



**T.C**

**BİNGÖL UNIVERSITY**

**GRADUATE SCHOOL OF SOCIAL SCIENCE**

**BUSINESS ADMINISTRATION DEPARTMENT**

**THE ROLE OF INFORMATION TECHNOLOGY IN  
GOVERNMENT SERVICE/ FUNCTION ACTIVATION  
OF HUMAN RESOURCE MANAGEMENT IN  
MINISTRY OF FINANCE AND ECONOMY**

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HİZMETLERİNDEKİ ROLÜ / MALİYE VE EKONOMİ  
BAKANLIĞI İNSAN KAYNAKLARI YÖNETİM  
FONKSİYONUN FAAL HALE GETİRİLMESİ**

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## **SCIENTIFIC ETHICAL NOTICE**

This work I have prepared in accordance with the thesis writing rules, which I have prepared in accordance with scientific ethics and tradition and all the information in the thesis, which I have met with the scientific ethics and academic rules carefully until the conclusion of the recommendation phase of the master thesis [the role of information technology in government service/ function activation of human resource management in Ministry of Finance and Economy] I declare that the works I have shown and utilized for each quotation consist of those shown at the source.

... / ... / 2017

Hoshmand Anwar HAMASHAREEF

# THESIS ACCEPTANCE AND CONFIRMATION

BİNGÖL UNIVERSITY

SOCIAL SCIENCES INSTITUTE DIRECTORATE

This work entitled [The Role of Information Technology in Government Service/ Function Activation of Human Resource Management in Ministry of Finance and Economy], prepared by [Hoshmand Anwar HAMASHREEF], was found to be successful as a result of the thesis defense examination held on the date of [26/05/2017] and accepted by our juror as the Master's Degree in the Department of Business Administration.

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## CONFIRMATION

This thesis has been accepted by the jury determined in the..... / ... / 2017 Session of the Board of Directors of the Institute of Social Sciences of Bingöl University.

Director of the Institute



## PREFACE

[The Role of Information Technology in Government Service/ Function Activation of Human Resource Management in Ministry of Finance and Economy] has been highlighted in the context of employees focused that are important on maintaining the management of organizations and human resource, and are considered the backbone of all organizations.

I would like to thanks the advisor who does not spare his help in the preparation of this work [**Prof. Dr. Muammer ERDOĞAN**]; and also, I would like to thank all the contributors who contributed to the research [Dr. Bahaddin Faqi **AHMAD**] and [Assist Prof. Dr. Imran **ASLAN**] who did not spare their contribution in the writing and correction of the thesis and who contributed to my education throughout my life.

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Hoshmand Anwar HAMASHAREEF

## ÖZET

Bugün Dünya; ekonomide, özellikle bilgi teknolojisi devriminin yarattığı ve bunun sonucunda gelişen ekonomik kalkınmaya katkıda bulunan bilginin üretilmesine olan ilgiyi artıran devrim sonucundaki dinamik hız ve değişim ile karakterize yeni bir gerçekliğe tanık oluyor. Günümüzde bilişim teknolojilerinin gelişmesi son on yılda online uygulamaların uluslararası ağının genişlemesi ve görünümü ve değerli bilgiye erişmek için bilgiye odaklanmaya yol açtı. Ayrıca, çağdaş örgütlerin artışına sebep olan insan kaynaklarına odaklanmaya başlayan bu dönüşümler birçok bilimsel kavramların ortaya çıkmasına ve E-İş, E-Ticaret, E-Pazarlama, E-Bankacılık gibi tanımların kullanılmasına sebep olmuş ve bu durum bir zorunluluk haline dönüşmüştür. Ayrıca, organizasyonlarda insan kaynakları yönetimi rolünün daha faal şekle gelmesini sağlamıştır.

Bu tezin amacı, Irak Kürdistan bölgesel hükümetinin maliye ve Ekonomi Bakanlığında devlet hizmetinde kullanılan bilgi teknolojisinin rolünü ortaya çıkarmak ve bu bilgi teknolojilerinin bu Bakanlıkta tüm ülkenin ekonomik kalkınmasına imkân veren yönetim kararlarının durumunun belirlemektir. Ayrıca, bu çalışmada, Irak Kürdistan Bölgesi Maliye ve Ekonomi Bakanlığı'ndaki insan kaynakları üzerrin'de bilgi teknolojilerinin rolü ile onun insan kaynakları fonksiyonunun faal olmasındaki etkisinin belirlenmesi ve keza hükümet uygulamalarında model olarak alınan Cezayir Hükümeti Maliye Bakanlığı'ndaki insan kaynakları bölümünde kullanılan insan kaynakları sistemlerinin belirlenmesi amaçlanmaktadır. Cezayir Hükümeti Maliye Bakanlığı insan kaynaklarında daha yapılandırılmış insan kaynakları ve bilişim sistemi mevcutken, Irak Kürdistan Bölgesi Hükümetinde herhangi bir BT (Bilgi Teknolojileri) merkezinin ve yazılımının olmadığı görülmüştür. Hükümet çalışanları hakkında anında bilgi almak ve dolandırıcılık gibi her türlü uygun olmayan durumu engellemek için Irak Kürdistan Bölge Hükümetinin yapısal insan kaynaklarına ve bilişim sistemine (online) acilen ihtiyacı vardır.

Anahtar Kelimeler: BİLGİ TEKNOLOJİSİNİN, DEVLET HİZMETLERİNDEKİ, MALİYE VE EKONOMİ BAKANLIĞI, İNSAN KAYNAKLARI YÖNETİM,

## **ABSTRACT**

Today the world is witnessing a new reality characterized by dynamic and speed of change as a result of revolution which occurred by the economy, particularly the information technology revolution and that led to increase interest in the production of information which contribute to advancing economic development forward. The development of information technology in the current era led to a focus on knowledge in order to access the valuable knowledge, the appearance and expansion of the international network applications online during the last decade. Moreover, it led to the emergence of many scientific concepts and there was use of definitions likes e-business, e-commerce, e -marketing, e-banking in the midst of these conversions attention to human resources began to increase in contemporary organizations and has become an urgent necessity. Furthermore, it imposes itself on the organizations in activating the role of human resources management.

This thesis aims to show the role of information technology at government service in the ministry of finance and economy of Iraqi Kurdistan regional government and the reflection of this information technology on the management decisions that achieve economic development of the whole government during this ministry. Furthermore, this study aims to identify the role of information technology on human resources in the Ministry of Finance and Economy of the Iraqi Kurdistan Region Government, and its impact on the activation functions of human resources and also the study also aims to identify the systems used in the human resources department in the Ministry of Finance of the Government of Algeria, which we took as a model in the application of technology on government regulations. It is found that there is not any center of IT and software on human resources at Iraqi Kurdistan Region Government but the Ministry of Finance of the Government of Algeria has more structured and connected human resource IT system. So there is an urgent need of connected and structured human resource IT system at Iraqi Kurdistan Region Government to get instant information about government employees and prevent any kind of frauds.

**Keywords:** Information Technology, Government Service, Human Resource Management, Ministry of Finance and Economy.

## **ABBREVIATIONS**

IT- Information Technology

IS- Information System

MFE- Ministry of Finance and Economy

HR- Human Resource

HRMF- Human Resource Management Function

HRIS – Human Resource Information System

EM- Electronic Management

E-MHR – Electronic Management of Human Resource



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# GENERAL INTRODUCTION

## 1. Research Background

At the present time, business of the world is passing a substantial change; the employee turn-over rate becomes high and the organization structure change as well. The traditional style of human resource fails to catch up with such rapid changes: the traditional style mainly focuses on supportive personnel activities for a company, for example, collecting employee information, monitoring individual performance, and implementing organization policies. It is a passive, submissive execution, without self-motivated participation into strategic issue to foresee the challenges of tomorrow.

Therefore, there comes a demand for the new human resource management (HRM) that should understand the business strategy, formulate the corresponding management strategy on human resources to improve delivered service, and act as a strategy partner with top management team.

To meet the demand, there is an increasing pressure on human resource management to support strategic objectives and to focus on value-adding activities, which consequently leads to the change in the job content and the expectations on Human Resource professionals. So, that one of such changes is that the wide contemporary use of Information Technology (IT) in supporting various human resource activities. In addition, many researchers expect that the increasing use of Human Resource Information Technology (HRIT) can improve the performance of human resource professionals. (Albers, S., Edward, E.1997, p.159) Moreover, (Ulrich, D., 1997, p.9) mentions that the use of human resource information technology provides value to the organization and raise HR professionals' status in the organization. Ulrich and Brockbank (2005, p376) in new theoretical development, they stress to be requiring for human resource professional it should be become business strategic partners.

## 2. Research Problem

There are many researchers have studied of the human resource, but the most significant change is that the human resource professionals now focus more on business strategic issue from "human resource" aspect with the top managers rather than only dealing with personnel administration.

Meanwhile, part of the human resource tasks, such as routine administration and individual performance management, are decentralized to line managers. (Hales, C., 2005, p.473)

To be competent for such challenging activities, they should improve management skills to promote the transformation by appropriate strategy, develop leadership to control it, and overcome any barriers to ensure right direction.

Then, companies nowadays are thirsty for the information technology to reduce cost, improve service, and achieve effectiveness.

With appropriate information tools, managers, employees and customers can quickly response to market change, and control risk cost.

There is a big problem of not to applying information technology at human resource directorate in the Ministry of Finance and Economy which it lead to retreat and impossibility of providing services in the best form.

In light of this presentation can be formulated research problem in the next question:  
How you can serve the function of human resources management and contributes to the activation of the organization in general and the Ministry of Finance and Economy in Iraqi Kurdistan in particular?

Electronic management of human resources and whether the term is merely an expression of the organization allows projecting a contemporary organization employing information and communications technology?

How to exploit the human resources Directorate of the Ministry of Finance and Economy for the information technology to do its job?

### **3. Research Hypothesis**

#### **3.1. The First Hypothesis:**

It occupies the human capital priority in the knowledge economy and its ability to produce knowledge and using them efficiently in all its activities to promote human level.

#### **3.2. The Second Hypothesis:**

Electronic management of human resources is seeking to assimilation and use conscious of information and communication technology in the practice of the basic functions of human resource management.

#### **3.3. The Third Hypothesis:**

The Ministry of Finance has a huge number of employees and the human resources directorate in ministry of financial resort for the latest information technology and largely for its support in the management of this huge number of personnel directorate.

### **4. Reasons for Selecting the Subject**

- A. Human resources management occupies an important place among the functions of the organization, and the information technology features of the times and increased adoption organizations on this technology in the performance of its functions, so it generated a desire to combine the function of human resources and information technology.
- B. The desire to see how information technology Service human resources management functions.
- C. Inclination of the topics of human resources management.
- D. The ministry of Finance and Economy is an important organization of the government and has linked with all another parts of government.

### **5. Research Questions**

The main points for discussion in this research are designed to gain insight into HR function and human resource information technology. The main question in this research is stated as:

**What is the role of information technology in the human resource function?**



Moreover, there is a series sub questions are designed to explore the primary question:

1. What is human resource function?
2. What has been changed in human resource function?
3. What are the findings in the current literatures?

## **6. Importance of the Research**

The study of information technology and its role in activating human resources management, it's one of the important studies for the following consideration:

1. It is known that the information technology has brought about rapid developments in achieving the goals of many government agencies in it deals with the subject of all kinds of information technology developments in the organizations and particularly in government agencies.
2. Also, this study is new in this area, especially and it dealt with the agency and the Ministry of Finance and Economy in the Kurdistan Regional Government.
3. This research is in the early studies in the Iraqi Kurdistan universities, which focused on disclosure about the reality of the use of information technology on NGOs and in particular at the Ministry level.
4. Most of the research topics dealt with the impact of information technology in organizations through e-commerce, e-marketing and e-administration but this topic it dealt with the relationship between the function of human resources management and information technology through electronic management of human resources term.
5. It can also contribute to this research to sensitize organization's managers of the importance of information technology to activate the function of human resources to achieve excellence.

## **7. Objective of the Research**

This study aims to bundle of goals to identify the role of information technology it can be summarized in the following points:

1. Definition of the electronic management of human resources.
2. Disclosure of the benefits that can be obtained from the organization through using information technology in the management of human resources.
3. Give a picture of the reality for using information technology in the Human Resources Department of the Ministry of finance and economy.
1. Propose a number of recommendations in the light of the results and put some necessary suggestions to improve the role of information technology in the activation of human resources management in the ministry of finance and economy.

## **8. Literature Review**

1. **Information Technology and its Role in Activating the Function of Human Resource Management, Muhaibal Wassam, Faculty of Economic Science and Commercial Science and Management Science, University of Algeria (2011).**

The aim of this research is identify the electronic human resources management, material and human requirements, and disclosure of the benefits than can be obtained by the government through the USA of information technology in human resource management, also putted some suggestion to improve the role of information technology in the activation of human resource management at ministry of finance, she gave a picture of the reality to use of IT in the management of the ministry of finance.

**2. The Role of Information Technology on Achieving Competitive Feature in the Algeria Economic Institution, Muhammad Rafrafi, a Master Thesis in Muhammad Khether University, Algeria.**

This study aimed to achieve several goals, including the main:

- A. To identify the extent of progress in sustainable competitive advantage in the economic foundation;
- B. Study and analysis of the existing relations between IT and competitive advantage in the economic institution;
- C. Knowledge of the extent of the contribution of information technology in achieving the objectives of competitive advantage in the economic institution;
- D. Determine the extent of the need to use information technology to achieve sustainable competitive advantage.

**3. The Role of Information Technology in the Management and Development of Human Resource at Government Institutions, Kawther Abdulla Muhammad, 2011.**

The role of information technology would clearly take place in the management and development of human resources in government institutions. The research, closely identified such impediments as commonly encountering the information system as a whole, which deemed as the core of human resources information system and provided solutions to resolve the same.

The research has reached a number of research findings, the most important of which are the following:

- A. Human resources information system is deemed as one of the most important systems in government institutions, which provides overall data of human resources as well as financial and other resources;
- B. And then carries out a data processing in accordance with a specific basis, rules and procedures and hence provides it to users upon request;
- C. Human resources information system fully contributed to measuring the value of human resources and analyzing the same in a perfect financial manner.

In addition to that, it contributes effectively to making planning for those resources at both the institutional and national levels, by the effective contribution to drawing employment policies, and what relating thereto, of drawing such policies as to affect the organization of migration and wages and promotion in a scientific manner.

## 9. Research Sketch

In order to depict a clear image of this research, a roadmap is developed to understand the research procedure and how it is organized. This research involves five chapters as bellow:

Chapter one: A general introduction about the research, which include; background, importance, problem, objective, and hypothesis of the research, and literature review of many studies close to this research.

Chapter two: the general framework of information technology, which consist of the main three parts as information, technology and information technology.

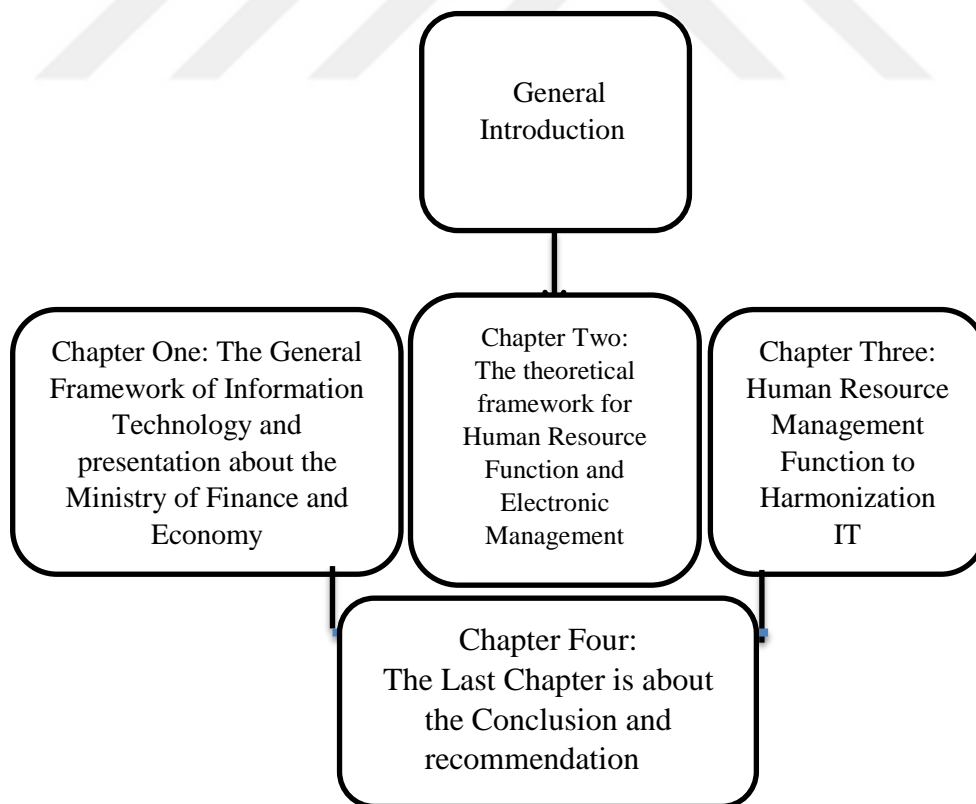
Chapter three: this chapter is specialization for human resource function and its role in the organization when mixed with electronic management.

Chapter four: the main purpose of this chapter is to harmonization information technology with human resource management function.

And the last chapter is chapter five, and it is about the main aim of our research is the role of information technology in function activation of human resource in ministry of finance and economy in Kurdistan Regional Government.

## 10. Structure of the Research

Figure (A): Structure of the Research



Source: By the Researcher according to the study

## **CHAPTER ONE**

### **THE GENERAL FRAMEWORK FOR INFORMATION TECHNOLOGY AND PRESENTATION ABOUT MINISTRY OF FINANCE AND ECONOMY**

Reliance of organizations on the technology of all kinds, urgent need especially in comparison with its active role in the various fields of social, economic, cultural, political ....., and more need of technology for organizations, whenever increased continuity, development and therefore evolution. With the development of information technology and exploitation in the performance of the functions of the organization has increased the importance of information technology, currently possession of information and communication technology is represents the speed of adaptation to the environment developments and speed of response to market changes.

Organizations often benefited of information technology and mechanisms to improve performance and productivity, and the spread of infection of the human resources management function and dubbed the term electronic management of human resources (e-HRM), which depicts the adaptation of human resources management to align Information Technology.

Ministry of Finance and Economy is the most important sector in the government and we have chosen it as a sample to determine the role of information technology on its Human Resource directorate, therefore, administrative and personality directorate is equal to human resource directorate but not used information technology and wanted to choose another place which applied the technology, about that we have selected the same sector at another place that applied information technology on its Human Resource directorate

It is addressed in this chapter, the following three sections:

Section One: The General Framework for Information.

Section Two: The General Framework for Technology.

Section Three: The General Framework for Information technology.

Section Four: Tasks, strategy and organization of the Ministry of Finance and Economy

Section four: Presenting about the Ministry of Finance and Economy-Iraqi Kurdistan Regional Government.

## **1.1. The Information**

The term of the technology is an important part of the information technology, we will address to the term of information as an essential resource and must be dealt with it, and then it is important to address the concepts of information.

### **1.1.1. The Concept, Importance and Historical Evolution of Information Period**

#### **1.1.1.1. The Concept of Information**

The information constitutes the motor nerve of any activity performed by a person in the daily practices of different areas of use, due to the overlap between the concept of all of the information and data; it will be recognized on each one of them separately.

##### **1.1.1.1.1. Data**

Information plays an important role in the communication process and its progress through the various functions within the organization as it become address and travels around the world with modern communication.

As part of these studies there is a group of the most common problems is the distinction between a number of terms used interactively while are different from each other, in these terms are the term "data" and information ", which they are different in the concept informational flour.

Data is "All the facts and figures and symbols that indicate or describe a subject or a certain idea, situation or condition, or any other factor, and also it means the basic element of the information that address by computer or computer-generated."(Diab, M., 1995, p.25)

Known the data as the raw material needed to produce information in accordance with the concept of system, in which represent the data input and output information and that after handling.

As well as, is a linguistic expressions or sport or a symbolic or a combination of them, representing individuals, things, events, and concepts which believes that the information is a data set in a meaningful and significant for their content recipients in which allocates to it value.

Also known as "abstract facts did not hold out any treatments as which they represent the raw materials."

Through these definitions it becomes clear that the data is the basic raw material, which produces the information.

### 1.1.1.1.2. Information

The twenty-first century witnessed, large knowledge revolution based information which has become the most powerful weapon, as knowledge has also become more powerful than all the other factors of production. (Abdulwarith, M., 2006, p.18)

Information is the key element that reduces uncertainty and increases the degree of confidence in the situation or a particular decision. (Al Abadi, B., 2006, p.16)

Information plays a key and an important role in the process of decision-making and this in both individually and collectively level (organizations, nations and countries ...), studies have indicated that 90% of the causes of the success of the decision back to the availability of correct information which enables the decision maker to choose the best solutions from the available options, regardless of the level of decision-making.

Yu Zoa (Chinese researcher) Pointed out that the concept of information has more than three hundred definition and etymologically it derived from Latin term (information) and it means connecting process, and it may be mentioned the following definitions of information:

The information is "the data that had been prepared to become more useful to the individual's future, and that have value in current use or the expected or in the decisions that are made. "(Kawja, B., 2014, p.23)

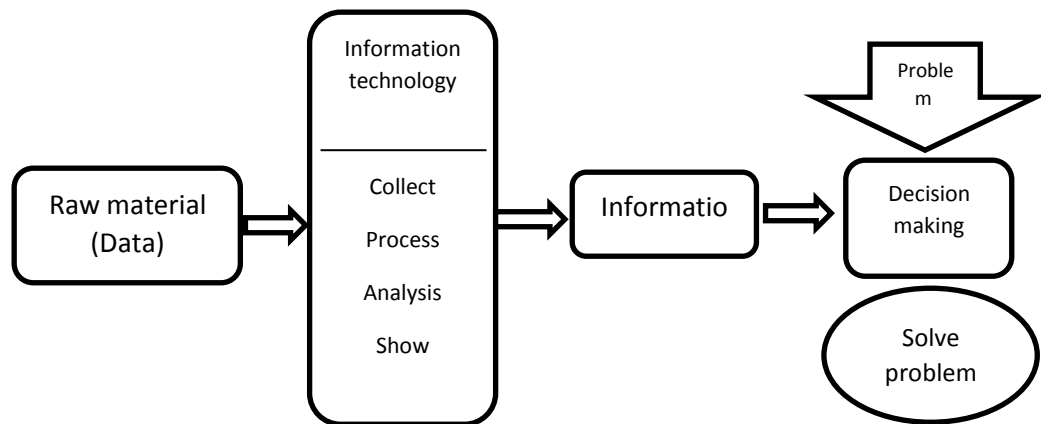
Also known as "the information is a commodity that can be given, sold, distributed, steal, transformed." "(Kawja, B., 2014, p.19)

Also it is "Facts and organization data describe a certain situation or a certain problem."(Rabhi, M., 2010, p.12)

And defined by some specialists in management is "All of holds to us that change our view of things reduces our expertise."(Karama, S., 2011, p.22)

The data are facts that were recorded for certain events have done or will be in the future, these facts may be independent and not linked to each other and is limited in number. But the information is data had been processed in a form gave a meaning for its future or its employers and add to it the real or consciously value for current and future decision-making operations, and it can express the relationship between the data and information as in Figure bellow:

Figure (1-1): The Relationship between Data and Information



Source: (Ihsan, M., 2008, p.11)

The relationship between data and information are the same as those that exist between the raw material and the finished product, as the information technology running on the data, prepared and converted from the image cannot be used with it to an image that can be used.

According to these definitions, informatics is the natural consequence of the existence of an economy based on knowledge, which are the four pillars in the presence of: (Bakhti, I., 2004, p.25)

1. Institutional and economic environment that allows free flow of knowledge and investment in information and communication, and encourage business activities;
2. Population base, an educated, skilled and capable to creating and sharing this knowledge and use it.
3. Dynamic infrastructure of information «start from the radio and ends to the Internet » to facilitate effective communication, beating and data processing.
4. A network of research centers, universities, intellectual vessels and private companies.

