like humidity, temperature, etc., which may influence productivity.

Though all these objects have several properties, all of them may not be necessary for the management function. If you record all the properties of the objects and try to use such information on decision making, a lot of confusion may result. Identifying important properties of the objects which can influence productivity is a great challenge, which needs better education and experience about these objects.

5.2 OPINION VERSUS MEASUREMENT

One of the important challenges on collecting information regarding employees' performance is opinions about employees' performance and practical difficulty in giving measurement scale for these opinions. Let us explain this with an example. Nowadays many tasks on production and service sector are made up as a result of team work. To work in such team environment, employees should have very good interpersonal skills and be a good team player. In order to measure these properties you can give a simple measuring scale like (1) Unsatisfactory (2) Poor (3) Good (4) Very Good (5) Excellent and ask the team leader to record the performance of each employee. In such circumstance, you can see a measurement above 3 is always given for all employees. Rarely supervisors want to give a lower measurement value, in addition complaints may be received about biased grading given by supervisors. Though such measuring system may give you a general idea about employees' interpersonal skill, it may fail to give useful information which may help in decision making. If we want definite information which may help us to make a decision, then we should have a more detailed measuring scale. Table 5.1 may give you a useful idea regarding such measuring scale. Similarly any opinion on worksite should be given a measuring scale so that useful information can be obtained for management purposes. When establishing such measuring scales necessary professional bodies and university departments can be consulted for establishment of a measuring scale.

"After discussing introduction and challenges faced in establishing measurement scales at worksite, this chapter explains how information in the work site can be recorded; stored and analyzed using computerized information management system. This chapter also gives a sample management data-base and a set of SQL quarry commands explains power usefulness of SQL language".

MANAGING THE CHANGE AND THE FUTURE

Computers, internet, computerized information management system all are bringing about changes in several sectors of management function and human relations. These changes are bringing new transformation of worksites and production relations. A detailed understanding of these changes and better understanding of how to manage them are important for managers. Let try to list important changes occurring at worksites.

6.1 IMPORTANT CHANGES OF THE WORKSITE

1. Increasing importance of information.

As explained above, computers and computerized information management system enabling us to collect much information regarding resources of production, products and services and utilize such information on increasing productivity. Though such changes are favorable for the productivity, people who are used to market and religion related values for the resources, especially for human resources may found it extremely difficult to accept any investigation and development of information-based management system.

6.2 MULTICULTURAL WORK SITES

As explained above one of the important realities of the world today is multicultural worksites and society. This multiculturalism has several advantages and disadvantages. Before going into a detailed discussion about these advantages

and disadvantages let us first look at what we mean by the word culture and why there are cultural differences among societies.

6.2.1. Culture - Definition and Differences

The term culture may be defined as the “Sum of ideas, practices, and material objects that people create to deal with real life problems.” Culture provides people with guidelines of behavior. When people interact according to these guidelines they form a society with a distinct culture. Within the word culture all the environment of the society can be included. All kinds of social tools like mechanical tools to buildings; norms values and ideas; social institutions like family to governments; even our dress all can be included in the word culture. Culture was created by earlier societies to protect it self from dangers and increase the comfort of living

"After a detailed explanation about the important changes of the worksite and multiculturalism this chapter also explains how to break the barriers of changing process "

6.4 CONCLUSION

In conclusion we should accept information regarding psychology and sociology is not complete. Most of the knowledge we have can be taken as descriptive of the problem rather than analytic or explanatory of core factors governing human relations. At this point there is one important question. Whether using the incomplete knowledge of human psychology and sociology will improve productivity of worksites. It may be easy to answer the above question with an example from the medical field. Medical profession was aware about the disease tuberculosis for several hundred years. Until very recent time most of the knowledge we had about the disease were either some religious or philosophical explanation or descriptive information about the sign and symptom of the disease. The disease was well described; wasting,

chronic cough, sputum, etc. Also we know about some factors which may be responsible for the disease. Poor nutrition, poor ventilation, overcrowding, poverty etc., are described as the causes of the disease. Based on this descriptive knowledge we were able to develop some treatment as well. Improving ventilation, improving nutrition also improving socio-economic situation condition, all these helped to manage the disease to a certain extent. But during recent time knowledge about microbiology greatly increased and eventually we found out the true course of the disease, that is *Mycobacterium tuberculosis*, a bacterium. Now the medical profession has a complete knowledge about the disease and also effective medication for the bacteria as well. Even now nobody considers that medication alone can cure the disease. Still the previous descriptive knowledge about the disease is true and important in managing the disease. Improving ventilation, improving nutrition, improving socioeconomic condition all are still considered important part of managing the disease.

The above example may explain how a partial knowledge can help us to improve the human living until a complete knowledge can be achieved. Though there is no complete knowledge in the fields of psychology and sociology, the available knowledge may help us to improve productivity and human relations. Even after core factors which govern human relation were identified, present knowledge may have importance on improving productivity and human relations.