### 1.1.1.2. The Importance of Information

People who appreciate the planning and dealing with the things, he possesses information of various forms and shapes, as much as persons or states possessed of information as much as they are in more powerful positions and are better able to act, any human activity practiced either industrially or commercially or otherwise, it fundamentally depends on the information, the information is that have produced for us modern sophisticated industries of aircraft and locomotives and advanced systems and other mechanism of the achievements of the information age.

1. According to the most economists, they accentuate that “the bad situation of the economies of the most developing countries may increase if neglect of the information sector has continued”. In that context, the information plays an important and vital role that appears in the: (Wissam, M., 2012, p.29)
  - A. Enrich the scientific research and development of science and technology;
  - B. It is the main element in making the right decision and problem solving;
  - C. It has a great importance in the fields of economic, social development, administrative and cultural...etc.;
  - D. Has a big role in a timely manner through the processing, input and reporting cycle;
  - E. Help information in transfer our experience to others, and to solve the problems that face us;
  - F. Awareness of what is occurring on the circumstances surrounding the change, and get to know the dimensions of this change and its nature;
  - G. Identify ways to deal with this change, or surrounding, or adaptation;
  - H. Select the appropriate alternative, and make the decision on it;
  - I. Fulfillment of the decision;
  - J. Follow up the result implementation.
  
2. The availability of appropriate information for the purposes of social and economic development leads to the achievement of the following gains: (Karama, S., 2011, p.23)
  - A. Community capacity development through the use of available information;
  - B. Rationalize and coordinate the community's efforts in research and development in the light of available information;
  - C. Ensure a broad base of knowledge to solve problems;
  - D. The height with level of efficiency and effectiveness of technical activities in the production and services;
  - E. Ensure supplements the right decisions in all sectors.

### 1.1.1.3. The Historical Evolution of the Information Period

Researchers divided the evolution of communities into three main stages: (Rise, M., 2006, p.63)

- 1.1.1.3.1. **Agricultural society:** This phase is the simplest and first stages known to human through continuous striving to satisfy his needs, where it depends mainly on raw materials and natural energy that provided him the earth and its muscular effort.
- 1.1.1.3.2. **Industrial society:** The beginning of this phase is considered qualitative shift in human life, which started since the discovery of



the steam engine that was replaced the muscular effort, and the goal is become accessible to the efficiency of equipment and relying on the power generated.

**1.1.1.3.3. Informational society:** this phase is the latest that experienced human of evolution, from the beginning of the second half of the twentieth century to the present day, Is the period of development of the society mainly depends on the information, is the period which the society of development mainly depends on the information. In which information sector has emerged as important sector of the economy, and it became the production information, processing and distribution is a key economic activity in most countries of the world. It also became normal that the present era is called the information period, and the following table summarizes what has been mentioned.

Table (1-1): Development in Information Period

	<b>Agricultural society</b>	<b>Industrial society</b>	<b>Informational society</b>
<b>Primary supplier</b>	Land and raw materials, manual labor	Capital, resources of energy, and Mechanical work	Information, Mental work
<b>Primary activity</b>	Agricultural Production, Switching ware	Industrial production, Traditional service sector	Communication, new materials
<b>Technological relied upon</b>	Mining, commercial machine	Petro-chemistry, mechanics, electro mechanic	Information Technology Communications, Biotechnology

Source: (Rise, M., 2006, p.65)

## 1.1.2. Properties, Benefits, and Obstacles of Information

### 1.1.2.1. Properties of Information

1. Information is available on a range of features, including: (Rabhi, M., 2010, p.19)
  - A. **Timely:** it is the suitable information timetable and are available at the time of need;
  - B. **Clarity:** information must be clear and free from mystery;

- C. **Accuracy:** and it means that the information be free of assembly and registry errors, so reliable in assessing the possibilities of the future and help the administration in portraying the reality of conditions;
  - D. **Validity:** it meant the information to be convenient or flexible and suitable to the request of the beneficiary;
  - E. **Quantitative measurement:** means the possibility of quantification of official information resulting from the information system;
  - F. **Flexibility:** means that the information are suitable and adapt to the wishes of more than one beneficiary;
  - G. **Impartiality:** means not to change the content of information which affects the beneficiary, or change the information so as to correspond with the goals and desires of the beneficiaries;
  - H. **Coverage:** and it meant to be exhaustive information to all the requirements and desires of the beneficiary and be fully and without preference plus and without brevity to losing its meaning;
  - I. **Auditable:** It is relatively Boolean property and concerns the degree of agreement between the various beneficiaries to review examination of the same information.
2. The information is usually characterized by several of the most important characteristics: (Althahir, N., 2009, p.17)
    - A. Liquefaction and liquidity property;
    - B. Transportability through specific paths;
    - C. Featuring plenty of information;
    - D. Ease of copies;
    - E. Most of the information afflict degree of uncertainty;
    - F. In addition to the above, Information is characterized by quality, whenever increase the quality of information, increased its value and increased quality of decisions that taken by the chief administrative
  3. There are three factors that determine the degree of the quality of information by that use this information, are as follow: (Abdullah, X., Muhammad, Q., 2011, p.27)
    - A. **Information benefit:** this beneficial is assimilate in two components, correctness of the information and ease to use;
    - B. **Degree of satisfaction on the information:** Alternative to measure the efficiency of the information is a measure of satisfaction for this information before the decision-maker;
    - C. **Mistakes and bias:** The quality of information is more important than the amount of information, since the quality of information varies depending on errors and bias.

And can minimize the errors in the information by following several ways, including:

1. Internal control over the information to discover mistakes;
2. Internal and external review of information;

3. Add a specific degree of confidence about the correctness of the information;
4. Apply special rules to measuring process, preparation and collect the data.

### **1.1.2.2. The Benefits of Information**

Information contributes to achieving the benefits that lead to facilitate or complicate the use of the information itself, and can differentiate between the three main benefits are:

1. **Formalism benefit:** Reflect the extent of the drafting of the information in the form or image, it is expressed in the form of tables, graphs or images fees mathematical equations ... etc.
2. **Time utility:** The information is provided in the time needed to make the appropriate decisions.
3. **Spatial benefit:** Which the information becomes the highest value when it is obtained in the right place.
4. **Possessory benefit:** Information becomes the highest value when it is acquired by decision-makers.

### **1.1.2.3. The Main Obstacles to the Information**

The following factors stand as barriers to entry for developing countries to the information society: (Bakhti, I., 2004, p.28)

1. Lack of Developing countries for the human resources, financial statue and technological expertise that enable them to benefit economically from the information and communications technology.
2. The departure of government interests to provide the basic needs in poor countries and communities, such as electricity, water, health, education and put them top of the list private interests.
3. The absence or lack of awareness of the importance of technology and its applications and even adopt negative attitudes in some cases.
4. Absence of infrastructure, which provide access to the Internet with wireless technology, satellite and mobile phones.
5. The high cost of Internet use in developing countries.
6. Utilization of English language in 80% of Web sites with weakness of familiarity to it in developing countries.
7. Lack of confidence to conduct transactions and payment via the Internet, and the Non-Proliferation adoption of electronic signature and the credibility of the documents that are exchanged via the Internet with the security and confidentiality assurance.
8. The absence of the legislative framework which regulates electronic transactions under the openness of markets and the proliferation of the Internet and preservation of intellectual property rights.

### 1.1.3. Types, Sources of Information and Process of Information Processing

#### 1.1.3.1. Types of Information

Information have taken in recent years a large niche and strategic dimension in organizations, in order to match with the rapid development especially technology from it, it became imperative on the organizations search and then control the vast amount of information in order to survive and continue, and this can be achieved only by identifying the types of information and to deal with each and every types as required by the principles and elements, and the information has been classified into groups according to the following criteria(Sabiria, M., 2007, p.17)

- A. **Official degree:** There are two types, official information that provided by the information systems of the organization and unofficial information that get from outside of the information systems of the organization.
- B. **The degree of change:** There are two types according to this standard; fixed information does not change and changing information.
- C. **A source of information:** There are two sources can either be caused by the organization's operations, that considered inside information or be the result of organization environment considered external information. According to this standard information can be classified to primary information, which gathered for the first time or secondary information that the organization or any other party gathered and previously stored.

#### 1.1.3.2. Sources of Information

Information comes to whether the communication process or to make decisions from one source, and it mean by all vessels or the means or channels in which through it can transfer the information to beneficiaries, there is a group of divisions of these sources was based on several criteria and cannot address all of them, and we address it the closest division, which is consistent with the nature of the work of institutions. The perception and understanding of the sources is a main element to identify the main problems in the information obtained from the point of bias and fortitude, and others.

There are several sources for the information, which: (Alfayomi, M., 1992, p.54)

- A. **Note:** You can get partial answers to a particular form by observing its related events.
- B. **Experience:** Through the subjugation of information sources (individuals, machines, activities, etc. ...)

- C. **Survey:** It is a rich source of information needs to good and private planning regarding to the preparation of lists questionnaire and the selection of the sample, and this source is acquires a great importance in the marketing studies.
- D. **Appreciation Profile:** Information derived from experience, it may be the only way to get the information.
- E. **Institution:** Through various reports prepared by the private parts is a very important source through the production of information that corrects aberrations that may be suffered by the institution.
- F. **The External Environment of the Institution:** is the information that can be obtained from the offices of research, statistics, consulting and various bulletins for private or governmental bodies, however, must be caution in the use of this information and should not be considered in all cases absolutely correct.

The following table summarizes the primary and secondary set of sources mentioned with the advantages and disadvantages of each source.

Table (1-2): Sources of Information

Primary sources	Advantages	Disadvantage
<b>Note</b>	Primary knowledge, Avoid bias in reaction	The impact of observation on what is being observed
<b>Experience</b>	Control in important variables	Experience may not be designed in a good way
<b>Survey</b>	A good way to reach a large number of individuals	design list questionnaire, size of the survey
<b>Appreciation Profile</b>	Information derived from experience, it may be the only way to get the information	It may not be relying on the reaction
Secondary Sources		
<b>Company Information</b>	Specific position, already exist, a relatively low-cost	Timing, may not be complete, in a form good to use
<b>Purchased from External Sources</b>	Not available from another source, easy to get,	Cost, the possibility of bias
<b>Releases</b>	Low cost	It may not be biased
<b>Government Agencies</b>	Large amount of information, abstract and non-biased information	It may not be in a usable form

Source: (Alfayomi, M., 1992, p.55)

### 1.1.3.3.The Process of Information Processing:

Process information processing passed through several stages:

- A. **Collection of Information:** Information collection requires obtained from inside and outside and of the organization, the Organization could get this information either from primary sources such as interviews with individuals or observations or questionnaires, also the organization can obtain information from secondary sources such as statistics or reports. At collecting the information must be interest to concepts of validity and reliability, and appear the importance of these two concepts because of multiple sources of information gathering.
- B. **Information Directing:** You must make sure that the information has been forwarded to the right person or the right side; the organization must know how to orient the information to the appropriate units in enough quickly in order to ensure the integration between various organizational units of the organization.
- C. **Analysis:** The important point in the analysis is partiality. Bias may be intentional or unintentional. Increase the problem of bias if the information analyzed at every stage of the stages of the cross-organization which pass out across the organization, therefore, the Organization must give instructions to individuals who analyze the information.
- D. **Receipt of Information:** There is no benefit to the information if it is not received by the individuals who posted them. There must be a follow-up of any types to receive (such as communication by telephone and confirm or re-receipt voucher) to signify the receipt of the information.
- E. **Storage:** It can be use information directly but often stored, the factors taken into account when storage is the cost and time needed to information, and accessibility.
- F. **Information Retrieval:** Use Computers have led to facilitate information retrieval process and then make them easily accessible process.
- G. **Use of Information:** Information must be gathered if it was used, but in many cases organizations gathered information without knowing when and why they use it, that is leading to wasteful all information and a surplus of them.

## **1.2. The Technology**

According to the importance of the role of information technology in improving performance it has been dedicated to this chapter on the dimensions of the various technical aspects in order to clarify the concept, characteristics, importance, and its types, after that will be access the subject of functionality in terms of concept addressed, and its elements.

Spread the use of computers in various fields in order to improve business performance and increase business efficiency and speed, and due to evolution of this spread and increase of using it increased the need for the exchange of information and data between the constituent units of the organization or organizations between each other.

We will discuss in this section some general concepts about the information technology, types, components and some jobs.

### **1.2.1. The Concept of Technology**

Resulting in rapid technological development and the increasing need for speed of delivery and Citizens' desire for access to many services with palaces traditional management to respond to those desires to the need to reconsider the systems and methods of management services, Hence the interest to information technology is increased from organizations.

Also the technology is a "technical language, science and applied art way to achieve practical purpose and is a set of tools used to provide all that is necessary for living human beings and their welfare, but the technical as a method, or how to deal with the technical details, or a way to accomplish the desired purpose. (Allami, Gh. 2007, p.11)

In linguistic meaning, the term of technology is derived from the Greek word for two ejections, the first is (Techno) which means technical, and the second is (Logos) it means of science and study, and it can be expressed as technical knowledge of technology. There are several definitions of the concept of technology, including:

Technology is the groups of accumulated experience and knowledge available, tools, and physical and organizational management tools, used by human in the performance of the work, or a function in daily life to satisfy their material and moral needs, both on the level of the individual or the community. (Mahmoud, E., 1990, p.33)

Technology is also being technical language, and applied science and technical way to achieve practical purpose as well as being a set of tools used to provide all that is necessary for living human beings and their welfare. (Allami, Gh. 2007, p.14)

Technology also known as process or group of processes allows through a clear way for scientific research, improving basic techniques and the application of scientific knowledge for the development of industrial production. (Rafafi, M., 2014, p.29)

It can be defined from the point of economic analysis is knowledge and new skills and expertise group which can be converted to the tip of the production or use in the production of goods and services, marketing and distribution and use their in generating productive structures.

Using of the term technology has appeared in modern times, especially after the appearance of the industrial revolution.

Generally seeks technology to convert raw materials to ready goods through methods and techniques, tools and equipment and all that has to do with this conversion, technology is also "working to achieve economic goals by providing all the practices, methods, techniques, rules, scientific knowledge, to facilitate product design and production procedures, and develop methods of management or organization's information systems. (Alian, C., Jean, M., 2002, p.55)

Through in these definitions is noted that there have focused on the physical aspect which includes all the machinery and equipment as well as various engineering construction and technical and it neglected the second aspect, which focused upon other definitions and is the intellectual side which includes a set of cognitive foundations, technical and methodological which are beyond the physical aspect production and the best definitions are comprehensive which did not neglect the sides together and explained that the sides and the two elements together are overlap and complement each other and that the absence of one of the two components falling possibility of the existence of the other as an individual.

## **1.2.2. The Importance and Strategic Role of Technology**

### **1.2.2.1. The Importance of Technology**

Technology occupies a vital role in various institutions for its contribution to achieving outstanding performance which emphasizes the need to keep up the changing with the organization and huge and rapid technological developments in the arena operations and the technology has achieved several benefits of the organizations, For example, not limitation: (Allami, Gh. 2007, p.17)

- A. Reducing labor costs;
- B. Increase Sales;
- C. Contribute to the quality improvement;
- D. Accelerate product delivery times by reducing working hours and delays in the work;
- E. Improve environmental conditions;
- F. Help to inventions, innovations and creations in goods, services and facilities;
- G. Help to achieve competitive advantage and as well as to province the survival and continuity.



And achieve of technology by the group of benefits mentioned, they work directly and indirectly in the lifting of the internal functioning of the organizations as shown in the following table:

Table (1-3) Shows the Percentage Improvement in Performance when Using Technology

Performance indicators	Improvement ratio
Efficiency	Increased by %75
Spaces	Decreased by % 50
Storage levels	Drooped to % 60
Production quantities	Increased by % 50
Costs	Drooped to % 40
The proportion of damaged and defective	Decreased by %90
Time schedule	Decrease % 80
Diversification	Very hi
Creativity	Hi
Quality	Good
Flexibility	Hi

Source; (Allami, Gh. 2007, p.17)

#### **1.2.2.1. The Most Prominent Importance of Technology in Development is as Follows:**

- A. Adding new uses of economic resources, Allow increasing the economic value of the resources;
- B. Innovation of productivity tools allow substitution between resources in a way that reduces the use of scarce resources by increasing the use of available resources, in a way that leads to increased production through it;
- C. Increase the productivity of existing resources, by reaching to devise methods to ensure the productivity of production efficiency, as achieve the increase in resource productivity;
- D. Discovery of new ways and means of production through technological advancement in a way that allows to increase production and improve the quality in addition to reducing the cost of achieving efficiency.

When an organization adapts to a particular technology, it must be considered into: (Wissam, M., 2012, p.32)

- A. Its cost base.
- B. The reaction of workers about the technology.
- C. The necessary training to them.
- D. The expected benefits of them.

### **1.2.3. Types and Stages of Technology**

#### **1.2.3.1. Types of Technology**

The technology is classified based on several aspects, including the following: (Kawja, B., 2014, p.29)

##### **1. On the Basis of the Degree of Control:**

- A. Basic technology: It is common technology, owned by industrial enterprises and it characterized in that the degree of control is very large.
- B. Excellence technology: it is reverse the previous type, which they owned by one or a limited number of industrial enterprises, it is the technology that distinguishes it from the rest of its direct competitors.

##### **2. Based on the Theme, There are:**

- A. Product technology: it that technology are contained and embodied in an asset.
- B. Technology of production method: It is those used within the manufacturing and processing operations, and patching and surveillance operations.
- C. Steering Technology: It is used in solve of organizational problems, and conduct resource flows, examples are including software and applications Steering (decision support systems, support systems managers).
- D. Design Technology: It is used in the design activities of the foundation, such as Computer-Aided design.
- E. Information technology and communication: It is used in information and data processing and transmission, as increasingly important constantly, and it is one of the important variables in this study.

##### **3. Based on the Phases of its Life:**

The technology passes through several stages:

- A. Offspring technology;
- B. Technology in the growth phase;
- C. Technology in the mature phase.

#### **4. Based on the Place of Use:**

- A. Technology used within the organization: where the degree of control with a high level of competence and expertise and due to its which the institution to be independent of the outer perimeter.
- B. Technology used outside the organization: the lack of this technology within the institution, for the reasons or others, makes it linked to extension of external perimeter.

#### **5. Based on the Intensive Technology:**

- A. Intensive technology to work: It is those that lead to the reduction of share capital of Unity percentage of production, it requesting an increase in the necessary number of units of work to produce that unit, preferably applied in countries with density population and poor in resources and capital.
- B. Intensive technology to capital: It is increase of the capital needed to produce a unit of production in expense for reduced business unit, it suitable mostly with countries that are available on a large capital.
- C. Neutral technology: It is a technology where the capital coefficient is changing and works by one, so they keep on factories often by one.

#### **6. Based on the Different Factors;**

- A. On the basis of the degree of complexity: It is a very complex technology that is difficult for national institutions in developing countries to achieve tapped expects to order for aid from the patent holder.
- B. Ordinary Technology: They are less complex than its previous, it can be absorbed from local technicians and specialists in developing countries, but it is also characterized by the magnitude of the investment costs.

### **1.2.3.2. Stages of Technology Development**

Passed technology through the stages of historical evolution spanned a long period of time, including: (Kawja, B., 2014, p.24)

1. Handicrafts stage.
2. Mechanization stage
3. Mass production stage
4. Automation stage
5. Cybernation stage.

That all stages above of the technology are used in different human societies and also in different areas of life, that is use of computers and modern technologies has led to a significant impact in the work of contemporary organizations, and intensely and increasingly they invaded in the technical and administrative aspects of performance in organizations according to their use of technology levels.

### **1.3. The Information Technology**

Information technology is revolutionizing the way, in which we live and work. It is changing all aspects of our life style. The digital revolution has given mankind the ability to treat information with mathematical precision, to transmit it with high accuracy and to manipulate it. These capabilities are bringing into being, a whole world within and around the physical world. The amount of calculation power that is available to mankind is increasing at an exceptional rate and Computers and communication is becoming integral parts.

At the organizational level, Information Technology should assist in specifying the objectives and strategies of the organization. Information Technology should also aid in developing and supporting, and procedures to achieve them. At the departmental level, Information Technology must ensure a smooth flow of information across departments, and should guide organization to adopt the most viable business practices.

Today, information and technology must be conceived of broadly to encompass the information that businesses create and use as well as a wide spectrum of increasingly convergent and linked technologies that process the information with the emergence of the personal computer, optical fiber networks, the explosion of the Internet and the World Wide Web.

#### **1.3.1. The Concept, Importance and Properties of Information Technology**

##### **1.3.1.1. The Concept of Information Technology**

Information technology knows as a set of computers and equipment and supporting programs, services and associated resources and applied to support the stages of work that makes digital information that has been generated and stored it easy to use and participate in.

Also known as all the technology used in the operation, transport and storage of information in electronic form, and the best example of information technology is a computer which is defined as an electronic device it has the ability to receive and store data internally and addressed automatically by a program of instructions to get the desired results. (Asim, Kh. Ibrahim, M., 2013, p.135)

The information technology is a technology that links computer networks together via the Internet that allows the exchange of information between all the users in the whole world right time to make rational decisions. The best example of communications technology is the Internet, which is defined as the network of networks which through it millions of computers are connected computer devices of local area networks with wide networks which are used to transfer and exchange of information on the world-wide.

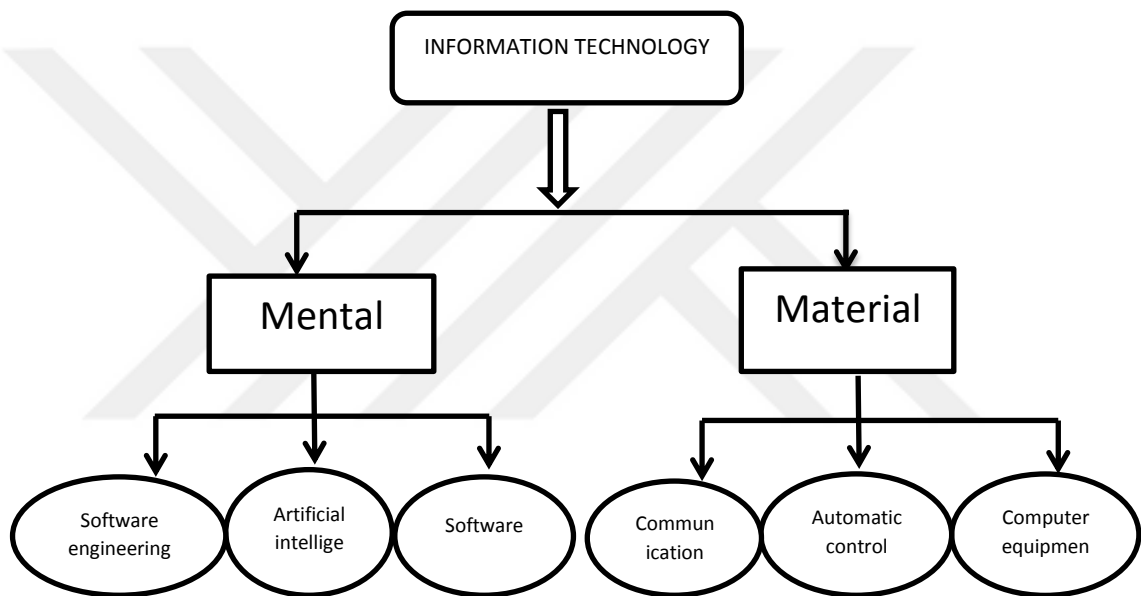
Also definitions of information technology is as a "mixture of computers and means of communication, starting from the optical fiber to satellites, the thumbnail, footage techniques and cloning, representing a wide range of inventions which uses the information outside of the human mind. (Hadi, M., 1989, p.37)

And also information technology is defined through two lines are:

**The First Part (Material):** This consists of computer equipment, automatic control and technology communications.

**The Second Part (Mental):** This consists of software, artificial intelligence, and software engineering.

Figure (1-2): The Concept of Information Technology



Source: (Al Hasania, S., 1998, p.23)

### 1.3.1.2. The Benefits of Information Technology

Information technology components represented in the physical computers and their material and non-material parts (programs), local and global networks and data as well as knowing how to use and application by users in an efficient manner it serves the organization to achieves its best performance.

Information Technology affects the organizations performance of its core functions capability, and the most important benefits and advantages of information technology when organizations used these tools optimally:

- A. Speed and accuracy in the completion of the work required;
- B. Reduce costs and reduce the use of paper files that take up too much space in the organization;

- C. Improve efficiency and increase affectivity and through doing things in the right way with the ability to increase the coordination between the various administrative departments and sections;
- D. Determine the channels of communication between the various administrative levels of the organization;
- E. Create right conditions for effective decision making and through information processing method and briefly and in suitable time;
- F. Helping to predict the future of the organization and the expected possibilities in the case of a defect in achieving goals;
- G. Keep pace with global developments;
- H. Contribute to the improvement of quality;
- I. Help to inventions, innovations and creations in goods and services;
- J. Help to achieve competitive advantage and as well as to maintain the survival and continuity;
- K. Save the historical and necessary information which is the basis of the organizations.
- L. Mumbling, it means the fastest, the smallest and the least expensive and is one of the most important features of information technology which they are characterized by constant improvement in speed and memory capacity.

### **1.3.1.3. The Importance of Information Technology**

Information technology replace capital and energy replaced as resources capable of increasing wealth, and here comes the role of intellectual capital of the organization. The information era is an era in which appears the knowledge economy, and the knowledge-based economy is an advanced stage of the knowledge economy which is based on several essential components constitute the information society components it has become more closely related to a revolution of information and communication technology.

1. The most importance of technology information as follows: (Al Arabi, A., 2012, p.423)
  - A. It assists organizations in obtaining the information needed to perform their work properly and distinctive;
  - B. Help organizations in finding new employment opportunities;
  - C. Is considered the base, which the administrative organizations are building competitive advantage when occupied by the technology of the active and working to change the way which they operate and organizations restructure their products and services.
2. Information technology achieves many benefits: (Qaduri, S., 2003, p.39)
  - A. Accelerate the development of effective mechanisms for economic growth;

- B. Improve decision making: Information technology is often improved business operations and create an environment that meets the aspirations of all parties and embody more dynamic and long-term business relationships based on mutual interest;
- C. Risk management: Information technology that will enable to manage the organization of many possible risks and reduce the prospects through the scientific research, regulation and organizational capacity;
- D. Futures Management: The subject of futures plays a great deal of intellectual and humanitarian effort in the contemporary world;
- E. Control of information: information technology improved the way in which can do a search for collecting, selection and classification the data to increase the speed of learning potential competitors, which the advanced information technology has become capacity a day to collect a huge amounts of selected information from several differences and spacing places;
- F. The use of information technology provide an opportunity for organizations to utilization from the resources better;
- G. Increased ability to coordinate actions between the various organizations; as well as the coordination between the departments of the organization itself and utilization all activities from it;
- H. Saving data and the necessary historical information which is essential in their work.

#### **1.3.1.4. Properties of Information Technology**

Scientific and technological development have contributed to the well-being of individuals, among the developments that occur constantly those related to information technology, Education and edification services and provision the necessary information for individuals and economic units, which the world become a small village members can communicate with each other easily and share information at any time and in any place, This importance back to the information technology that characterized the latter, including the widespread and endurance capacity whether the number of individual participants and the callers, or relative to the size of information transmitted, which is also characterized by fast performance and ease of use and variety of services.

There are many properties of information technology: (Munir, N., Naaema, B., 2005, p.49)

1. Information technology contributes to economic development through the digital revolution that leads to the emergence of new forms completely from the social and economic interaction and the establishment new communities.
2. Increasing the capacity of individuals to communicate and share information and knowledge, and raise the chance of transform the world into a place more

peaceful and prosperous for all its inhabitants, that if all individuals have the possibilities to participate and benefits of this technology.

3. Enable information and technology, over and above traditional and modern media, marginalized and isolated individuals to voice in the global community, regardless of its type and place of residence. It helps to compromise between power and relations decision-making at the local and international levels, it can empower individuals, communities, and countries to improve their lives in a manner, and it was not possible previously. It can also help improve the efficiency of the basic tools of the economy through access to information and transparency.

The summary of the above, the most important properties of information technology is the speed of the electronic data processing and the possibility of delivery to all users all over the world on the right time to make decisions.

The information technology characterized from other technologies in a set of characteristics, including: (Suhad, B., Fars, B., 2004, p.31)

1. Reducing the time: technology has made all the places – electronically-transgressor;
2. Reduce Location: allows media storage which accommodate a huge amount of information stored and which can be accessed easily;
3. Intellectual tasks sharing with the machine: as a result of the interaction between the researcher and the system;
4. Wren: In other words, faster, cheaper ... etc., and that is the pace of development of information technology products;
5. Artificial Intelligence: the most important characteristic of information technology is knowledge development and strengthen the composition of the user's opportunities for the sake of inclusiveness and control in the production process;
6. Configure the connection networks: Unite group equipment based on information technology in order to form networks, this increases the flow of information between users and industrialists, also the machines producers, allows the exchange of information with other activities;
7. Reactivity : that is mean the user could be the receiver and sender in the same time, participants in the communication process can exchange roles, which it allows to creation a kind of interaction between the activities;
8. means the possibility of receiving the message at any time convenient to the user, participants are not required to use the system at the same time;
9. Decentralization: it is a property that allows for independence of the Information Technology, internet for example, enjoys the continuity of work in all cases, anyone cannot breakdown it in the worldwide;
10. Conductivity: it means the possibility of linking the various communication device, regardless of the company or country in which they are made;



11. **Mobility:** means the user can benefit from its services during his travels, from anywhere via many means communication such as the computer, mobile phone... etc.
12. **Transferability:** the possibility of transferring information from one broker to another, such as transferring audio message to a printed message or Read with the possibility of controlling the communication system;
13. **Non populaces:** It means the possibility of direct communication message to a single individual or interested group, rather than necessarily directed to the huge populace, the possibility to control where up directly from the producer to the consumer, also it allows the combination between different types of connections. Whether one person to one person, or from one side to the groups, or from group to group;
14. **Common and spread:** It is the ability of this network to expand to include more and more unlimited space from the world which that gaining its strength from this flexible deployment systematic pattern;
15. **Global:** Is the environment in which these technologies are active, which the information takes a different and complex paths are spread across different regions of the world, it allows for the capital that flows electronically especially considering the ease of business transactions driven by capital informational allowed her to skip an obstacle place and move across international borders.

Table (1-4): Organizational Impacts of Information Technology

Factors and dimensions	Traditional organized	Organization based on IT
Work design	Narrow, limited and lack of flexibility	Wide and high flexibility
Management philosophy	The trend towards centralization	A combination of centralized and decentralized
Organizational structure	hierarchical / bureaucratic	Oblate Plexiglas
management levels	Large	Small
The scope of supervision of senior management	Tight	Wide
Management pattern	Supervisory	Leadership
The quality of workers	non-innovators	creative and adaptable
The role of middle management	Broad	Wide
Areas of focus at work	Focus on activities	Focus on customer

Source: (Al Hamidi, N., 2009, p.33)

## 1.3.2. Information Technology Infrastructure

### 1.3.2.1. The Concept of Information Technology Infrastructure

Infrastructure for information technology consists of three elements, is computer, communication and networks (Aldlemi, I., 2006, p. 26), while others have identified five elements are: (Al Abadi, B., 2006, p.34) Hardware, software, databases, communications and finally human resources.

Information technology infrastructure includes the physical components / devices, software components, and services that provide on the way. There are two definitions for information technology infrastructure, the first is technical definition, defined as a set of physical tools and software applications required to run the organization or institution with all its departments and its facilities, the second, the artistic definition of the information technology infrastructure and means the total services, manpower and application capabilities that offered by hardware and software to the organization, which is funded by the Administration. (Qandilchi, A., Al Janabi, A., 2009, p.44)

It also includes the infrastructure of information technology benefit from public infrastructure, as phone system, network services, and the Internet play an important and decisive role in this structure for its services.

### 1.3.2.2. The Components of Information Technology Infrastructure

**1.3.2.2.1. Physical Components ( Hardware):** also called equipment and tools, Computers constitutes the basis material for the information technology infrastructure, it is the physical automated part that are represents for reservation, process, and store data and information, and other components need computers to accomplish their tasks. Hardware is a computer and the devices attached to it. (Krajewski, L., Ritzman, L., 2005, p.39)

The hardware is divided into input units as keyboard that works to enter data into the computer like audio input devices and scanner, the other parts of the hardware are output units in which is responsible to show the results in sound information form through loudspeakers or visual information over the screens or print texts on the paper by printers, finally, units of information storage is one of the forms of hardware, ROMs, CD, DVD and Floppy discs.

The hardware is consisting of five components: (Al Nihma, N., 2009, p.28)

- A. **Input Devices:** Keyboard, mouse, Pick sound, camera and other tools;
- B. **Central Processing Unit-CPU:** That address data and controls the computer systems;
- C. **Storage Devices:** Such as internal primary storage, secondary storage like disks, magnetic tapes and optical drives;
- D. **Output Devices:** Such as printers, screens, and audio output means;
- E. **Communication Devices:** Used to link computers together.

The continuous development of microelectronic technologies led to revolutionize of the computer and communications technology, and to a radical change in the function of a computer from a giant machine deaf for the processing of large numbers quickly and accurately to the smart machine address all kinds of information.

**1.3.2.2.2. Software:** Computer software consisting of programmed and detailed instructions to control and coordinate the hardware components in the information system, the software is computer programs that control the work of the physical components assume different application tasks. (Krajewski, L., Ritzman, L., 2005, p.40)

The software is written instructions by a private language that understood computers and need a qualified technical stuffs to analysis and design programs and enter these instructions to the computer and repeatedly examined and modified in order to give the correct results required, the efficient programs must be characterized by following: (Al Abadi, B., 2006, p.37)

- A. To be a high-capacity storage for software system;
- B. To provide for more than one beneficiary communicate together at one time;
- C. Work to analyze the data, classify and summarize the information requested by the management and decision-makers;
- D. To be one of the best and newest software available on the market.

Software divided into two main types: (Kenneth, L., Jane, L., 2000, p.21)

- A. System Software: is a public program manages computer resources, such as the central processor, communication links, and peripherals or it is an intermediary between the software application and hardware.
- B. Application Software: Programs wrote for a specific application and perform specific functions by end users.

**1.3.2.2.3. Networks:** Is the means used to send and receive the data and information, it consists of a group of stations located in different locations and connected with each other by media allows beneficiaries make sending and receiving process. Companies must decide the type of suitable networks (intranet and extranet) for their works with the need to develop the skills of their employees constantly in the information technology.

Communication networks is a huge collection of text documents link it with each death on the Internet. The reason to call it the World Wide Web or the World Wide Web network to overlap the numerous links between documents that make up this network sites spread across the world in a manner similar overlapping cobwebs.

And networks are contributing to raising the efficiency of the operation and support of decision makers through:

1. The efficiency and speed of communication and ease of transfer and exchange of information;
2. The economic operation of the devices by participating in use;
3. Participation in the software, information and databases.

And the most important technologies that represent the backbone of the network are: (Allami, Gh. 2013, p.5)

**1.3.2.2.3.1. The Internet Network:** Is a network of networks; the center for the exchange of all forms of digital data including “text, graphics, sound, photographs, programs and faxes”.

The internet also has known as a computer system that links together (entanglement) in the system to allow the exchange of information and resources. (McNabb, D., 2006, p.39)

Linguistically, the internet derived from the international information network, the name abbreviation for English language, and it is called by several names, including The Net, ‘World Net, The Web, Electronic super High Way, Network of Networks.

And the difference between regular computer network and the Internet is that computers network depend on specific devices and programs and has limited the information while the Internet is characterized by unlimited in devices and information, it is found wherever.

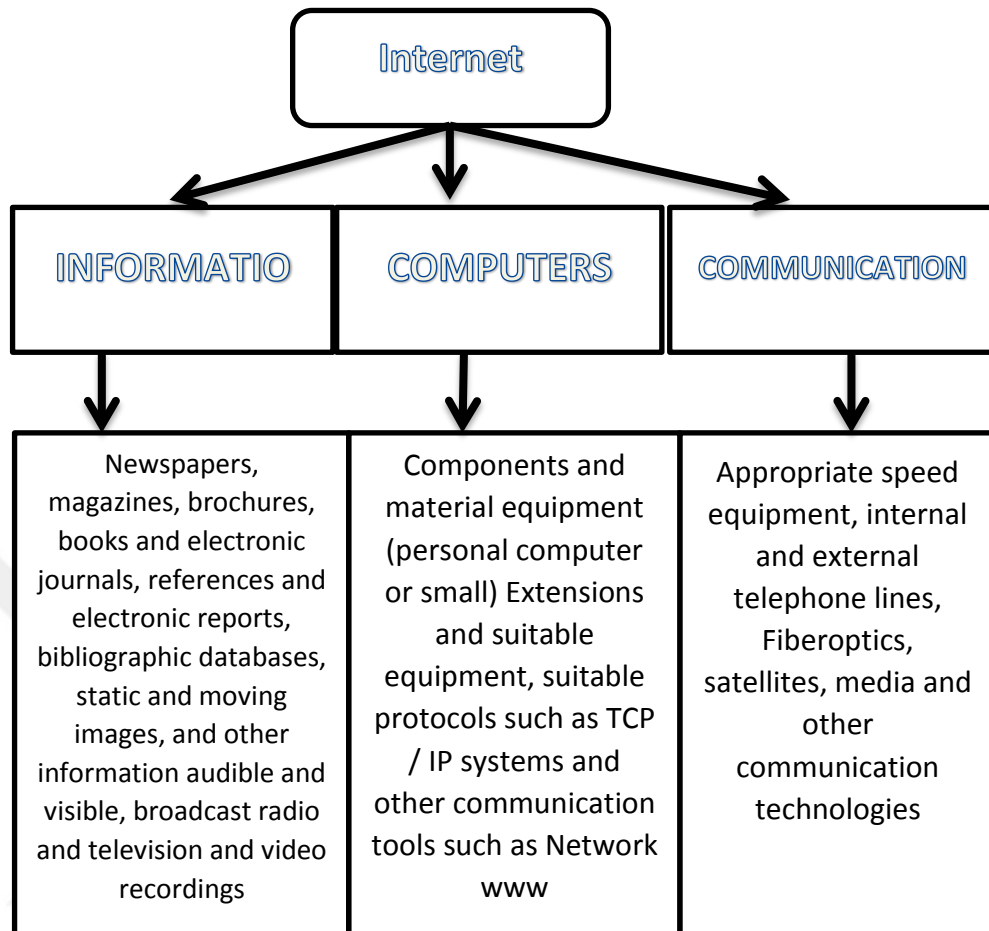
#### **1.3.2.2.3.1.1. The Internet Features**

A study has shown that the most important features of internet are: (Al Barudi, Sh., 2010, p.46)

- a) The Internet network is a network of networks, which is a Launchpad technology for the development of electronic communications and the tremendous growth of economic activities.
- b) Is represent the default digital for space E-Business, the space which carries the business of static content to dynamic content (update, develop, expand, Research) to get the information.
- c) The Internet network is the largest repository of data, information and knowledge.

Can be imagine the combination Of the internet on the following chart, which shows the details of the three interactive areas with each other, they are information, computers and communications.

Table (1-5): The Internet Components



Source: (Al Danani, A., 2001, p.45)

### 1.3.2.2.3.1.2. The Characteristics of the Internet

The internet is characterized by three main characteristics: (Taha, T., 2008, p.47)

- A. **Network of Networks:** its means that the Internet is a wide-ranging network include a group of computer networking mechanism, whether public or private.
- B. **Anonymous Users:** Since it is an international network, deals with it users from around the world and therefore they are unknown to each other.
- C. **Unlimited Capability:** And it means that, the network performance is not reduced by increasing the number of its users, this number cannot be controlled.

And the internet also characterized by a range of other features, including:

- a) Consolidation and multimedia;
- b) Spreading;
- c) Interactive;

- d) Ease of communication;
- e) Ease and speed of transfer and storage of information and data;
- f) Easy searching.

#### **1.3.2.2.3.1.3. Internet Services**

The internet offers many services, like them: (Karama, S., 2011, p.52)

**A. E-mail Services:** E-mail is one of the first services that have been developed on the Internet, which the original goal of the existence of a network is to connecting remote sites from each other.

The e-mail "is one of the most common uses which provide access to millions of people around the world.

This service also allows sending and receiving e-mails from and to all participants in the network across the world, on the commercial level can use e-mail to request information about a particular product or request formal bills or send orders to suppliers or canceled.

**B. World Wide Web (WWW) Services:** Also called broad global fabric, and so-called Web services, it is one of the most commonly used services on the Internet, this service is also the means of promotion and publicity and advertising at the local, regional and global level.

**C. FTP Services:** It is a protocol used to transfer files via Internet network as download some files from a remote server device, webmasters use this protocol to send the necessary updates to the servers.

**D. Service Discussion Forums:** This service allows subscribers to which to express their views on a particular topic come up for discussion, using Email to give opinions. And some of the institutions use these clubs to put up private discussions with its products to know consumer feedback and personal views.

**E. Chat Service:** This service allows us the possibility of a direct dialogue between any number of people around the world, and can procedure this dialogue either in writing or sound or image and sound together.

**F. News Group Services:** Newsgroups are defined as a way to talking with people whose common interests, this is done by placing a specific topic for discussion by the group manager for the people interested in this topic.

**1.3.2.2.3.2. Intranet Network:** Is the internal internet, surrounded by a wall insulator (fire wall) for security purposes, which linking various electronic systems of the organization.(Allami, Gh., 2013, p.7)

A local internal network linking a group of institution staff itself, whether they are in one location or at different locations, in order to facilitate communication and the conduct of its work through the browser, which gives the intranet a unified interface on the desktop for all users, it is an easy way to divide and share information within the organization.

It is like a small internet only for internal use of institute, it means that this network dedicate to the organization's use and are not used by other.

And typically it includes information such as phone numbers, e-mail addresses for employees of the Organization, or health care services, or types of training programs, or the types and prices of products. The people outside of the organization do not have access to intranet sites because organizations designed it just for private use within its members and all employees. It helps contemporary business organizations in several areas.

#### **1.3.2.2.3.2.1. Advantages of Intranet**

The most essential advantages of the internal Intranet network are: (Al Sharfa, S., 2008, p.55)

- A. Getting information in real time or immediately after the occurrence of the event;
- B. Raising the efficiency of communication processes and decision-making;
- C. Contributing to the increase automatically processes which contribute to speeding up operations.

In short we can say that the existence of this network within the company will lead to reduced costs and contribute to the coordination and management of an enterprise's operations and increase their competitiveness.

#### **1.3.2.2.3.2.2. Benefits of Intranet**

And possible to determine the benefits of the Internet as follows:

- A. Possibility to access and link the majority of platforms and computer configurations;
- B. The possibility of linking the company's internal systems and database of main business dealings, in an internal cooperative system;
- C. Possible to insurance interactive applications include texts, sounds and video;
- D. Easy to use by having a global networking system;
- E. The cost of establishing is low;
- F. Information environment is rich and widely responsive;
- G. Reduce in the expenses of information distribution.

### 1.3.2.2.3.2.3. Reasons for Using Intranet

The intranet use largely by medium and large enterprises and for the following reasons: (Karama, A., 2011, p.36)

- A. **Reduce Costs:** Server device in the Intranet works to reduce the need for the presence of multiple copies of the software and databases, and this is for the existence of a structural similarity between the Internet and Intranet, which this structure allows to service download files and applications easily and pleased, and therefore, the institution can dispense of a lot of paper forms and publications that intranet offer electronic solutions like: the phone book, and maintenance requests and multiple administrative services;
- B. **Time Saving:** The intranet has reduced a lot of wasted time in the communication between departments and departments of the same institution. It is also an ensure way to accuracy the communication progress and do not recur;
- C. **Independence and Flexibility:** Intranet provides the possibility of access to information resources through an application is browser, and from different platforms, and the dissemination of information through internal site is done in real time and does not need any prior preparation operations;
- D. **Harnessing the Internet Services:** Intranet allows the user to using the services provided by itself with the difference in the fact that these services are at the enterprise level as it walked through the intranet server, the most important of these services:
  - 1- E-mail service; ·
  - 2- The study service over the Web; ·
  - 3- Messaging mail service; ·
  - 4- Find information service; ·
  - 5- Service dialogue forums on the Web; ·
  - 6- Find information service; ·
  - 7- Online telephone service at the enterprise level; ·
  - 8- Service User Publishing ·

Although the Internet and Intranet have the same working principle, but many cannot distinguish between them, therefore the table below shows the most fundamental differences between the Internet and intranet:



Table (1-6): The Most Important Differences between the Internet and Intranet

Differences	Internet	Intranet
Ownership	Not owned for anyone	It is the property of the organization that hosts.
Access	Anyone can access it	The arrival of people who are allowed to only.
Content	It contains topics and different and multiple information	It contains topics and special information of institution.

Source: (Bakhti, I., 2005, p.313)

But similarities between the Internet and the intranet can be summarized as follows: (Hadid, N. 2007, p.48)

- A. Each of the two networks are used pages written in HTML language;
- B. Each of them Using web browser to view pages;
- C. Each uses the same protocols in receiving and sending information.

**1.3.2.2.3.3. Extranet:** Extranet is a product of both the Internet and Intranet, it is Intranet network open to the external periphery for cooperating institutions that have a relationship with the nature of its activity, in which allow to access the enterprise business partners firewalls that prevent access intruders and access to enterprise data, these may be business partners, suppliers, distributors, partners or clients, or research centers working partnership brought them together in one project, Thus is the internal network allow some external business partners to reach and access for specific reasons. Usually access to the information is partly. (Sabir, M., 2007, p.57)

And the Intranet network or a set of Intranet networks partly opened to include outside parties collaborating with in.

There are two types of extranet, if the contact between the institution and its collaborators ensured by specialized lines called the network a real extranet, but if the contact between them ensured by the internet, called the network fake extranet.

The extranet network are using technology to link officials within the organization (Regional Director, Managers .) to parties from outside of the organization (some major customers, officials of other organizations .). Because Extranet network is a private network and it requires to enter the password while can to access it and deal with it, Extranet technology achieved the broad concept of the institution as open on the outside.

Extranet can be described also as a network links intranet networks related to customers, partners, suppliers and research centers who share partnership work in one project. And the fundamental advantages to use extranets are: (Alsharfa, S., 2008, p.57)

1. Is a tool capable of increasing the efficiency of operations and transactions;
2. Is an important factor in reducing costs during flow the information and the speed of transportation and the ability to provide the flexibility;
3. Featuring this network as provide the required security within the network to exchange the information between companies with each other, and put some powers in exchange of this information.

Extranet arose as we mentioned earlier, response as required by the business sector of partnerships and alliances by networks way, therefore, classification of the extranet networks depends on the business sector, which categorizes them to: (Bakhti, I., 2004, p.39)

**1.3.2.2.3.3.1 Extranet Supply Networks:** These networks connecting main goods warehouses with sub-warehouses In order to facilitate the work automatically, to maintain a fixed amount of goods in the sub-warehouses, based on the base for request point to control inventory, thus reducing the probability of rejecting demands because of the inability of the warehouse.

**1.3.2.2.3.3.2. Extranet Distribution Networks:** These networks give powers to customers based on the volume of transactions, and offer them the electronic demand service and accounts settlement.

**1.3.2.2.3.3.3. Extranet Networks Competitiveness:** This kind of network gives to large and small enterprises equal opportunities in the field of buying and selling, raising the level of service, and enhance product quality and eliminates the monopoly.

The following table shows summary of the three networks:

Table (1-7): Summary of the Three Networks (Internet, Intranet, and Extranet)

Networks	Users	The importance of reliability and performance	Is there need to authorization the user?
Internet	Anybody	Low	No
Intranet	employee	Low	Yes
Extranet	Select partners	High	Yes

Source: (Stair, R., Reynolds, G., 2003, p.49)

**1.3.2.2.4. Database:** it's a set of data or information interrelated and stored in the data storage devices. It can be store of company's record, time standards for the various operations of the company, Cost Data, or information concerning the customer's request. (Krajewski, L., Ritzman, L., 2005, p.42) And can add, modify and update the database constantly to convoy evolving variables, to assist managers in making strategic decisions on the correct basis, and to enable the other end-users to do their business efficiently and effectively. Using of databases lead to time saving and accuracy of information, and find information and create reports easily. Therefore, the administration should take benefits of database and develop its management systems and integration between them and other information technology capabilities.

The database assists in the following matters: (Al Abadi, B., 2006, p. 45)

- A. Reduce data replication because there are logical relationships impose database systems which it leads to increase processing speed and get the information
- B. Providing security and data protection from unauthorized entry may vary protection from simple password that is used to more complexity.
- C. The representation of the data according to the reality of the organization, as is the information in the database is identity to the organization's rules.
- D. The ability to use multiple languages to write applications and easily develop those applications.

There are many types of database: (Allami, Gh. 2013, p. 8)

1. **Multidimensional Databases:** It is an additional database helps the end user to retrieve and represent the complex and many dimensions data more quickly;
2. **Deductive Databases:** Hierarchical and relational databases may not be suitable for some of the knowledge-based applications that require deductive thinking in searches;
3. **Object-Oriented Databases:** To work in objective environment it is necessary to use programming and objective databases;
4. **Multimedia & Hypermedia Databases:** Designed to meet the special needs for dealing with different types of information materials.

#### **1.3.2.2.5. Human Resource Skills:**

Human resources are representing by a set of skills and knowledge to fulfillment the functions of the organization, the human resource of the most important components of information technology as it can be described that is the tacit accumulation of knowledge in the minds of employees in the organization. (Abu Ghanim, I., 2007, p.56) The human skills preparation of qualified and experience is one of the requirements of information technology application, and this is done during training in specialized scientific institutions.

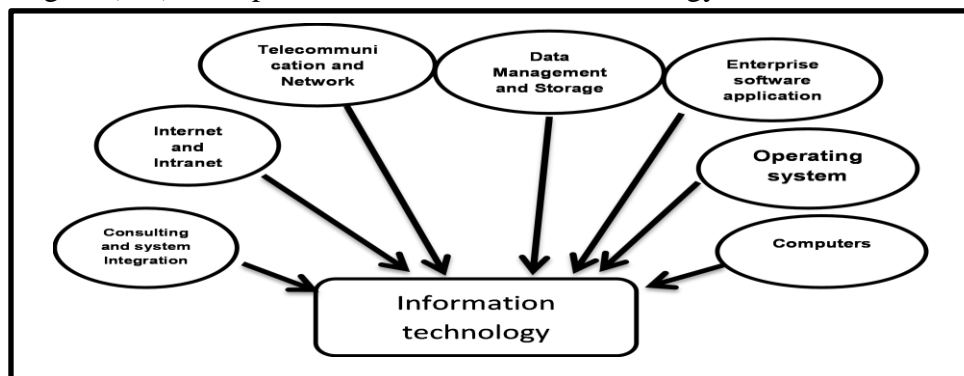
The human resource is the most important components of information technology because it is responsible for the control, management and operation of other components. (Al Baghdadi, A., 2006, p.54) And by the superiority of the organization measure by holding possession of information, experience and skills (Some are called competitive assets and named others intelligence assets, others called it moral assets and also intellectual capital).

And human resources are classified into two classes, the first which constitute the majority are called end-users and who deal with application programs such as beneficiaries and of their applications without going into the fine details of the operations program. And the second class are specialists in the computer field who design computers and put different programs, both of which applied or system software. (Abu Ghanim, I., 2007, p.56)

And there are also other classification of today information technology infrastructure is composed of seven main components:

1. **Computers:** it includes all kinds of small and large computers, fixed and mobile;
2. **Operating System:** Include all operating systems being used as Windows, Linux, and other;
3. **Enterprise Software Application:** include all software applications used in the enterprise as Oracle applications for Database, Microsoft and other applications;
4. **Data Management and Storage:** it includes all software used in the enterprise database management such as storage networks and others;
5. **Telecommunication and Network:** Include all matters relating to communications networks in terms of the hardware and software;
6. **Internet and Intranet:** It includes all physical equipment and software and administrative to support Web sites and Web services for the Internet and intranet;
7. **Consulting and System Integration:** Include all consulting relating to the change, and the development of processes, procedures, training, education, and software integration

Figure (1-3): Components for Information Technology Infrastructure



Source: (Abu Ghanim, I., 2007, p.56)

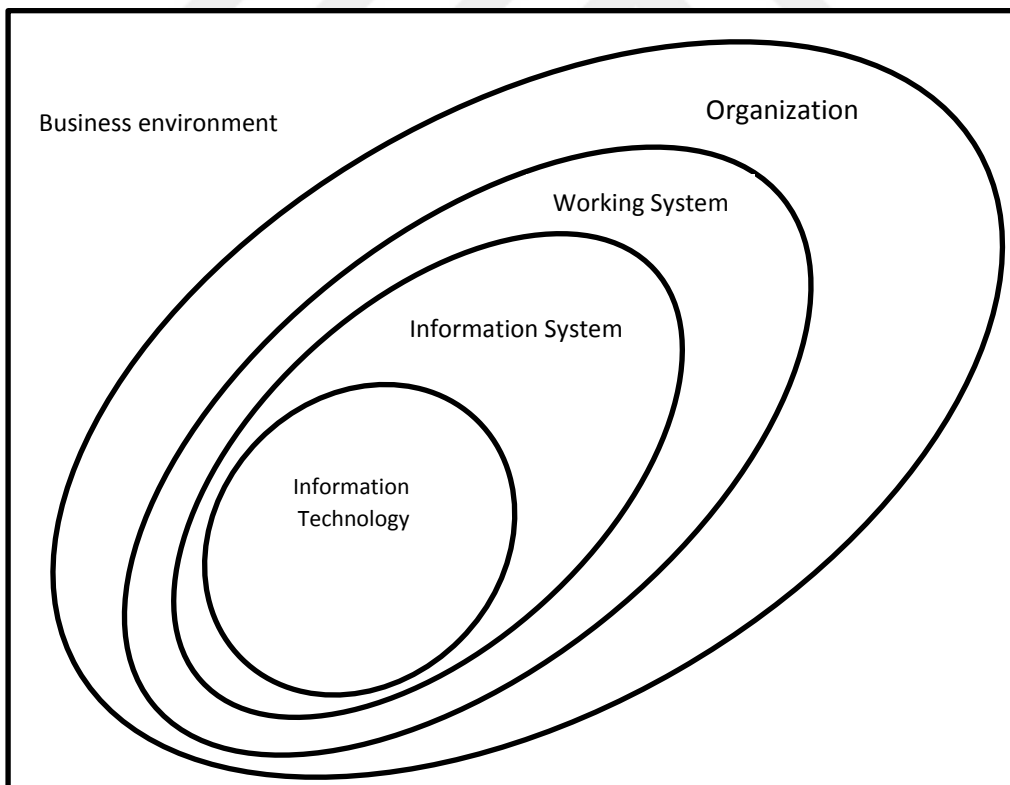
### 1.3.3. Information Technology and Information System

The information technology is known as representing the technological aspect of information systems and of the physical structure (hardware), database, software, networks and other means. In many cases, the term of information technology is used interchangeably with the information system and can be used broadly to describe a group of several information systems and many of those who confuses between information technology and information system, while the term of information systems broader than information technology.

In this regard, the information system is a system to work, using information technology to get to the information, transmitted, stored, retrieved or displayed and this information is used by business systems that support information systems and organizations composed of interconnected systems working and competing in the business environment.

And it can be expressed for that in the following form which shows and in the simplified form, the information system (IS) is a part of a broader and more comprehensive system that is the information technology.

Figure (1-4): Information Technology and Information System



Source: (Al Baghdadi, A., 2006, p.55)

In this aspect, it is that Information technology is different from the information systems to that the information systems represent (a computerized package) use the information technology to support the administration in its activities and to meet the needs of the necessary information to make decisions. Through these systems within generation and different patterns, the integration process are done between information technology and the activities of the organization in order to achieve the expected goals of this technology and make the necessary changes in the functions within the organization.

### **1.3.3.1. The Areas of Information Technology Application**

Through this section we will clarify the most important information technology applications.

#### **1.3.3.1.1. Applications of Information Technology in the Management Field**

The increasing flow of information and the critical need to address them within the organization on the one hand, and exchange size of this information with the rest of interest on the other hand, pushed the organization to develop its information technology. It was one of the effective means to solve management problems, especially in advanced countries. With the development of information technology, computer occupied an important place in the areas of administration and expanded its use, especially for the conduct of routine operations.

Not only has its operations from this point, but exceeded the limits of communication and linkage between the various administration offices, to facilitate the management and coordination operations between the various functions, by using internal and external networks. Information technology also contributed in decision-making related to the institution, as an example, the emergence of expert systems that helps to make decisions and find solutions related to management problems. (Alani, M., Jawad, Sh., 2008, p.59)

#### **1.3.3.1.2. Application of Information Technology in the Industry Field**

With increasing the development of information technology and the increasing intensity of competition before the big changes, impulse the institutions to use and application new technologies of this technology so as to maintain the survival and continuation, including: (Salih, K., 2010, p.70)

- a) **Digitally Oriented Machines:** Devices are replaced the worker in production It appeared at the beginning of World War II, but they did not know the real evolution to be associated permanently with electronics.
- b) **Mechanism:** With the development of electronics and the emergence of silicon chips, these machines have evolved into robots carrying out complex and extremely fast movements beyond human performance with the same efficiency, these machines have become doing several operations, the most important are production, design, cleaning.

- c) **Assistant Design through Computer:** Which can seeing holographic model before performing, which many of the designs are complete at the least possible time and the lowest costs, which allow enter into the production process by the design and production assistant by computer.
- d) **Artificial Intelligence:** human can to achieve his dreams, here is a computer reads and recognizes things and can speak and give a solution to every problem.
- e) **Virtual Education:** which the information technology is considered as one of the infrastructure, and as a tool to support virtual learning and worked to facilitate access to it and at a reasonable cost, as reported in isolated regions connected to her education.
- f) **Electronic Media:** media, which depends on the modes of communication technology in the delivery and provide the public with news and information.
- g) **Health & Medicine:** The hiring of information technology in the field of health and telemedicine, in order to raise the level of health of the inhabitants of rural and remote areas, thus reducing travel and medical expenses.
- h) **Military Field:** Which had a big role in the delivery of messages in secret between the leadership and the field, and as well as for the purposes of espionage, also whereby control guided missiles and smart bombs by the computer , which affected the performance of soldiers in battle.

There are other applications of information technology can be clarified by the following table:

Table (1-8) Information Technology Application

Field	Application	General examples	Examples of management
Account	- Scientific Computing - Designs	-Nuclear science, research - Studies Offices	- Operations Research - Assistant in decision-making
Education	- Assistant Education by Computer - Electronic games	-Space science	-Strategy Games
Documentation	- Apotheosis Libraries - Legal information	-Databases	-The conduct of Patents - Economic databases
talking	-Recognize sounds	-Voice-guided robot	E-Marketing
Photo	- Automatic vehicles for newspapers - Move the eye - Create an automatic	- Publicity - animation	-Special plans for completion reports

Source: (Salih, K., 2010, p.71)

### **1.3.3.2. The Factors That Led to Use the Information Technology**

Studies spotted, that addressed the issue of information and technology, a number of factors that have had an important role in the use of this technology: (Jesson, J., 2010, p.77)

1. Economic globalization with accompanying to break down traditional barriers between markets, and researchers believe that the biggest factors in the growth of the global economy are the information revolution and globalization. In his opinion, the first factor generates the second, resulting the collapse of the border to foreign and international trade.
2. Intensive use of information in the production processes, with the need to asylum increasingly to the specialized skills and expertise in order to run a variety of those technologies and management of these methods.
3. The great development in the current business environment and it has led to significant changes in the structure of economic activities and practice methods.
4. Rapid technological change and drooping transportation and communication costs make it more economical conduct integration between geographically disparate operations and transfer products and components across the globe in search of efficiency.
5. Increased competition that forced economic units to discover new ways to increase their efficiency, including the use of new markets and the relocation of certain production activities to reduce costs.

And the using of information technology to support the achievements of the business stages achieves one or more of the following goals: (Turner, L., Weickgenannt, A., 2009, p.66)

- a) Increase the efficiency of business stages.
- b) Reduce the cost of business phases (cost-saving).
- c) Increase data accuracy associated with the business stages.
- d) Enormous abundance of information.
- e) Access to information in a timely manner.

There are several justifications for the use of information and technology:

- i. The information technology culture working to change the fundamental nature of knowledge and information of community.
- ii. Information technology culture in its various forms and wide diversity and successive generations has the ability to develop patterns of life, learning, and working.
- iii. There is a shortage of information about the current levels of culture and information technology in most countries of the world.



### **1.3.3.3. The Impact of Information Technology in the Administrative Systems**

Information technology provided significant and enormous possibilities to improve the performance of administrative systems and the development all its elements of the individuals, structures and methods of administrative technology. And it could be say that the information technology had radically changed in administrative systems.

And it can be summarized the most important trends of the impact of information technology in the administrative systems as follows:

1. Information technology is an effective tool for reducing the size of (resources and expenses) and reorganization.
2. The use of information technology helps to expand the area of oversight of senior management with the expansion at the same time in the distribution of decision-making process in the executive management, this direction means centralized control and decentralized decision-making; it is a method that combines between advantages of centralized and decentralized styles at one time and the of flexibility and high response degree in the administrative system.
3. Information technology has helped to create new channels of communication through computer and communications networks, both at the corporate level or at the national or global level.
4. Information technology helped managers to riddance of the burdens of routine tasks dull, this is clearly reflect in policy-making in raising the efficiency of senior management.
5. Information technology contributed to increasing the capability of administrative systems to adapt rapidly with the administrative work environment in organizations, and during the provision of economical and effective methods to store, retrieve and processing data and present them to decision makers at the right time. This is clearly reflected on the efficiency of administrative systems and allowed it considerable flexibility to deal with the rapid changes and respond to them.
6. Information technology has created new opportunities for administrative systems have not seen before.
7. In general, the information technology applications are more pervasive and widespread in the administrative areas compared to other fields. It affects directly to the key elements of administrative systems, human resources and information processing, and communication systems and decision-making.
8. Organizations' ability to confrontation and avoid the dangers that can accompany the use of this technology. Transfer this technology successfully associated- so far- to finding appropriate solutions to important issues such as maintaining the confidentiality of information and privacy issues, protection, vandalism, tampering, theft and falsification of records and others to security and protection issues in automated information systems.

It can explain the positive and negative effects of information technology in the following table:

Table (1-9): Some Positive and Negative Effects of Information Technology

The Positive Effects of Information Technology	The Negative Effects of Information Technology
Being able to accomplish arithmetic issues and business processes for paper work much faster than individuals doing.	Computerization of the activities that were performed by individuals will cease and terminate some functions.
Help organizations to broader definition and most comprehensive on private customer sales model.	It allows organizations to collect detailed information about individuals, and thus may exceed their privacy and individual freedoms.
The possibility of advances in medical and surgical areas, and radiographs, and monitor patients.	Intensive use may cause fatigue and health problems.
Supply in potential and new efficiencies, through services such as ATM, automated control of aircraft and airports ... etc.	Caused communities paralysis in cases of malfunctions, unexpected or unknown, in these automated systems.
Need to the higher experience labor and learning, thereby increasing the wages of workers in these sector occupations.	There are people not lucky enough to get jobs because of these technologies.

Source: (Kahina, I., 2015, p.58)

#### 1.3.3.4. The Function of Information Technology

It could be restricted the functions of information technology as following: (Alsalmiy, A., 2002, p.71)

- 1- Collecting details of restrictions or activity records;
- 2- Transform, analyze and calculate all data and information;
- 3- Execution several types of processors of information at one time, whether in writing or sound or image;
- 4- Interestingly organize information according to their nature, even images, sounds or others;
- 5- Storage and retrieval data and information to complete an additional process and send it to another beneficiary;
- 6- Transmission of data and information from a location to another by using e-mail or voice-mail or other messages.

Also (Alter) define the functions of information technology has been known as a recording and storage, transportation, processing, using and retrieve information.

The information technology performs several functions through its instruments, and these functions are:

1. Data processing of and turn it into useful information;
2. Re-process the information and use it as data in other processing steps;
3. Simplify the information to be easily understood by the user to become more attractive and more useful.

#### **1.4. Presenting Ministry of Finance and Economy**

The Ministry of Finance and Economy seeks to distribute funds to various ministries, it applies the planning and monitoring of private investments for the authority of state (ministry, province, municipality, public institutions) and on this basis The Ministry of Finance and Economy is a necessary institution for economic development of the country.

The Ministry of Finance (MOF) is the government agency that plays a key role in developing fixed-income securities markets. On behalf of the government the MOF usually act as the official issuer of public debt instruments. The MOF needs therefore to take a leading role in developing the government debt market. Other agencies are involved as well.

Our research is about the role of information technology at human resource in the ministry of finance and economy – Iraqi Kurdistan Regional Government, because is the most important ministries of the government and it is responsible for the income and expenses of all the ministries, and choosing this ministry is indicates to importance of the finance and economy of the daily transaction.

The Treasury Division is committed to:-

- 1- Providing quality service to the Division's diverse clientele.
- 2- Developing and establishing adequate human resource management.
- 3- Improving the administrative support services functions.
- 4- Developing and implementing a decentralized and fully integrated financial accounting system for the Public Service.
- 5- Improving Internal Audit function in the Public Service.
- 6- Provide an effective budgetary system within a decentralized, accounting framework.
- 7- Developing, implementing and monitoring management information systems for use in the treasury Division and the wider Public Service, and
- 8- Developing the structure and format for Consolidated National Accounts.

Human Resources Management is facing the challenges of the century which is full of changes, including technological as witnessed in recent times of rapid and unprecedented developments in the field of information and communication technology and adding accreditation and intense about their use and employment strongly in most of the functions of the organization, and through this chapter

Applied highlights to the Ministry of Finance and economy revealed the extent of exploitation information technology and communications in the activation of the management of human resources.

The Ministry of Finance seeks to distribute funds to various ministries, it applies the planning and monitoring of private investments for the authority of state (ministry, province, municipality, public institutions) and on this basis The Ministry of Finance is a necessary institution for economic development of the country.

#### **1.4.1. Historical Overview of the Ministry of Finance and Economy**

On 12 Nov. 1992 it was announced the first regulation defines the directorates and the interests of the Ministry of Finance and Economy that was created by the decree of the Kurdistan National Council No. 13 for the year 1992, as follow:

According to the provisions of Paragraph 1 of Article 56 of Law No. 1 of 1992, the National Council for Iraqi Kurdistan in its meeting held on 12.11.1992 decided the issuance of Law No. 13 of 1992 establishing the Ministry of Finance and Economy of the Kurdistan Regional Government of Iraq.

On the July 8, 2010, order has been issued that includes the formation of a new government cabinet included the Ministry of Finance and Ministry of Finance and Economy to the Ministry of Finance and Economy as session No. 6 for 26 /04/ 2010 according to the:

By authority of paragraph 1 of Article 10 of the Law of the Presidency of the Kurdistan Region-Iraq No. 1 for the year 2005 average, according to the meeting held in Iraqi Kurdistan Parliament No. Session 6 of 26.4.2010 decided to pass a law No. 5 of 2010, the Law of Ministry of Finance and Economics, Kurdistan Regional Iraq.

#### **1.4.2. Tasks, Strategy and Organization of Ministry of Finance and Economy**

##### **1.4.2.1. The Functions of the Ministry of Finance and Economy**

Ministry of Finance aims to put the general principle of public administration and regulation of financial and economic materials and checking of safety proceedings of them and make optimal use of them, setting the general budget of the province and completing the detailed external and internal trade programs and commodity support to the community.

The main tasks of the Ministry of Finance and Economy of the province in a row:

- 1- Proposal national financial policy regarding finance tools.
- 2- The completion of this policy in accordance with the laws and regulations set forth.

These public functions are translated through the following areas:

**1.4.2.1.1. In the Taxation Field:**

- A. Access to all texts related taxation and management.
- B. Organization of the work of the tax administration so as to ensure the state to work on a regular basis and uniformity.
- C. The use of surveillance necessary to eliminate tax evasion.

**1.4.2.1.2. In the Customs Field**

- A. Access to all the texts relating to domain Customs and customs administration.
- B. Especially the legislative and regulatory provisions with respect to the application of tariff and in terms of foreign trade, as well as the burdens control.
- C. Ensure that the customs interests in achieving the objectives underlined in the government program.

**1.4.2.1.3. In the Field of National Property and Land Affairs**

- A. Access to all texts related to national Proprietary.
- B. The application of the legislative and regulatory provisions, as well as procedures related to the system and on the transfer of real property and repair.

**1.4.2.1.4. In the Field of General Expenses, Budget, Accounting Sheet**

- A. Access to all legislative and regulatory provisions relating to public expenditure, regardless of the collection of the budget.
- B. The application of particular mechanisms working and procedures for preparing and presenting the state budget and approved.
- C. Access to all legislative and regulatory texts relating to accounting and the accounting system applied to the financial operations of the state, community groups, relevant administrative organizations and semi-public character of public institutions.
- D. Take the necessary measures to regulate public accounting device.

**1.4.2.1.5. In The Field of Money**

- A. The country's status privileges with respect to the monetary sphere and to do this or procedures related to the provisions of the conduct of the monetary sphere.
- B. Take all the mechanism or regulatory action it falls within the monetary policy and that in order to achieve economic and social projects of the government.

#### **1.4.2.1.6. In The Field of Economic Savings, Loan and Insurance**

- A. Take all measures which fall in the savings and loan policy for the completion of all the projects of economic and social included in the government program.
- B. To conduct surveillance on public institutions, insurance and reinsurance, and the determination of errors and application.

#### **1.4.2.1.7. In The Field of Public Treasury Resources**

- A. Reflect the terms and conditions of access to the public treasury resources.
- B. To take all the necessary measures, this recognizes the public treasury obligations.

### **1.4.2.2. The Strategy of Ministry of Finance and Economy**

Witnessing the Ministry of Finance and Economy today several reforms to address the three main strategy objectives, are:

- 1- Modernize the management of the budget to maximize the productivity and efficiency of the staff.
- 2- Improve the control of the state's expenses.
- 3- Modernization of the tax administration to improve service to citizens and businesses.

### **1.4.2.3. The Organization Structure of the Ministry of Finance and Economy**

Under the Law No. 5 for the year 2010 of the Ministry of Finance and Economy, and According to Article No. 3 of this law for the distribution of jobs and the general directorates of the ministry and putting the organization structural, the organization of the central administration in the Ministry of Finance and Economy under the authority of the Minister of Finance and Economy shall include the following:

**1.4.2.3.1. The Minister:** Is the supreme head of the ministry in charge of its direction and extravagant and control over their activities and issued his decisions, orders and instructions in everything that has to do with missions ministry and formations and other administrative, financial and regulatory affairs within the provisions of the laws, regulations and instructions in force and is responsible before the Council of Ministers as a member of the Council has authorized some of his powers to agent or general directors.

- A. Minister's Office: Headed by An Employee of Director degree with experience, efficiency and competence and assume the functions entrusted to him by the Minister, and be responsible for the

organization and record keeping and correspondence for the Minister and assisted by a number of employees.

B. Control and Inspection Directorate: And be directly under the supervision of the Minister and watching the internal matters of the Ministry and departments liability to her, and in the case of a fraud or playing with public funds has the right to audit and inspection of all departments state is watching how to work the manipulation, and the employee headed at the manager and an experienced and efficient and should be of a university graduate.

C. Relations and Media Directorate: Has a direct relationship with the minister and is headed by an employee in Director Degree with experience, efficiency and must be a university graduate.

**1.4.2.3.2. Deputy Minister:** The tasks assigned to it by the minister, and help the minister in the implementation of policy and plan of the ministry.

A. Office of the deputy ministry: Headed by An Employee of Director degree with experience, efficiency and competence and assume the functions entrusted to him by the Minister.

B. Training and financial, administrative, and economic development center (TFAEDC): Headed by An Employee of Director degree with experience and efficiency assisted by a number of employees.

**1.4.2.3.3. Advisory Board:** Commission consists of four advisers with experience and competence, so that must be a university degree for those following disciplines holder:

A. Administrative and Financial Affairs;

B. Banking affairs;

C. Trading and economic affairs;

D. Legal affairs.

**1.4.2.3.4. The Council:** It includes the ministry's advisory council, headed by the minister and includes the following members:

A. Undersecretary;

B. Advisers;

C. Directors general in the ministry;

D. Any expert or specialist from inside or outside the ministry when the minister wants to hire him and has no right to vote on decisions.

The Council shall discuss the general plan of the Ministry and secreted and follow up their implementation and propose fiscal policy of the Ministry and discuss periodic reports about the ministry prepared by the general directorate for Planning and Follow-up.

**1.4.2.3.5. General Directorates:** It consists of the following general directorates:

- A. **General Directorate of the Office:** Managed by the General Director of experienced and competent and a bachelor's degree holder.
- B. **General Directorate of Budget:** The tasks of the plan and budget and the preparation of the regional budget, and achieves the components and stages of the general budget, and also decide on the workforce of the provincial power departments and supports the necessary salary budget, Conducting analytical research on the financial situation and the ongoing budget by planning methods and it shall issue instructions to implement the budget, Managed by the General Director of experienced and competent and a bachelor's degree holder.
- C. **General Directorate of Accounting:** It oversees the liquidity of the public treasury, and how to handle the implementation of the province's balance sheet (current and investment), and also the development of appropriate accounting and financial programs to organize and put them on the execution units, interpret the accounts of the public sector units, who are funded by the government, Managed by the General Director of experienced and competent and a bachelor's degree holder.
- D. **General Directorate of Taxation and Property:** The functions of tax administration requirements and organize their accounts and follow up on their loans, and determine the principles and methods of taking them, and also head of real estate property rights and duties in the region and implementation of the special laws for sale and rent of government property, Managed by the General Director of experienced and competent and a bachelor's degree holder.
- E. **General Directorate of Custom:** Implementation of the customs law and assume the functions of all the conditions and paragraphs who is by the various government departments of the province, and also the follow-up and implementation of laws to deal with the introduction of materials into the territory illegally, Managed by the General Director of experienced and competent and a bachelor's degree holder and Connecting with branches of customs directorates of the region.
- F. **General Directorate of Retirement:** Implementation of laws and calculating retirement of employees of provincial staff internal security services forces the service, and set the foundations and principles and to instruct, Managed by the General Director of experienced and competent and a bachelor's degree holder and Linking with retirement directorates in the governorates of the region
- G. **General Directorate of Commercial Banks:** Managed by the General Director of experienced and competent and a bachelor's degree holder, and Connecting with these branches:
- 1) Al Rasheed banks Directorates;
  - 2) Al Rafidain banks Directorates;



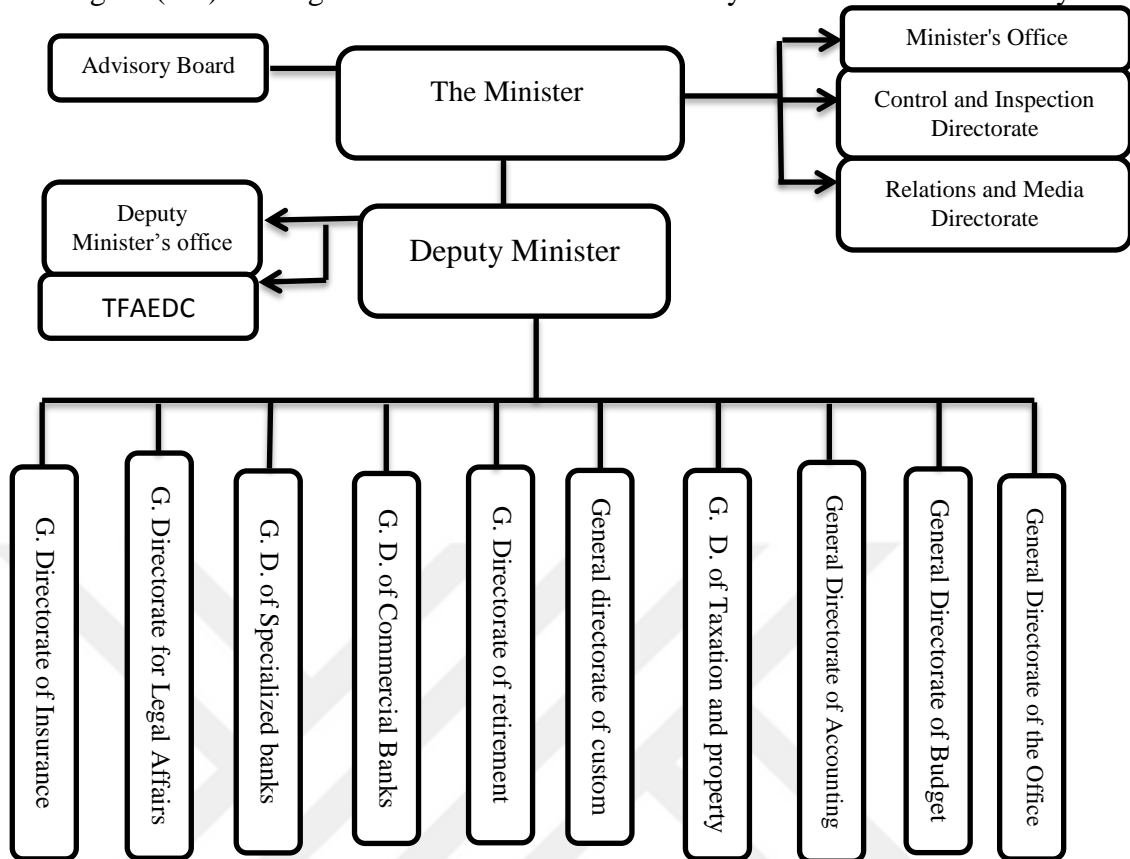
- 3) The Regional banks directorates.
- H. **General Directorate of Specialized Banks:** Managed by the General Director of experienced and competent and a bachelor's degree holder, and Connecting with these branches:
- 1) Directorates for agricultural and industrial banks;
  - 2) Directorates bank for property.
- I. **General Directorate for Legal Affairs:** Interpretation and analysis of financial provisions and the achievement of a bill and the system work, and the preparation of legal style transactions, contracts and work system and instructions before the courts in connection with the affairs of the ministry and the government, Managed by the General Director of experienced and competent and a bachelor's degree holder.
- J. **General Insurance Company:** Execution insurance funds and public and private properties, and life insurance, Managed by the General Director of experienced and competent and a bachelor's degree holder, and Connecting with the company branches in the governorates.
- 1.4.2.3.6. The tasks and functions of the ministry define by a system.
  - 1.4.2.3.7. The Minister may develop or merge departments and sections and the branches or Cancel them.
  - 1.4.2.3.8. The Ministry of Finance and Economy, including 9 General Directorates and an insurance company which Headquarters is located in Erbil, capital of the province, which combines centralized management staff.

Decentralized structures or foreign interests, are distributed throughout the territory of Kurdistan (approximately 2000 decentralized structures), these decentralized structures are located at the regional level, state, and local.

### **1.4.3. Organizational Structure**

The organizational structure of the Central Administration of the Ministry of Finance and Economy is a mix between the executive organizational structure and functions organizational structure and "Executive organizational structure consists of vertical relationships connected between functions of the various administrative levels, the power moving vertically from the top of the organization to its base directly and connected.

Figure (1-5) the Organizational Structure of Ministry of Finance and Economy



Source: Ministry of Finance and Economy

Due to the fact that the Ministry of Finance and Economy a large size organization and multiple activities it should also going to functional organization structure which requires the presence of specialists to oversee these activities, the table below presents the advantages and disadvantages of restructuring approved by Ministry of Finance and Economy.

Table (1-10): Advantages and disadvantages of Organizational Structure of the Ministry of Finance and Economy

Advantages	Disadvantages
<ul style="list-style-type: none"> <li>-Clarity and simplicity.</li> <li>-Specific responsibility.</li> <li>-The direction of power from top to bottom.</li> <li>-Take advantage of the principle of specialty.</li> </ul>	<ul style="list-style-type: none"> <li>-Load to the main individual responsibilities may outweigh potential.</li> <li>-It cannot be cooperation and coordination between the various directorates.</li> <li>-Great communication channels, making it difficult the flow of information between the General Directorates of the Ministry.</li> <li>-Because of the vertical differentiation and the number of sub-districts and offices of the departments of the ministry's difficult.</li> </ul>

Source: The Researcher According to the Research of (Swisi, A., 2009, p.67)

## **CHAPTER TWO**

### **THE THEORITICAL FRAMEWORK FOR HUMAN RESOURCE FUNCTION AND ELECTRONIC MANAGEMENT**

The formation of organization is sub- ecosystem, Includes numbers of systems or different departments, one of them is human resource management, and the organization's success depends on the success of these departments and the entry into the interactive relationships with each other.

The organization consists of a group of individuals (HR) form the attitudes and beliefs and the several of customs, these individuals as a group interact with the equipment and technology and with it has the expertise, knowledge and information output is at its best, since the ancient founded the human resource management as a normal work, it has to be of a body or a competent person regulates the process of dealing with individuals.

Management considers humanitarian operation, aimed at cooperation and coordination between human effort and the exploitation of the physical potential, and has at their disposal the means of modern techniques to achieve the goals of a ruler placed within a particular strategy with minimal effort and cost. There is no doubt that the presence of electronic administration has helped dramatically improve the speed of work and to receive and communicate information, and resulted in the emergence of this new form of managing numerous effects on the nature and form of the work management systems. The concept of electronic management find another type of services that were previously exist, more accuracy and ease of use, clarity and success in providing services and the completion of transactions.

Through the foregoing and in order to show the theoretical framework of the human resources management function has been addressed in this chapter to the following three topics:

Section One: The essence of human resource management function;

Section Two: The human resource management functions.

Section Three: Information system.

## **2.1. The Essence of Human Resource Management Function**

Human resources management look after affairs of the most important element of the production process elements in the organization, which is the human element, that is a fundamental engine for all contributing elements in achieving productivity and profitability. This section seeks to unveil the concept of human resources management function and development intellectual and challenges that have contributed to it.

Human resources are the most important elements of work and production; because they are in the process of innovation and creativity, it is designed product and oversees to the manufacturing and quality control; it is marketed, investing capital, which is responsible for setting objectives and strategies. Without serious and effective human resources cannot perform this topic thing efficiently, any institution will not be able to achieve its objectives and mission. (Al Sharman, Z., 2004, p.59)

### **2.1.1. The Concept, Objectives, Importance and Emergence of Human Resource Management**

There is no doubt that human resources are one of the key ingredients to the success of the enterprise, which the availability of efficient and responsible for human resources to shoulder the burdens of work and achieve the goals of the institution.

We will discuss in this part the concept of the most important origin of the organization and is the human resource, as the basis on which are held by any institution, in addition to the reference to all of the human resources management definition of objectives, relevance...

#### **2.1.1.1. The Concept of Human Resource**

With modern scientific development management in general, in orientation to the human element, in particular, it become seen to personal workers as human resource. (Abbas, S., 2003, p. 69)

The economic resources division into human resources and other non-human, and human resources divided into two main groups, the first is the economic human resources, which refers to the part of the human resources that have the ability and desire to work and allow the social and legal conditions in the community running, and the second group is noneconomic human resources, which refers to the part that does not make any economic activity.

Where the human resources identified as "human resources in an organization are all human beings or individuals belonging to them, and their employees, whether they are heads or subordinates, and these individuals contracted by the Foundation to do functional tasks or work in exchange for salary or wages, compensation and benefits, specific advantages in kind, that these individuals committed in the course of performing their duties entrusted to them by the institution or company by strategic

of this institution or that company, and these include strategic vision, and mission, and goals of material and moral foundation seeks to achieve.

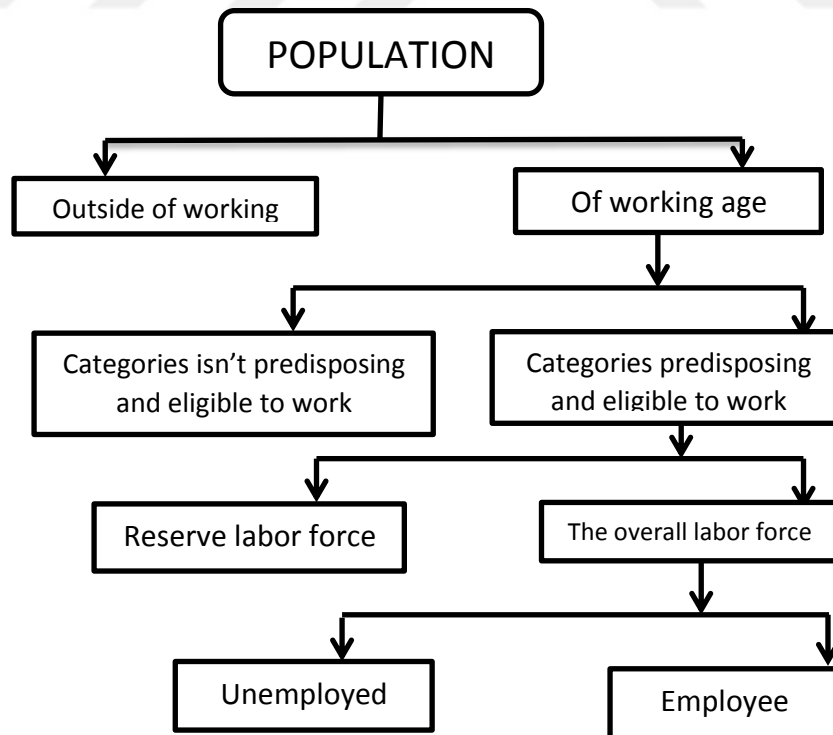
As it can be defined as "groups of individuals to participate in the formulation of objectives, policies and activities and actions by the institutions accomplish. (Abbas, S., 2003, p.69)

And it can be viewed from two aspects of human resources:

- I. Community macro side, where the concept of human resources includes all workers in the public and private sectors as well as the unemployed and able-bodied him and wishing it.
- II. Organizational partial side, where the concept includes all employees with regard to their skills and their energies and their qualifications and their performance, in addition to the expected joining the organization by attracting and attract candidates for employment.

Human Resources refers to the total population of the community of working age, and can clarify the relationships of convergence and divergence between the population and all of the economic and non-economic human resources, as well as what goes into them in the workforce and does not fall, that in the following figure: (Wissam, M., 2012, p.70)

Figure (2-1): Locate Human Resources of the Total Population



Source: (Wissam, M., 2003, p.70)

As mentioned before, the human resources refers to the total population of the community in the working-age, and it comprises two groups, the first predisposing and eligible to work categories (predispose sense capable of work and eligible sense of working age), which represents manpower capable of work, and the second category is non- predisposing and ineligible to work represents the human resources that are unable to work, those individuals of working age but are not prepared to work because of their presence in certain institutions.

Categories that located in the first group (predisposing and eligible to work categories) consists of the total labor force, which represents human resources capable and willing to work and is made up of wage earners or salaried, and the unemployed (who are able to work and who are interested in it, but they do not find a job for one reason or another), in addition to a reserve labor force and represent the human resources capable and isn't seeker or unwilling to work and consists of those who are working and do not aim to economic gain.

#### **2.1.1.2. Definition of Human Resources Management:**

We have given to the human resources management several definitions which quote as follows:

- 2.1.1.2.1. **The First Definition** is "A set of administrative activities and mission related to workforce development and maintaining to ability and rehabilitated in ways that contribute to the effectiveness of the institution" (Wasilla, H., 2010, p.75)
- 2.1.1.2.2. **The Second Definition** is "Administrative function helps managers to attract, selecting and training members of the organization, and human resources management is interested in the human dimension in the institutions." (Abbas, S., 2003, p.72)
- 2.1.1.2.3. **The Third Definition** is "Activities whereby obtainment to the personnel required for the foundation in terms of numbers and quality that serve their purposes, and wishing stay to serve them, and making them as much as possible of their energies and their efforts to achieve the goals of the foundation" (Wasilla, H., 2010, p.75)
- 2.1.1.2.4. **The Fourth Definition** "Human Resources Management is a set of strategies, processes and activities that are designed to support common goals by creating a kind of integration between the needs of the institution and individuals who are working out." (Wissam, M., 2012, p.71)

Through previous definitions of the concept of human resource management is clear to us that human resources management is an important functions in the organization that specializes in using the human resource in accordance with the rules and modern bases with the greatest efficiency and effectiveness of the. Or is a series of processes, procedures and rules aimed at regulating the persons affiliated to the organization, to get the maximum benefit from their performances, and extract the

best energies, through the planning functions, and polarization, and the selection, recruitment, training, and evaluation, and material incentives and moral.

#### **2.1.1.2.1. Aims of Human Resource Management**

Human Resources Management also aims as administrative function to help managers on the conduct of their subordinates effectively and efficiently conduct of individuals can be measured through:

- A. Absences ratio (be elevated when bad management for individuals);
- B. Individuals turnover ratio (to be increased by the task when bad management for individuals);
- C. Work accidents ratio (to be increased by the task when bad management for individuals and in the absence of the necessary protection measures);
- D. Productivity (less when it's bad management for individuals);
- E. Quality (little attention to quality and the work);
- F. Customer satisfaction (individuals who are not good managers are less attention for customers).

#### **2.1.1.2.2. Principles of Human Resource Management**

We can talk about the concept of human resource management is based on the basic principles are: (Kahina, A., 2015, p.37)

- A. Humans form the most important asset that can be owned by the organization;
- B. foundation can achieve success when they are linked individual policies and procedures with the objectives and strategies;
- C. Can organizational culture of the institution to play an influential role in achieving excellence, and through the administrative leadership.

And the views of managers differed in practical life in defining the concept of a unified and Agreed to human resource management, and can distinguish between the two viewpoints in two basic: (Kahina, A., 2015, p.37)

#### **2.1.1.2.3. Viewpoints of Human Resource Management**

- A. The Traditional View:** Some managers believe that human resources management is only a few important function in the organization and are limited to carrying out a routine executive of examples save the information on workers in the files, and certain records and follow-up aspects concerning workers such as adjusting attendance times and leave and achievements and promotions, and it seems the human resources management has not received attention these managers, where they see have little impact on the success and efficiency of the institutions.
- B. The Modern View:** Some other managers believe that human resources management is one of the most important administrative

functions in the organization, and not less important than the rest of the functions, such as marketing, production, and financial, of the importance of the human element and its impact on the productive efficiency of enterprises, and included key activities including: human resource planning, pulling and attracting human resources, stimulate human resources, in addition to the traditional activity related to human resources matters in organization.

### **2.1.1.3. Human Resource Management Objectives**

#### **2.1.1.3.1. Achievements of Human Resource Management**

Human Resources Management seeks to achieve a set of objectives can be summarized as follows: (Kahina, A., 2015, p.38)

- A.** Achieve the highest possible productivity efficiency: Through the organization's needs of human resource planning, quality and quantity by using scientific methods in general and statistical and mathematical methods in particular.
- B.** Work to increase the performance level of the human race: Through attention to increasing the ability of individuals to work and increase their desire to perform the work, and also through the development of their abilities by training and the providing appropriate business climate both physically and psychologically.
- C.** Increase loyalty degree: Through setting equitable structure for wages and incentives and clear policies for promotion, and interest in human relations and work to strengthen from time to time.
- D.** Setting an objectivist system for measuring and evaluating the employees' performance: So as to ensure to give everyone his rights both in the promotion, bonuses or special bonuses or material and moral incentives.

#### **2.1.1.3.2. The Main Objects of Human Resource Management**

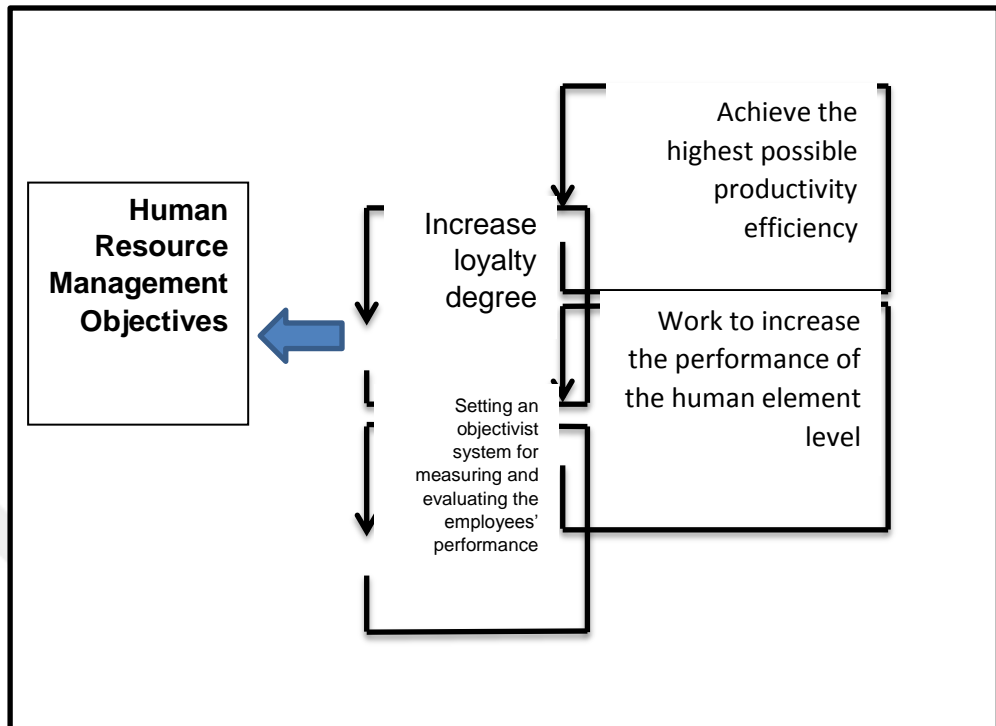
In addition to the general objectives that aforementioned, can determine the main objectives of the human resources administrative in the following: (Muhin, A., 2010, p. 81)

- A.** Get qualified individuals to work in various jobs in order to produce goods or services with the best roads and less costs.
- B.** The maximum benefit from the efforts of workers of the production of goods and services in accordance with the pre-quantitative and qualitative criteria specified.
- C.** Developing the capacity of workers through training to meet the technological and managerial changes in the environment.
- D.** Create new employment conditions enabling workers to do their work well and provide them more productive and material gains.



E. Employees also expect existence good social and health insurance.

Figure (2-2): Locate Human Resources of the Total Population



The Source: (Kahina, A., 2015, p.41)

#### 2.1.1.4. The Importance of Human Resource Management

Human resources as one of the functions of the modern enterprise is gaining great importance are the management of the most important and most expensive institution's assets; the following can be summed up the importance of human resource management: (Kahina, A., 2015, p.56)

1. Provide advice and guidance to executive directors in all aspects of working individuals, that helps these managers in the formulation, management and implementation of policies and solving problems related to working individuals;
2. Help managers to defecting difficulties and the basic problems related to working individuals, and affecting the effectiveness of the institution;
3. Provides all the procedures related to the working individuals to ensure better productivity and higher performance, of these procedures and services, preparation and creation of personnel, and preparation the training programs and management of wages and payroll.
4. Ensure the coordination of all activities related to working individuals and administrative units in the organization by discussing the executive departments about these activities.

### 2.1.1.5. Levels of E-Human Resource Management System

By reviewing the relevant literature, it is inferred that in 1998, Lepak and Snell suggested three levels of E-HRM as follow: (Niwlouei, F., 2014, p.147)

- 1. Operational E-HRM;** The first area, operational E-HRM, concerns the basic HR activities in the administrative area. One could think of salary administration and personnel data administration.
- 2. Relational E-HRM;** The second area, relational E-HRM, concerns more advanced HRM activities. The emphasis here is not on administering, but on HR tools that support basic business processes such as recruiting and the selection of new personnel, training, performance management and appraisal, and rewards. For relational E-HRM there is the choice between supporting recruitment and selection through a web-based application or using a paper-based approach (through advertisements, paper based application forms and letters etc.).
- 3. Transformational E-HRM;** Transformational E-HRM, the third area, concerns HRM activities with a strategic character. Here we are talking about activities regarding organizational change processes, strategic competence management. In terms of transformational E-HRM, it is possible to create a change-ready workforce through an integrated set of web-based tools that enables the workforce to develop in line with the company's strategic choices.

Table (2-1): Levels of E-HRM

Levels of E-HRM	Description
Operational E-HRM	E-HRM is concerned with administrative function like payroll, employee personal data, etc.
Relational E-HRM	E-HRM is concerned with supportive business process by the means of training, recruitment, performance management, and so forth.
Transformational EHRM	E-HRM is concerned with strategic HR activities such as knowledge management, strategic reorientation, etc.

Source: (Niwlouei, F., 2014, p.149)

### 2.1.1.6. Function of Electronic Human Resource Management System

Globalization with the revolution of information technology has been dramatically changing human behavior, management of corporations, and governance of states much more than the industrial revolution transformed the agricultural society. As the globalization of markets continues at a rapid pace, the challenges for managers increase. The empowerment of managers and employees to perform certain chosen HR functions relieves the Human Resource department from

all these tasks, allowing the most Human Resource staff to focus less on the operational and more on the strategic elements of HR in organization, and allowing the organizations to lower the HR department staffing levels (Swaroop, K., 2012, p.79).

In the following section the most important functions of E-HRM system which play a significant role in reducing the organizational costs and of course towards globalization paradigm are mentioned in the table below. With the implementation of HRMIS, human resource activities can be undertaken with greater ease and speed with the availability of human resource information system. Uniform human resource management policies and procedures as well as the integration of human resource information into a centralized data bank will make it easier for all agencies to use this system.

In addition E-HRM, automation of human resource processes would enhance productivity through faster processing, better work environment and reduction in mistakes or errors as well as in overlapping work. The integrated human resource information system will enable the sharing of reliable information quickly. It will also allow for better and faster communication among all the agencies involved.

When completed, the HRMIS will link all government agencies electronically so that human resource information from the grass root level can be easily transmitted to higher levels such as to the headquarters of agencies, ministries, the State Secretariat Offices and the Public Service Department (PSD). Human resource activities that are less productive can be reduced and greater emphasis can be given to more productive work that enables human resource management to function at the strategic level.

Table (2-2): Functions of E-HRM

Functions	Description
E-Employee Profile	The E-Employee Profile web application provides a central point of access to the employee contact information and provides a comprehensive employee database solution, simplifying HR management and team building by providing an employee skills, organization chart and even pictures. E-Employee profile maintenance lies with the individual employee, the manager and the database manager. E-Employee profile comprise of the following: Certification, Honor/Award, Membership, Education, Past Work Experience, Assignment Skills, Competency, Employee Assignment Rules, Employee Availability, Employee Exception Hours, Employee Utilization, Employee tools, Job information, Sensitive job Information, Service Details, Calendar, Calendar Administration, Employee Locator easy and to make decisions with less cost and speedy time.
E-Recruitment	Organizations first started using computers as a recruiting tool by advertising jobs on a bulletin board service from which prospective applicants would be contacted by the employers. Some companies began to take applications. Today the internet has become a primary means for employers to search for candidates and for applicants who look for a job. As many web based job portals are there were the employers will post their

	vacancy position in the job search web portals to stimulate the applicants to apply for that particular job. And this websites help in review resumes of various types. E-HRM is online recruitment. It refers to posting vacancies on the corporate web site or on an online recruitment vendor's website, and allowing applicants to send their resumes electronically via e-mail. It also includes the active search of the internet and the location of resumes. However, there is always the danger of resume overload, as well as low reputation and effectiveness of various web sites and databases, not to mention its questionable effectiveness for senior executive positions.
E-Selection	Most employers will recruit their employees from the online job search engines (website like Naukari, Monster) etc. and new selection process are keeping tests online by testing their level of knowledge, behavior, attitude all those the employer will recruit it properly by conducting all the test online by using strong IT which helps to reduce the cost.
E-Learning	E-Learning refers to any programmed of learning, training or education where electronic devices, applications and processes are used for knowledge creation, management and transfer. E-Learning is a term covering a wide set of applications and processes, such as web-based learning, computer-based learning, virtual class room, and digital collaboration. It includes the delivery of content via Internet, intranet/extranet (LAN/WAN), audio-and videotape, satellite broadcast, interactive TV, CD – Rom, and more. Training program provides.
E-Training	Most companies start to think of online learning primarily as a more efficient way to distribute training inside the organization, making it available "any time"," anywhere" reducing direct costs (instructors, printed materials, training facilities), and indirect costs (travel time, lodging and travel expenses, workforce downtimes).e-learning can offer a solution to training in remote or disadvantaged locations(Hirschman, 2001), as well as tailor-made learning that fits the particular needs of the learner (Mumford, 2003), but it can also create barriers to learning, due to lack of hardware, fear of technology and learner isolation.
E-Compensation	All companies whether small or large must engage in compensation planning. Compensation planning is the process of ensuring that managers allocate salary increases equitably across the organization while staying within budget guidelines. As organizations have started expanding their boundaries, usage of intranet and internet has become vital. The usage of intranet and internet for compensation planning is called E-Compensation Management which reduces the money
Anywhere, Anytime Access	As a web-based HR service system, HRIS offers you the flexibility of accessing the program 24/7, from anywhere with internet connection and IT
Eliminate Majority of HR Paperwork	With the growing awareness for environmental sustainability, many companies are looking for ways to "go green." Implementing a HRIS will help reduce almost all of the paperwork associated with HR tasks we can save money and time.
E-Leave	It helps to reduce the cost by defining the work force in advance and to review the past data records of the employee leave etc.

Source: (Swaroop, K., 2012, p.80) and (Zafar, J., 2012, p.72)

## **2.1.2. The Historical Development of Human Resource Management**

We will discuss this requirement through the evolution of this administration, because the human resources management of modern form is not the result of time, it is a result of a number of developments dating back to the beginning of the Industrial revolution, Those developments have contributed to show the need for a specialized human resources management, caring for human resources affairs in the institution.

### **2.1.2.1.Reasons of Attention to Human Resource Management**

There are many reasons explain excessive attention to human resources management as a specialist function and as a branch of the administration branches, and these reasons: (Abdulbaqi, S., 2002, p.88)

- A. Expansion and industrial development in the modern era, has helped the emergence of organized labor organizations, since the problems started between the administration and human resources, resulting in the need for specialized management sponsor and solved human resource problems in the organization.
- B. Significant expansion of education and culture opportunities in front of workers, which led to increased awareness as a result of rising cultural and educational level, leading to the need for the presence of specialists in human resources and modern means of management to deal with the modern qualities of human resources.
- C. Increased government intervention in the relations between workers and employers by issuing laws and labor legislation, resulting in the need for a specialized department maintains the application of the laws to avoid the institution in trouble with the government.
- D. The emergence of institutions and trade unions that defend human resources, and calls attention to the need relations for labor management institutions, thus the importance of the existence of a specialized department to find cooperation between management and labor institutions.

### **2.1.2.2.The Most Historical Stages of Human Resource Management**

And the most historical stages which human resources management through in from the mid-nineteenth century until now: (Abdulbaqi, S., 2002, p.92)

#### **2.1.2.2.1. The First Stage: industrial life developed after the Industrial Revolution**

Before that the industrial was confined to specialized caste system, as for example craftsmen practicing their industry handicrafts at home with simple tools. And in

human resources management side, the Industrial Revolution was a beginning for a lot of humanitarian problems, in terms of:

1. Outlook for the worker as a commodity bought and sold after the administration relied on the machine than on laborer;
2. The emergence of a lot of repeat business that do not need to endure because of the large factory system;

In spite of that, the industrial revolution has achieved a huge increase in production goods.

#### 2.1.2.2.2. **The Second Stage:** the emergence of scientific management movement

Of developments that have contributed to the emergence of the importance of human resource management, the spread of scientific management movement led by (Taylor), who reached the four bases of management, are:

1. A real evolution in the administration: And means (Taylor) that replace empirical way or the wrong and the right way in the management by scientific way that depends on the rationales, and organizer observation, and the division of activity aspects related to the job, and then simplify and shortcut of the required work, depending on the higher materials and equipment used.
2. Scientific choice of workers: Consider (Taylor) is the basis for the success of human resources management, and should be selected after confirming the proper rehabilitation and the availability of capacity and skills to bear the burden and the responsibilities of the job.
3. Interest in the growth and development of human resources and their education: Where Taylor confirms that the worker would not produce the required energy of it only after he has been ready to work, and appropriate training to work, which is essential to reach the required level from work.
4. Real cooperation between the management and human resources: Taylor assures that it can reconcile, between the laborer's desire in increased wages and the employer's desire to reduce labor costs and increasing worker productivity that participate in extra income for high productivity rate.

#### 2.1.2.2.3. **The Third Stage:** the growth of labor organizations

At the beginning of the twentieth century, grown and strengthened labor institutions in the countries, especially in transportation and heavy materials, and labor unions tried to increase workers' wages and reduced working hours, and the emergence of scientific management movement (which tried to exploit workers in favor of the employer) helped in the emergence of laborer unions.

#### 2.1.2.2.4. **The Fourth Stage:** the beginning of World War I.

First World War showed the need to use new methods for the selection of personnel prior to their appointment, such as (alpha beta), successfully applied to work in order to avoid of the reasons for their failure after their employment. And with the development of scientific management and industrial psychology some specialists in human resources management it seemed to appear in institutions to assist in the recruitment, training and health care and industrial security, and the growing interest in social welfare of the workers of the establishment of centers for social service and housing, and represents the establishment of these centers onset of sections of human resources affairs, and limited his work on the previous aspects, and most of the workers in the human resources departments who are interested in human aspects and the social worker.

#### 2.1.2.2.5. **The Fifth Stage:** Between World War I and II

Showed the end of the twenties and early thirties of this century developments in the field of human relations, experiments have been conducted (Hawthorne), by (Elton Mayo), and convinced many of the importance of employee satisfaction with their work and to provide appropriate work conditions.

#### 2.1.2.2.6. **The Sixth Stage:** the post-World War II yet At this stage, expanded business range that carried out by the human resources management, as included training and personnel development, and put programs to motivate and rationalization of human relations, and not only save human resource files, adjust attendance, and routines.

Still modern trends in human resources management focused on human relations, and benefits of psychology and anthropology research results, and the result was the increasing use of the term humanities, as it's more inclusive.

And the future can be seen to human resources management as in an increasing growth of its importance in all institutions as a result of political and technological changes, there are challenges that must be addressed the human resources management, such as the growing trend to rely on the computer, and automatics in completing many of the jobs that were dependent on the worker. And also the economic and political pressures, and constantly changing in workforce components in terms of professions and disciplines, and should emphasize the use of new concepts, such as: Management Engineering, and total quality in the field of human resources management.

### 2.1.3. The Basic Functions of Human Resource Management

Human resources management functions include polarization activities, and attract appropriate talent to apply to join the organization, and activities related to the strategic and tactical planning, such as assessing the needs of the organization of manpower in the long term and short term, and how to secure this need.

The human resources management analysis functions, skills inventory, and also choice of staff and workers, recruitment, and training and development, motivate them, evaluate their performance, care for a healthy, psychologically and socially at work and beyond. Also, this administration usually is responsible for organizing professional relationships with unions and departments (government). Human resources management functions can divide into: (Al Sharman, Z., 2004, p.72)

#### 2.1.3.1. Section I: Administrative functions for the human resources.

Administrative functions of human resource are divided into four functions:

2.1.3.1.1. **Planning Function:** Planning function care for planning needs of the institution of human resources quality and quantity that ensure the achievement of the objectives of the organization, human resources planning means the total integrated and related policies and procedures for employment to perform certain acts at specific times and cost of suitable work, whether it's for an existing project, or under study or construction. Thus, human resources planning will be an essential part of the general planning of the institution.

2.1.3.1.2. **The Regulatory Function:** With the development function of individuals in institutions and the introduction of a separate department is planning, policy development, and drawing programs on individuals; officials have begun to think about the organization of this administration. Intended of the organization function in Human Resource Management is a division and determine the duties, responsibilities and authorities between individuals, determine the relations between these responsibilities. The director of human resources management determines the organizational structure of the administration form, through the structure of relations between the design work, individuals, and physical factors in the organization.(Shaways,M., 2005, p.74)

2.1.3.1.3. **The Routing Function:** It is intended to guide the efforts of individuals towards achieving the goals of the institution; this function has come under several names, such as ‘Motivation



‘Command, under any name Titles, the objective of this function is to urge individuals to work fully and effectively satisfaction.

2.1.3.1.4. **The Oversight Function and Performance Evaluation:** It means assessing the performance of individuals arranged in ascending or descending order according to their abilities, experience and personal habits, the censorship process of management function relating to the organization of activities and coordination, according to the specified employment plan, based on the analysis of the objectives or core activities of the organization, so as to ensure the implementation of the general plan of the institution with high efficiency.

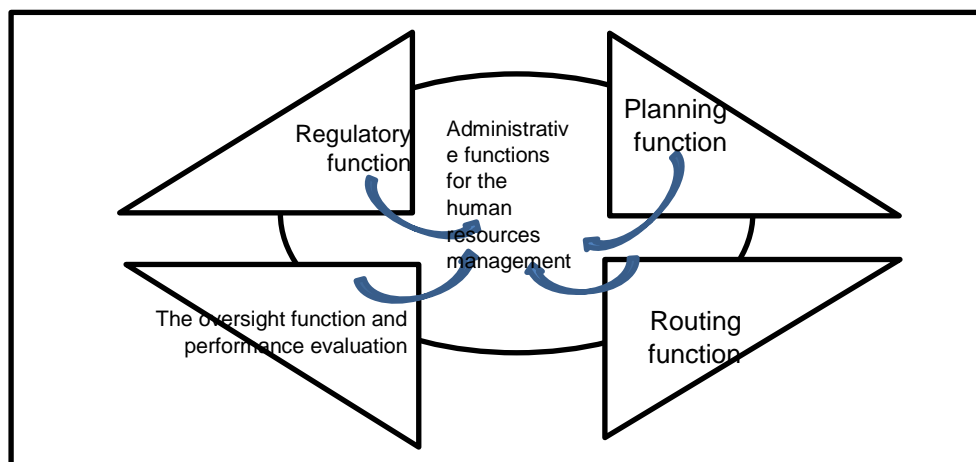
This function includes the human resource management doing the following things: (Alheti, X., 2003, p.87)

- I. collecting the special information for behavior and performance;
- II. Determine the actual levels of performance;
- III. Evaluation the performance during focusing on the strengths and weaknesses point of it to promote the second and attempt to solve the first.

The basic procedures in evaluating the performance of employees are as follows:

- I. Building performance standards;
- II. Performance Measurement;
- III. Actual performance compared with the standards;
- IV. Discuss the results of the evaluation with the workers;
- V. Corrective actions.

Figure (2-3) Administrative function for human resource management



Source: (Haluti, L., 2008, p.97)

### **2.1.3.2. Section II: Executive functions for the human resources management**

Executive functions of human resource management are divided into four functions are represented in the following:

2.1.3.2.1. Function to attract workers: It is the first executive functions of human resource management and is interested in identifying the needs of the institution of human resources quality and quantity; so as to ensure the achievement of the organization's objectives. Determined the scope of this function as follows:

- A. Estimate the needs of the institution of human resources;
- B. Identification obtaining sources to the necessary human resources of the institution;
- C. Selection of human resources, and make the necessary selection for the competencies selection that are commensurate with the organization's needs, and through psychological tests, personal interviews, and others;
- D. The appointment of individuals in positions of their work.

2.1.3.2.2. Job training and development workers function: After the institution obtain the necessary human resources quantitated and qualities in line with the objectives of the institution requirements must develop their skills continuously; to raise the level of efficiency and improve performance, and this is done through continuous training, so as to ensure the safety of implementation of the Action. This function is one of the basic functions that ensure the continuation of the organization to meet the technological developments in the working methods and production tools; therefore need to obtain qualifications and specialized skills, and this isn't available to the foundation only through training and development of the existing human resources of the institution at all administrative levels.

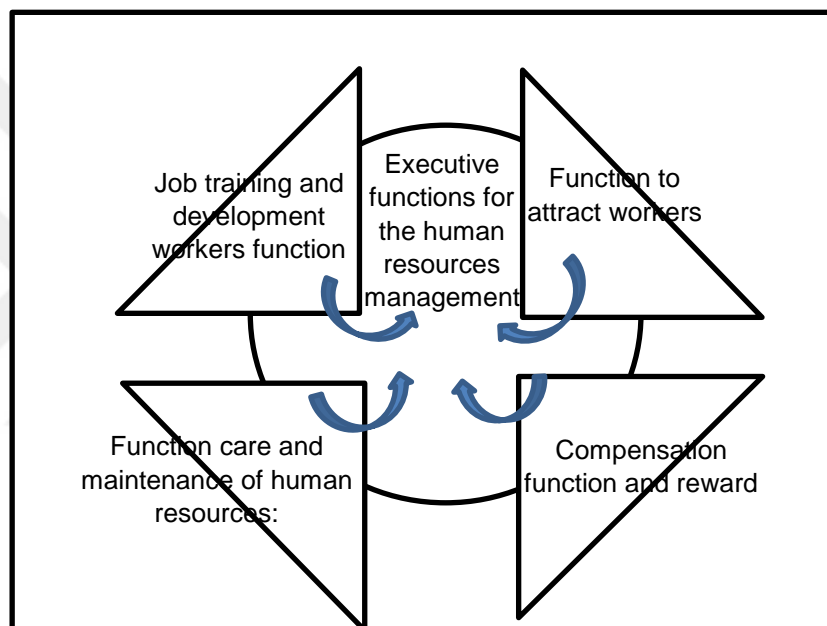
2.1.3.2.3. Compensation function and reward: Considers compensation function or the reward is the important functions of human resource management; and the reason for this is because of the compensation has a direct impact on the standard of living for workers, as the main source of their livelihood on the one hand, and on the state and business owners on the other hand; this is because the compensation represents a significant proportion of the worker cost in most of the institutions and of different types.

To ensure the right system of wages has to be:

- A. Job evaluation;
- B. Determine the payment of wages systems;
- C. Determining the incentive system;
- D. Determining regulations sanctions.

2.1.3.2.4. Function care and maintenance of human resources: This function is concerned with the care and maintenance of human resources through the provision of health, cultural, recreational and social care, as well care when leave the service.

Figure (2-4) Executive Functions for the Human Resources Management



Source: (Haluti, L., 2008, p.98)

## 2.2. The Most Important Trends and Challenges Facing Human Resource Management

There are number of modern trends in human resources management as there are number of challenges faced departments in dealing with workers, especially with global openness and the effects of globalization, and created by the latter in the perception of the direction of human resources.( Kahina, A., 2015, p.79)

### **2.2.1. Recent Trends in Human Resources Management**

There are number of procedures to be followed in human resources management, so as to benefit the largest of this resource, which can be summarized as follows: (Abdulbaqi, S., 2002, p.91)

- A.** Find the best working conditions: It is the responsibility of human resource management to improve working conditions and provide opportunities for workers inadvertently develop their abilities and fulfill their potential through training and development programs, and encourage teamwork and style of one team.
- B.** Effective employment for veterans employees: Which can benefit of them as follow:
  - 1) Solve the problem of labor shortage;
  - 2) Contribution to the development of organization because of the experience they have gained;
  - 3) Preparations and trends of older more positive in the accepted work in challenging conditions without focusing on the material;
  - 4) Their commitment to business ethics more than moderns;
  - 5) Providing equality for women greater in institutions.
- C.** Need to workers skills development through training: This is a challenge for human resources management to cope with the emerging change in the market or technology, quality and price requirements, non-freezing ideas and efforts.
- D.** Continue to focus on strategic planning of the activities of human resources management.
- E.** Relations with the labor unions: Outsized negative trend towards it, and it becomes a positive joint deal to bring about change in accordance with the developments, and conflict resolution in the best way.

### **2.2.2. The Most Important Challenges Facing the Human Resources Management**

Human Resources Management is facing a lot of challenges, especially in light of the development goals and human resource management processes and the complexity of its operations. The most important of those challenges:

- A.** Technological development, which can make changes in the organizational structures of the institutions;
- B.** The cultural diversity that is due to the perceived differences between the workers in terms of age, and specialization in the work, the profession, and sex and so on;
- C.** Economic conditions of merchantability or recession;

- D. Giving workers the concessions were not previously exist, such as insurance and health care for children and educational aid, making the effect of increasing the cost of workers;
- E. Dissemination of knowledge and innovation, and is what requires the need for the distribution and dissemination of knowledge and innovative ideas between the different branches of the institution, regardless of its origin or source;
- F. Widespread application of total quality management after the mid-twentieth century, and is accompanied by the emergence of new concepts as the integration of workers, and empower workers, and the proper performance of the work from the first time;
- G. The need to develop human resources management strategy, which is an integral part of the strategy, the enterprise;
- H. The steady rise in the preparation of workers in institutions as a result of the large size of the institutions and the emergence of multinational corporations;
- I. Development of the means to attract and selection, appointment, and especially after the widespread use of the Internet in holding examinations and interviews.

We must not lose sight of the effect of competition in the supply and demand for human resources in human resources management, especially after the increase in the number of graduates from various disciplines and high unemployment rates in many countries.

### **2.2.3. Regulatory Status and Organization Forms of Human Resources Management**

#### **2.2.3.1. The Factors Affecting the Regulatory Status of Human Resources Management**

In general, these factors can be summarized in :( Jamaz, T., 2010, p.77)

- 1- The size of the organization and the number of employees: Whenever the organization was large and the number of employees a great whenever summoned by the presence of specialized human resources management based on the management of competent professionals, led mostly by an Executive Director it shall be represented in the senior management board in order to develop human resources strategies in accordance with the Organization's strategy, and have this administration other sub-departments. The breadth of the size of the organization geographically to include multiple regions require a decentralized human resource devices serve these areas, and the human resources management attend to several roles in its relations with other departments it attends to advisory roles, in addition to its executive roles assigned to them.

But smaller organizations shall be the role of human resources where limited and will be in the Central Administration site, and its activities represented in the recruitment and selection and appointment of personnel, and assist managers in training and save their records and their files.

- 2- The diversity of specialist and categories of labor thus lead to the diversity of services and the diversity of methods of training and development, and how to keep these resources from the spill.
- 3- Administration outlook and look over the conviction to the role of human resources management, if this outlook is positive, this will raise the level of this device in size and organizing and therefore occupies the high regulatory position in the organizational structure of the organization.
- 4- Royal style and legal form; as organizations in the private sector, especially small ones, often where human resources are managed by the owners, and public sector organizations, which is administered by Human Resources senior management or through organizations specialized in human resources management.

#### **2.2.3.2. The Organization Forms of Human Resources Management**

The Human Resources Management from the functional departments in the organization as it provides services for the workers throughout the organization.

In order to achieve the effectiveness of this administration in the implementation of activities, there must be some controls and the foundations organizations that depend on them in the organization of this administration and determine their powers and their linkages with other departments in the organization.

Newfangled of a special regulatory formation of this administration in large organizations, which practiced this formation (human resources management) all activities and functions associated with human resources of the selection, training, development and stimulate etc.

This department is headed by General Manager, often called the Executive Director of the Department of Human Resources, where is responsible for many of the tasks and functions of human resources throughout the organization, it is represented mostly in senior management to develop human resources strategies compatible with the organization strategies. Emergence from these essential management sub organizational formations according to the activity of Human Resources Management, and manages these formations specialists in each activity such as management training and management recruitment, selection and management of stimulus etc.

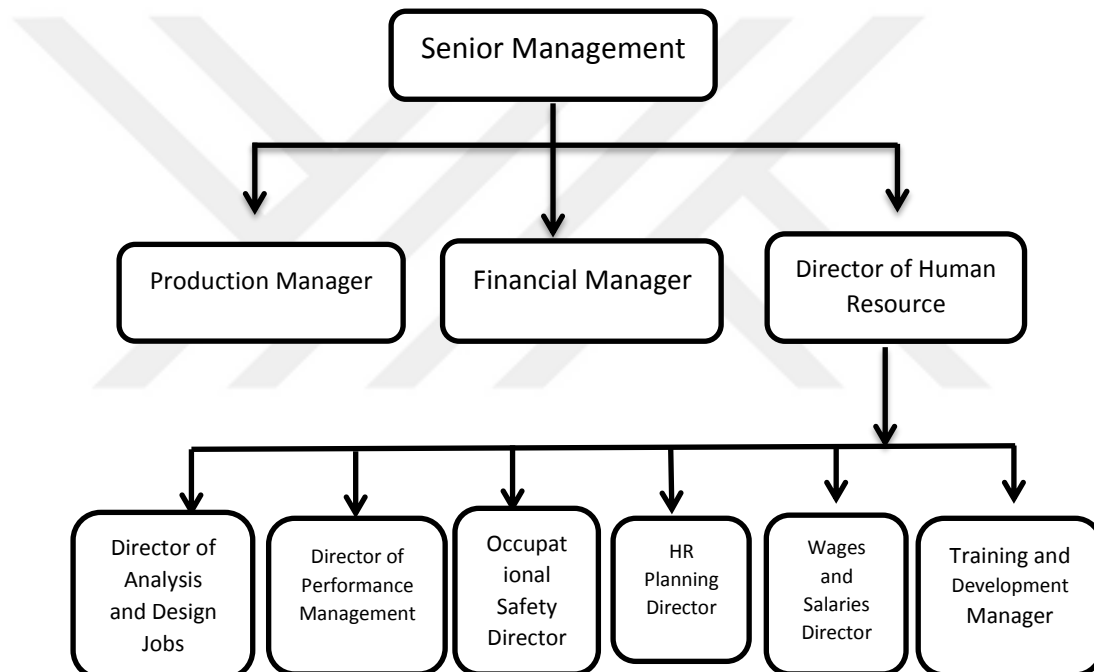
But in small organizations often human resources management went to the owners if the organization within the private sector, or the senior management if the

organization within the public sector, to clarify the relationship of human resources management with senior management and other departments in the organization need to be identified organizational models dependable by organizations in the following paragraphs: (Abbas, S., 2006, p.91)

### 2.2.3.2.1. Central Organization for Human Resource Management

It is possible to existence an independent management concerned workers affairs of the organization, often this administration is directly associated to senior management, branching from there sub- specialized departments in every function of the human resources management, following figure illustrates this:

Figure (2-5) Model of Organizing of Human Resources Management in Large Organizations (Central)



Source: (Abbas, S., 2006, p.93)

Notes from the previous organizational form as follows:

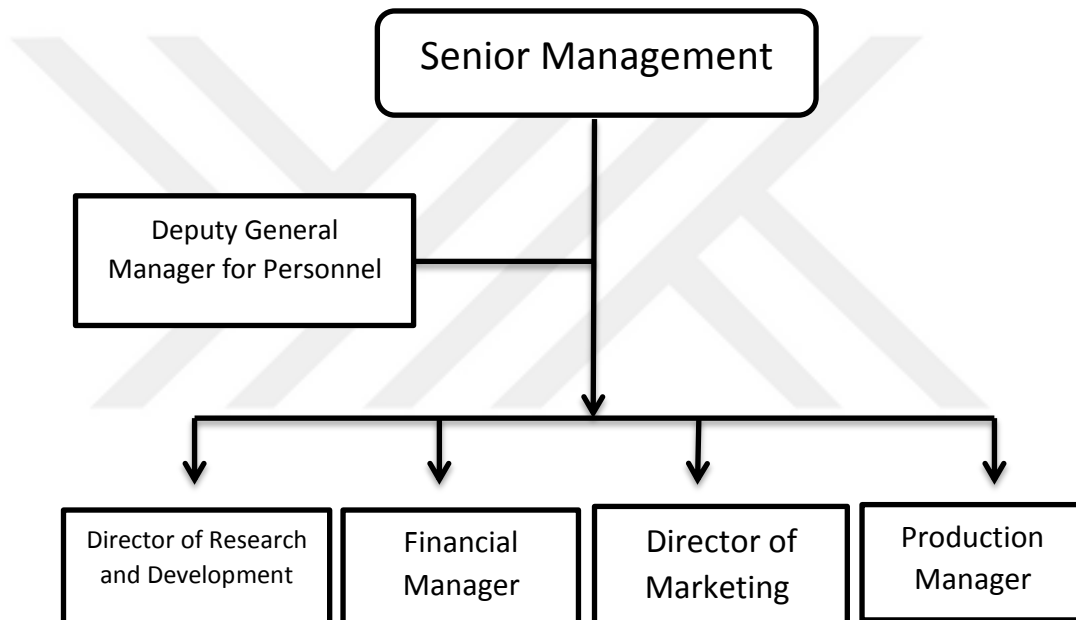
- Existence a centralized management within the organization derives its validity from senior management and subdivided those specialized departments in each function of the important functions of human resource management and manages all management specialist or consultant.
- This central administration have the powers to take decisions on human resources for the whole organization, which its director, a member of the senior management board and effectively contribute in the setting of special plans for human resources compatibility with the organization strategies, and this structural and organizational link called Integrated conjunction.

### 2.2.3.2.2. Decentralized Organization of Human Resources Management

The second model, which relies on contemporary organizations in the organization of human resources management, is decentralized model, which delegate tasks and activities of this administration to all departments in the organization.

According to this pattern of organization patterns, the lower administration managers can to participate in employment activities (the process of allocating requirements and even the selection), performance evaluation, configure individuals and analyze individual needs, provide bonuses, analysis of labor positions. The following figure illustrates this model.

Figure (2-6): Decentralized Organization of Human Resources Management



Source: (Abbas, S., 2006, p.94)

Notes from the organizational form of decentralized management of human resources that Deputy Director-General for individuals has advisory powers in the affairs of individuals and the executive departments directors has all the special powers for the management, also the powers relating to the preparation and design of HR systems in accordance with the nature of the workers and their management activities and tasks.

Management of human resources is no longer confined to just the efficiency of the human resources departments, this decentralized organization allow orientation human resources management to medium and long-term thinking, In regards to the conduct of professional competence and conduct of the tracks, in accordance with the general strategic to the organization.



## **2.3. Human Resources Information Systems**

Human Resource Management generally uses Information Technology as Human Resource Information System HRIS. HRIS is an integrated system acquiring and storing data used to make analysis, make decisions in the field of Human Resource. (Unal, O., Mete, M., 2012, p.249)

Management in dealing with the human resources need to many types of information needed to achieve optimum use of available human resources. The media has been dealing in such information in the past are rudimentary, simplicity and inefficiency, it was limited to the collection of data in newspapers and archives, as well save documents and papers that contain important data about individuals in the files are stored on the premises of conservation, and deal with it is manually. But with the advancement of computers and internal networks in the institutions, it has become affordable design and run effective information systems in various areas of activity, and including human resources management. (Al Salmi, A., 2010, p.74)

Through this section we will provide the concept of human resource information system, then the functions of the Human Resources Information System and we will deal with applications, while in the latter it will address the advantages and constraints of the system.

### **2.3.1. The Concept of Human Resources Information System**

Through this demand we will address the definition of human resource information system, its importance, and we will look at the latter into its components.

#### **2.3.1.1. Definition of Human Resources Information System**

Intended of human resources information systems "system containing information about human resources in the enterprise, it can be benefit of it in various decisions making of human resources, such as training, development, motivation, and promotion, ... etc. The human resources information system involves a process of collecting, organizing and analyzing human resources data and turns it into decision-making centers for the purposes of planning for human resources at the right time. (Abbas, S., 2006, p.97)

Also it is known as a "system that works on the reception, storage, retrieval, processing, analysis and dissemination of information relating to the conduct of mainly human resources. (Al Salmi, A., 2010, p.75)

And in general, the human resource information system is considered to be the rules of electronic information and ready-made programs which aimed achieving efficiency and effectiveness in operations of human resources management in the modern enterprise, and it combines between individuals, appliances and ready-made programs, procedures and data and beneficiaries. (Al Mursi, J., 2006, p.78)

And also the human resources information system known as interconnected parts that work together in a reactive group, to convert data into information that can be used to

support functions related to human vendor in the organization of planning, control, decision-making, and coordination, in order to improve the performance of the individual, and reconcile between resource properties and characteristics of functions.

### **2.3.1.2. The Importance of Human Resource Information System**

The human resources information systems of organizations achievement many advantages, the most important of the following: (Abbas, S., 2006, p.99)

1. Storage and retrieval of information and processed quickly as possible;
2. Reduce the manual handling of records and paperwork;
3. Speed in completing the storage and analysis leading up to the speed and accuracy of decision-making process;
4. Achieve a good relationship and mutual understanding between management and workers, by providing different information about the employee's activities of an organization, and of the most important this information is that of performance evaluation;
5. Detect any changes in the human resources in the internal and external environment, and thus enables the administration of preparation to cope with these changes efficiently;
6. The integration and coordination among the various human resources activities and other departments;

As these systems give the organization the following benefits: (Al Samarayi, E., Al Zaabi, H., 2004, p.77)

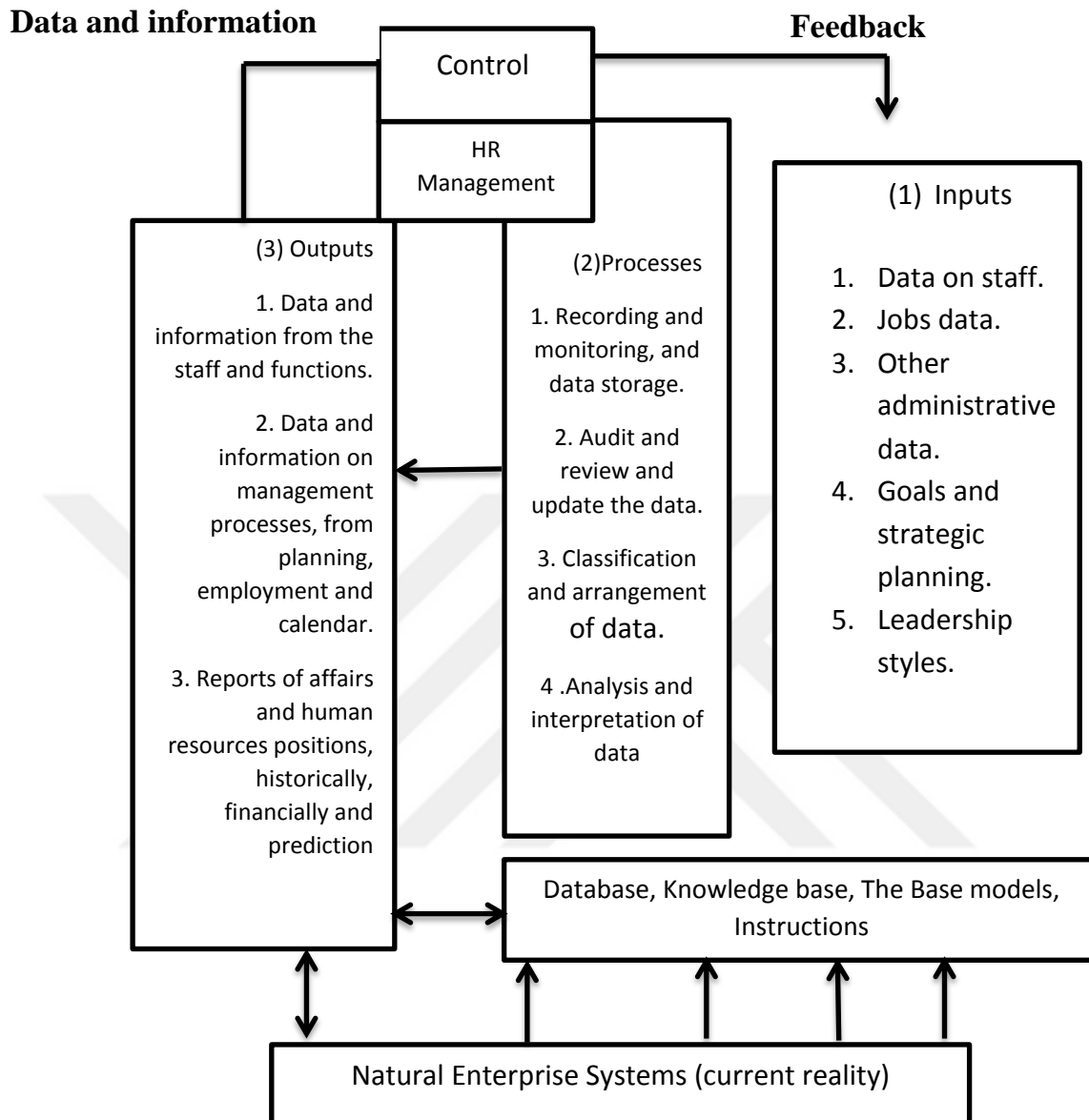
1. Support, preparation and planning of human resource;
2. Prepare prediction needs of the institution of human resources;
3. Personnel affair organization: of the contracts, the appointment and promotion, and transportation;
4. Support training programs, and development Calendar;
5. Supporting wages, bonuses and compensation distribution program;
6. To provide detailed reports for the staff and constantly updated;

And represents the general purpose of the development of human resources information systems to provide users or customers order the information they need in a timely manner and the required precision.

### **2.3.1.3. The Components and Parts of the Human Resources Information System**

Human Resources Information System consists of the viewpoint of the system working mechanism, like any other Information system of five elements, is the input, processes, outputs, control, and feedback. Explained that in the following figure:

Figure (2-7): The Components of the Human Resources Information System



Source: (Al Sharman, Z., 2004, p.86)

Generally human resources information management systems formed of the two main components: input and output: (Al Samarayi, E., Al Zaabi, F., 2004, p.80)

**2.3.1.3.1. Input:** It is entered human resources information to the system and the related statements objectives, policies and strategies for human resources planning, data polarization, and the selection and recruitment, training and development, sustainability, and data stimulation, bonuses, compensation, insurance, and all the details of the staff and their records and reports.

**2.3.1.3.2. Outputs:** It is results of processes and the different forms of information produced by the systems operations, such as a chart,

graphics, and lists of information, staff reports, tables, and regulations.

Among the most important parts human resources information systems are follows:

- A. **Database:** The database is among the most important facilities that reliable human resource information system. The database contains several files for workers, these files includes special information of the workers name, number of health guarantee and Job Category. Often used linked database that are under store the information in multiple files, each file specializes in field or a particular item of information for workers, that organize the special information for each worker in multiple file not in one file, and each file is linked to another file are complemented, this differs from the traditional file that is stored specific information for each worker in a single file.
- B. **Equipment Used:** Before you select the equipment used in the human resources information system must identify the type of application that it needs the manager, whether they are software templates or programs designed by the management. The desired application determines the required memory size, as that among of the equipment used in the computers system and input devices and output, such as printing.
- C. **Software Environment:** It is the applications that helps the beneficiary in the seamless interaction with different systems, such as giving the opportunity to the beneficiary, and enable it to communicate with other computers, as well benefits of the data stored in other computers.

### 2.3.2. Functions of Human Resources Information System

Human Resources Management is used in contemporary institutions, and in other stages and types of activities, computer and information systems to help them to accomplish different functions, the most important of these functions are following: (Al Sharman, Z., 2004, p.89)

**2.3.2.1. Provide Senior Management with Information:** It is the most important and the most prominent function performed by the system, Where the administration needs in all its works of more information and especially that they live in a world that is complicated specialties Identifying the human efficiencies help the organization to plan for the expansion required in the future, it also has a role in the long-term strategic decision-making.

**2.3.2.2. Determine Responsibility:** This system has role in determining the roles of workers and departments of organization, and thus determine the responsibility of those to not become to a worker more than

capacity which disturbance things when unable to carry out his mission, and establish responsibility can also be held accountable for negligence and to identify neglected.

**2.3.2.3.Organizatiion of Work Procedures:** This function of system is derived from its name "as a system" it means that anything planner, specific and well arranged, In the absence of the system, the victory of chaos and randomness and the organization expects from a good system to simplify procedures and to fill the gaps in the course of the current business plans.

**2.3.2.4.Control and Take Advantage of the Resources Available:** And available resources may be physical as devices and equipment, goods and money, or human as employees and clients, and today's world is full of these resources, which may be control to it the work of the utmost importance to take advantage of them maximum benefit for example, a system inventory number and disciplines employees of an organization to reallocate roles and functions to ensure the benefit of them in increasing production without the need to set any additional workers and increased costs to the enterprise.

**2.3.2.5.Ensure the Flow of Work:** The system functions that lead to the coordination and harmonization with other sub-systems in order to ensure the flow of work and get rid of the bottlenecks.

### **2.3.3. Advantages and Applications of Human Resource Information System**

#### **2.3.3.1.Human Resources Information System Applications**

For Human Resources Information System many applications in all of the organization's activities and the most important of these applications: (Hamud, Kh. Kharsha, Y., 2007, p.65)

**2.3.3.1.1. Human Resource Planning Applications:** The system helps to identify the future needs of human resources in quantity and quality, which providing information about who will occupy position in the future, and it is used to predict the number of new appointments and transfers and promotions from department to department and the number of workers who are needed by the institution in the future as well the number of workers who will lose the organization in the future for any reason as retirement and transportation ... etc.

- 2.3.3.1.2. **Employment Applications:** Staff recruitment applications include all of the process of attracting and attract workers, and assist in the provision of appropriate job opportunities for them, and maintain their own personnel database, in the process of attraction and polarized the system to keep the information on the candidates for the job and identify the most suitable candidate for the job sites to help put the right person in the right place, with respect to the provision of data for enterprise employees and maintains a database containing information pertaining to workers can be used for several purposes such as management, payroll, incentive management system, and also assist in human resource planning.
- 2.3.3.1.3. **Performance Management Applications:** The application management and performance evaluation of assigned human resources management tasks that require undoubtedly adopt electronic computer application in order to achieve both ways Calendar proper and accuracy and high and objective process and this would Foundation helps in linking Calendar systems, characteristics and specifications of each function, and contribute to the identification and development of solutions to performance problems resulting from differences between actual performance against objective standards so that the system correct deviations and address the low performance problems.
- 2.3.3.1.4. **Applications Training and Professional Development:** The contemporary institutions are institutions of learning and training as the continuous development and improvement in performance has become a feature of its institutions so that it can cope with intense competition, in order to be a method of training and development based on the dimensions of objectivity in achieving the performance required to build a broad base of information that includes information on current activities in the organization, and the number of personnel required for training and their characteristics, and to any department or department belong so that appropriate training program content and the cost of training and therefore should find out which sections are training without the high cost of others.
- 2.3.3.1.5. **Compensation Applications:** Includes special applications for compensation to determine wages and bonuses and incentives and subsidies, and public and social services provided for workers. Where compensation management system helps to know the amounts paid monthly and even yearly and gives

management information about payment rates and the limits of the salary, so it is important in future planning for increases in payment rates as it helps management identify jobs that are higher wages and lower payment rates in competing institutions.

### 2.3.3.2. The Advantages and Constraints of Human Resources Information System

Through this demand we will look at all of the advantages enjoyed by the human resources information system and we will look at the obstacles that hinder the system, this is through the following table: (Hamud, Kh. Kharsha, Y., 2007, p.69)

Table (2-3): The Advantages and Constraints of Human Resources Information System

Advantages of Human Resource Information System	Obstacles of Human Resources Information System
<ul style="list-style-type: none"> <li>- Development of Planning programs and engages and attracts human resources.</li> <li>- System leads to strengthening the link management personnel and thus addresses their problems and solves them.</li> <li>- Save time and reduce administration costs.</li> <li>- Increase the degree of accuracy of the data and information produced.</li> <li>- Reduce reliance on paperwork in the collection and processing and storage and retrieval of relevant human resources matters, and this leads to provide an element of flexibility information.</li> <li>- It is accurate and clarity and speed in assisting the Director in making the decision to be taken on the specific activity of human resources activities.</li> </ul>	<ul style="list-style-type: none"> <li>- Inadequate financial budgets in some institutions to implement such this system.</li> <li>- System designers lag in understanding the nature and activities of this system because they deal with the human element in the complex composition.</li> <li>- Legal restrictions on the transfer of international human data and information.</li> <li>- Lack of senior management support for the system.</li> <li>- Resistance personnel to apply this system of fear for their jobs.</li> <li>- The lack of original databases, accurate and sufficient to feed the system.</li> </ul>

Source: (Hamud, Kh., Kharsha, Y., 2007, p.70)

## **CHAPTER THREE**

### **RECRUITMENT OF HUMAN RESOURCE MANAGEMENT FUNCTIONS AND TO HARMONIZATION INFORMATION TECHNOLOGY**

Information Technology assists Human Resource professionals in the delivery of services and affects all Human Resource practices. Each Information Technology tool can be used by different Human Resources functions. For example, web data bases are used for learning at work, decision making and completing works. (Unal, O., Mete, M., 2012, p.251)

#### **3.1. Human Resource Management Function in the Knowledge Society**

Human Resource Management is a management function concerned with hiring, motivating, and maintaining workforce in an organization. Human resource management deals with issues related to employees such as hiring, training, development, compensation, motivation, communication, and administration. Human resource management ensures satisfaction of employees and maximum contribution of employees to the achievement of organizational objectives.

According to Armstrong (1997), Human Resource Management can be defined as “a strategic approach to acquiring, developing, managing, motivating and gaining the commitment of the organization’s key resource – the people who work in and for it.”

During times pre-industrial revolution, the technology changes occur very slowly, change has took from stone to metal tools thousands of years, with the passage of time, the rate of change in the technology became faster and faster, and now it was faster than him before, and I have these rapid developments have made structural changes in society and the economy, the world is witnessing now is a shift to the information society and knowledge-based society and for the economy to a knowledge-based economy, but it is more economic literature and research dealing with both the concepts of knowledge economy and knowledge-based economy does not suffer discrimination between them.

##### **3.1.1. Classification of Human Resource Management Function**

Human Resource Management functions can be classified in following two categories: (Patidar, M., 2014, p.78)

1. Managerial Functions;
2. Operative Functions.



**3.1.1.1.The Managerial Functions of Human Resource Management are as follows:**

- A. Human Resource Planning:** In this function of HRM, the number and type of employees needed to accomplish organizational goals is determined. Research is an important part of this function, information is collected and analyzed to identify current and future human resource needs and to forecast changing values, attitude, and behavior of employees and their impact on organization.
- B. Organizing:** In an organization tasks are allocated among its members, relationships are identified, and activities are integrated towards a common objective. Relationships are established among the employees so that they can collectively contribute to the attainment of organization goal.
- C. Directing:** Activating employees at different level and making them contribute maximum to the organization is possible through proper direction and motivation. Taping the maximum potentialities of the employees is possible through motivation and command.
- D. Controlling:** After planning, organizing, and directing, the actual performance of employees is checked, verified, and compared with the plans. If the actual performance is found deviated from the plan, control measures are required to be taken.

**3.1.1.2.The Operative Functions of Human Resource Management are as follows:**

- A. Recruitment and Selection:** Recruitment of candidates is the function preceding the selection, which brings the pool of prospective candidates for the organization so that the management can select the right candidate from this pool.
- B. Job Analysis and Design:** Job analysis is the process of describing the nature of a job and specifying the human requirements like qualification, skills, and work experience to perform that job. Job design aims at outlining and organizing tasks, duties, and responsibilities into a single unit of work for the achievement of certain objectives.
- C. Performance Appraisal:** Human resource professionals are required to perform this function to ensure that the performance of employee is at acceptable level.
- D. Training and Development:** This function of human resource management helps the employees to acquire skills and knowledge to perform their jobs effectively. Training and development programs are organized for both new and existing employees. Employees are prepared for higher level responsibilities through training and development.
- E. Wage and Salary Administration:** Human resource management determines what is to be paid for different type of jobs. Human resource management decides employees' compensation which includes - wage administration, salary administration, incentives, bonuses, fringe benefits, and etc.

- F. Employee Welfare:** This function refers to various services, benefits, and facilities that are provided to employees for their well-being.
- G. Maintenance:** Human resource is considered as asset for the organization. Employee turnover is not considered good for the organization. Human resource management always tries to keep their best performing employees with the organization.
- H. Labor Relations:** This function refers to the interaction of human resource management with employees who are represented by a trade union. Employees come together and form an union to obtain more voice in decisions affecting wage, benefits, working condition, etc.
- I. Personnel Research:** Personnel researches are done by human resource management to gather employees' opinions on wages and salaries, promotions, working conditions, welfare activities, leadership, etc. Such researches help in understanding employee's satisfaction, employee's turnover, employee termination, etc.
- J. Personnel Record:** This function involves recording, maintaining, and retrieving employee related information like - application forms, employment history, working hours, earnings, employee absents and presents, employee turnover and other data related to employees.

### **3.1.2. Information Society**

#### **3.1.2.1. The Reasons for the Emergence of the Information Society**

The reasons that led to the emergence of the information society can be summarized in two developments: (Alian, R., 2008, p.101)

- 3.1.2.1.1. Economic development:** It has begun relying on the agricultural community on primary natural resources and energy, such as wind, water, animals and human effort, in the next stage, the stage of industrial society has become to rely on generating energy, such as electricity, gas and nuclear power, and the post-industrial society, it depends mainly on the development of information and networks.

Table (3-1): Economic Progress Properties

	Agricultural society	industrial society	post-industrial society
Technical dominant	Plow	Machine	Computer
Goal	Survive	material wealth	Personal growth
Director	Food	Goods	Information and knowledge
Strategic resources	Land	Capital	knowledge
Form of organization	Family	Organization	Networking
Power source,	Animal	Oil	Mind

Source: (Al Thahir, N., 2009, p.98)

Illustrated by the above table that the agricultural community has depend on a muscular effort, while the emergence of industrial society began to widen knowledge work on the muscle work where it began active operations creativity, development, specialization, training, , etc. The existence of post-industrial society, namely the information society and knowledge society expanded knowledge work at the expense of muscle work decisively as it has become known as the day of the information age and knowledge.

- 3.1.2.1.2.** Technological development: Information Technology clearly contributed to driving the economic growth of the origins and evolution of the information society.

Table (3-2): The Most Important Technological Developments since the Beginning of the Nineteenth Century

Year	Technology
1800	Early electric batteries
1814	Steam locomotive
1821	The electric motor
1837	Electric telegraph
1876	Phone
1893	Cars that run on gasoline
1903	Plane
1928	Electronic TV
1935	Radar
1946	The first electronic computer
1969	Emergence of the beginnings of the Internet from computer network decentralized linking four American universities
1989	World wide web
1995	Telephone mobile
2010	Nanotechnologies

Source: (Hadid, N., 2007, p.108)

By The development of information technology not only interest to produce, store and distribute energy , but oriented special attention to the production, storage and distribution of information. The advance and development of societies in this age is related to the ability to make the information and using them electronically, the information has grown and multiplied in a fictional short in duration and rates of the huge constitute a new type of knowledge-based economy and as the digital revolution has become the title of the new global economy, and should be the traditional organizations catch up with the progress, and not to leave the digital divide widen and worsen.

The digital divide can be defined as "the gap left by the information and communication revolution between developed and developing countries, and measured by degree of availability of the foundations of knowledge in components of the digital economy, which is based on information and communications technology and the degree of correlation to the Internet as a global information network, and e-commerce is the most important new global economy landmarks. (Al Saadi, R., 2010, p.111)

Digital divide is a term that refers to the gap between demographics and regions that have access to modern information and communications technology, and those that don't or have restricted access. This technology can include the telephone, television, personal computers and the internet.

The digital divide typically exists between those in cities and those in rural areas; between the educated and the uneducated; between socioeconomic groups; and, globally, between the more and less industrially developed nations. Even among populations with some access to technology, the digital divide can be evident in the form of lower-performance computers, lower-speed wireless connections, lower-priced connections such as dial-up, and limited access to subscription-based content.

According to recent studies and reports, the digital divide is still very much a reality today. A June 2013 U.S. White House broadband report, for example, showed that only 71% of American homes have adopted broadband, a figure lower than in other countries with comparable gross domestic product.

The development in the field of information and communication technology has led to the division of society into three categories as follows: (Alian, R., 2008, p.109)

1. Sharing communities, which can do the production of new technology in the field of information;
2. Communities connected, which can communicate with the world through information and communication technology;
3. Isolated or marginalized communities, which can't be played any role in the field of information and communications technology, or even contact with the world.

### **3.1.2.2. Definition of the Information Society**

There are many definitions of the information society, and within the definitions, which reported:

The first definition: The information society concept sees the shift from an industrial society to a society where information in the most extensive and diverse forms is the driving force and the dominant, most of the members of this community and are busy producing the information collected, or banked or processed or distributed. (Al Hashimi, A., Al Azzawi, F., 2007, p.118)

The second definition: Is a society based on information and communication technology which represents its infrastructure, and represents an important information resource to it and communication is the main activity of its. (Wissam, M., 2012, p.108)

The first definition is focus that the information society is a society that follows the industrial society, where the information society is characterized by the ability of individuals in this community access to information, whether it is a simple, up to the economic plans and others, and this is can be members of the information society to

Personal make decisions rely on accurate information, in addition, and based on the second definition the information society based on information and communications technology, which represents the base of the circulation of information and participation, information society cares "management quality and speed of information as the latter becomes the main factor of competition, and the services that provided by the information technology and communication is pillar of human activities.

### **3.1.2.3. The Properties of the Information Society**

It can be said that there are three key basic properties controls in the information society: (Al Zahbi, A., 2007, p.16)

1. **First property:** the use of information as an economic resource, where institutions and companies working to exploit the information and use in increasing its efficiency.
2. **Second property:** is the infinity use of information among the general public, people-intensive uses the information to their activities as consumers, they also use the information as citizens to exercise their rights and responsibilities, so the information is an indispensable element in the daily life of any individual.
3. **Third property:** Is emergence the information sector, with the emergence of the third millennium appeared the so-called information revolution basis using information and communication technology, which having been the economic activity in the past divided into three sectors: Agriculture, Industry, Services, add to it a quarter segment is the information sector, which consists of institutions in both the public and private sectors, those that produce informational content or intellectual property, and those that provide the facilities for the delivery of information to consumers and those that produce hardware and software that enable it to process information.

### **3.1.3. The Knowledge Society**

#### **3.1.3.1. Definition of the Knowledge Society**

The first definition: "Is a post-industrial and pre-knowledge society, which is the information revolution and the information age Society, is a digital society resulting from the tide of globalization, which concludes develops policies and strategic plans and programs aimed at improving their societies on the basis of advanced knowledge, and investment information and communication technologies in all economic, social, cultural and other fields, and the elimination of illiteracy dealing with electronic computers and digital convergence technologies, and informatics illiteracy and digital illiteracy, which includes all aspects of dealing and usage of digital technology and its applications in human life.

The second definition: "knowledge society is that society which optimizes the use of knowledge in the conduct of its affairs and in making right and prudent decisions, so is it a society that produces, consumes and employs information to know the backgrounds and dimensions of things of all kinds, not only in his country but throughout the whole world. (Al Khateb, A., Zeghan, A., 2009, p.41)

Through the first definition in a rapidly changing world and in an era dominated by the information and communication technologies are knowledge is the most powerful weapon of the communities of this age that defines knowledge societies where these communities seeking to invest in information and communication technology and the elimination of the digital and information illiteracy, and the second definition added of knowledge societies marked by their ability to produce knowledge and using it efficiently in all its activities to improve the quality of human and delivers efficient to tender stage, and to understand the equations of life and use it to build a better society, Knowledge is the only way to achieve this purpose, which is in the same driving tool of the human race to achieve their freedom and raise its value, and its transformation from backwardness to progress.

### **3.1.3.2. Various Dimensions of the Knowledge Society**

Become a knowledge society different and interrelated dimensions that should be exploited as it should, and the most important of these dimensions as follows: (Wissam, M., 2012, p.111)

- 3.1.3.2.1. **The Economic Dimension:** It considered the information in the knowledge society is the main item or service and the primary source of value-added and job creation and the rationalization of the economy, this means that the society that produces the information and use it in various arteries of the economy and various activities, is a society that can compete and impose himself.
- 3.1.3.2.2. **Technological Dimension:** It means that the spread of the knowledge society and the rule of information technology and its application in various areas, this means as well the need for attention to media and media-informatics and adapted and recruitment according to the objective conditions for each community both in terms of materiel or software, technological dimension of the information revolution as the means of providing the necessary infrastructure and means of communication and communication technology and make it accessible to everyone.
- 3.1.3.2.3. **The Social Dimension:** It means the rule of the knowledge society a certain degree of IT literacy in society and increase the level of awareness of information technology and the importance of information and its role in the daily life of human, and the demands of the community here to provide media and information necessary in

terms of quantity and quality, and the rate of regeneration and the speed of development of the individual.

3.1.3.2.4. **The Cultural Dimension:** It means the knowledge society to give considerable importance of information and knowledge, and interest in the creative capacity of the people and provide the possibility of freedom of thought, creativity and justice in the distribution of science and knowledge and services between the different layers of society, as the means to raise awareness and culture in the daily life of the individual and the institution and the community as a whole.

3.1.3.2.5. **The Political Dimension:** It means the knowledge society to involve the public in decision-making in prudent and rational way based on any use of the information, and this of course does not happen only to expand freedom of information and the provision is based on democracy, justice, equality and involve the public in decision-making and effective political participation process political climate.

Knowledge society is not limited to the production and circulation of information, but needs to establish a culture of respect and of producing this information and exploited in the right area, which requires a cultural and social environment and political knowledge and believes in its role in the daily life of the community.

## **3.2. The Concept of Electronic Management of Human Resources E-MHR**

The current era saw the breadth of the role of knowledge work at the expense of muscle work decisively as it is becoming known as the knowledge era, the era of information and knowledge and have prevailed use the letter e with a number of concepts, (e-business), (e-commerce), (e-banking), (e-marketing), until the enemy transmission of the function human resources management, which has become known as the designation electronic management of human resources, through this section will be definition of electronic management of human resources management and material and human requirements.

Worldwide, the HR profession had to respond to increased competition for globally mobile talents, changes in both workforce attitudes and composition, shifts in the employer/worker relationship and rapid advances in HR technology. New kinds of technical knowledge, skills and abilities would require HR practitioners in future who are flexible and willing to deal with the ever accelerating pace and often unpredictable changes in the global workplace. The HR profession needs to evaluate the implications of a movement into an era of decentralization, which if used properly, can lead to emancipation. The era will require a new kind of organization, based on a different system that can bring together the contribution of autonomous individuals in a socially sustainable way. It is thus clear that a new way to manage HR as a system is emerging, as well as new HR managers should manage themselves (Anyim et al, 2011, p.35).



### **3.2.1. Definition of Electronic Management of Human Resources**

**3.2.1.1. The First Definition:** E-learning is learning without a teacher, e-marketing, sales without the seller and electronic banking is the banking disappearance (the person), In the same context, the electronic management of human resources make human resources management without the Directorate of Human Resources. (Wissam, M., 2012, p.64)

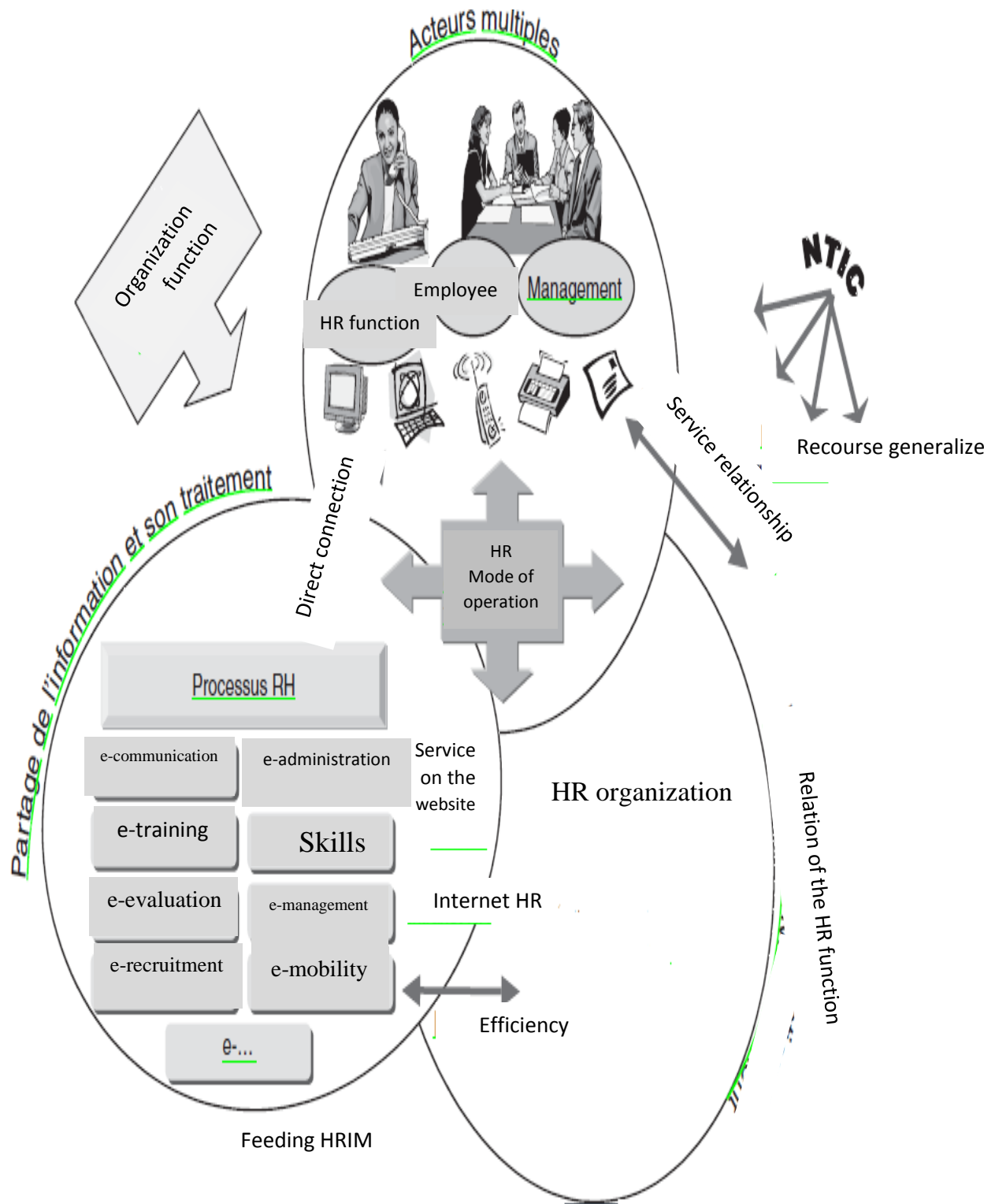
**3.2.1.2. The Second Definition:** electronic management of human resources, "a new management methodology based on the absorption and utilization conscious of information and communication technologies in the practice of the basic functions for the management and development of human resources, it is a new style of management thought and practice to adopt data era of rapid changes, and accommodates renewable technologies, and applied mechanisms actors and investing information and communication technology in the performance of its functions, e-HR administration based on the absorption and the conscious use of appropriate information technology for the management and development of human resources. (Al Kurdi, A., 2011)

**3.2.1.3. The Third Definition:** electronic management of human resources "means resorting to the information and communication technology to improve the human resources of the steps that characterize the employee life: employment, social functioning measures (holidays, social security ...), salaries, running competencies (career path, training), the employee's departure, and retirement.

Electronic management of human resources is seeking to abolish the barriers of time and place and closer to the service of the employee and the flexibility to deal with and this is what came with the first definition, and added the second definition of the concept of electronic management of human resources management is an administration to investing information and communication technology in the performance of its functions, This is confirmed by the third definition improve human resource procedures and show support for traditional methods to perform the functions of human resources management applications to resort to electronic management of human resources methods.

Resorting of information technology is not a new human resources management (management of the wage system, absences ...) What is new is the combination of information technology and communications technology to make interaction with the totality of human resources management functions under the limitation of time and place.

Figure (3-1): Function Representatives of Human Resources Strategy Team



Source: (Wissam, M., 2012, p.65)

Through the figure above identifies electronic management of human resources, which can be summarized as the following applications:

1. **Electronic Training:** E-training "it is considered the most speed and efficiency than the traditional method and this at half the price" reducing cost is mainly due to the economy, transport and accommodation costs as well as minimize the chances of lost productivity as a result of the absence of the trainees for a private place to work if you were training for a long time.
2. **Electronic Evaluation:** Able individual through electronic evaluation "to answer the forms are available on the organization intranet and answers addressed by an admin charge" Individual also be able to through the electronic assessment of hand "knowledge about the position of his position, on the other hand its training program to identify or describe the personal training needs, thus the electronic evaluation is an informative way to oriented electronic training to adopt appropriate training programs compared to the results obtained, usually used electronic assessment to determine the level of mastery "of the language.  
As individuals are evaluated electronically prepare next year's goals for each employee and after approval is kept so that the employee accessed through the Intranet without modification, in each chapter march regulates interviews with each employee to discuss the extent to which these objectives underlined and review this process is repeated each season.
3. **Electronic Administration:** Means " dispense from information paper and bring the electronic office through the widespread use of information technology and conversion public services to office procedures were processed by sequential steps already implemented, and the emergence of e-government applications of such a widespread format, it is the reason of the tremendous achievements in the computer industry and different software, the wealth of telecommunications, the Internet, the emergence of information systems development tools (database management systems), the large number of companies and institutions that have undertaken the development of software which have to do with electronic management. The "electronic administration one of the main applications of electronic management of human resources," where lead "to shorten the time of the completion of various administrative transactions and reduce the use of paper significantly as to reduce the use of paper will address the problem faced the most of the institutions in the conservation and documentation process, which leads to not having to storage places where they are utilized in other things "and thus create the archive mail.
4. **E-mobility (Conduct internal movement electronically):** Organizations are working to reduce the costs of searching for work, through the definition of vacant work positions at real-time to all its employees, this development will facilitate the recruitment of the internal market for employment and contribute to the organization of some of the interviews between supply and demand in the short term too, it also organizes internal applications stores for employment allows the router or the human resources function definition for

the vacant work positions have a search through the intranet, an internal candidate complies with the requirements, online recruitment is the Internet version of e-mobility, which is part of the electronic management of human resources as it concerns the procedure that leads to the reception of new efficiencies Organization.

The internal movement of staff electronically is conduct the first step of recruitment portal can be "that extends from the description of the position until the final selection through sort out job applications, the tests on the line, also represents an opportunity for organizations that have difficulty regulating the internal market for employment due to their large size, every employee can scan function guide to get to know the terms of evidence served as what, and know the proposed training programs that allow him to accumulate the necessary competencies for this position. (Ahmad, M., 2009, p.40)

### **3.2.2. The Physical Requirements for Electronic Management of Human Resource**

E-Human Resource is a function of Human Resource that is concerned with the use, **Human** management, and regulation of electronic information and processes within an organization. E-Human Resource is different from e-HRM (Electronic Human Resource Management) and HRIS (Human Resource Information System) which are uses of technology.

E-Human Resource Management is mediated by information technologies to help the organizations to acquire, develop, and deploy the intellectual capital. E-HRM is a good way of implementing Human Resource strategies, policies, and practices in organizations through a continuous and direct support by full use of web-based-technology channels and networks. (Niwlouei, F., 2014, p.152)

#### **3.2.2.1. Human Resources Information System**

E-Human Resource Management is different from HRIS (Human resource information system) and Virtual Human Resource Management (Swaroop, K., 2012).Artificial human resources, web-based human resource management, B2E and artificial human resource management, point out the networks of internal and external active factors which provide required human resource services for an organization without the need for a conventional human resource unit which in turn is considered as an artificial human resource unit

##### **3.2.2.1.1. The Concept of Information Systems**

The first definition: The information system is a collection of individuals, procedures and sources or resources collected, turned and broadcast information in the organization. (Al Sabbag, A., 2000, p.26)

The second definition: "The information system to provide economic unity with the necessary information needed to make decisions in a timely manner and at the

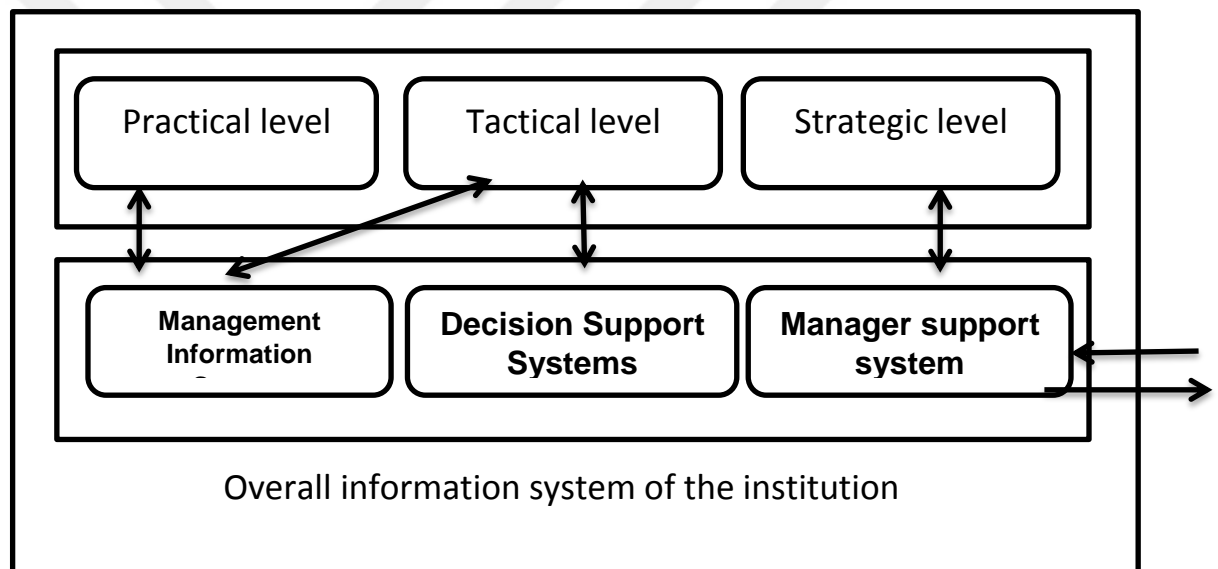
appropriate administrative level, such a system that receives data, transport, storage, processing and retrieval has been connected to a stand-alone after the operation to its users in the right time and place. (Al Naeef, S. Abdulaal, A., 2008, p.4)

Through the above definitions of the information system can be noting as follows:

The concept of information systems concerned on how to deal with the data in terms of the possibility obtained from various sources (internal and external), which is according to the second definition of preservation, transfer and retrieval in order to conduct the necessary operations to reach configured as outputs to serve as the information is delivered to check the interest of its users.

Overall information system for the organization consists of sub-information systems, and these systems are: (Hadid, N., Hadid, R., 2003, p.28)

Figure (3-2): Subsystems Making Up the Overall Information System



Source: (Hadid, N., Hadid, R., 2003, p.28)

### 3.2.2.1.1.1. Managers Support System

These systems concerned with helping to make decisions nonprogrammer and unstructured that are considered non-repetitive and non-routine decisions, which "are the criteria that must be taken into account very many, thus lacking the resolve to be in devising a suitable solution to the problem, and in this case the decision leaves considerable area for conjecture and guided in union decisions of this kind. It is also "strategic decisions relating to the identification goals, strategies and major policies of the organization and control of the overall performance of the organization, they include long-term planning, and is making these decisions by senior management levels in the organization, and characterized the decisions at this level of being with a high degree of uncertainty because they relate to distant future. (Qasim, A., 2012, p.83)

It helps strengthen the system managers' compensation hunch Rapporteur and its guidance in making this kind of decision, including the so-called research Scout, it approved method of artificial intelligence and used by various expert systems.

Research method Scout used in so-called Scout programming, for the purpose of preparation the complex software setup, remote software for digital processors or specialist chains of characters that are programmed by using simple informatics, they are trying Quote human ideas regarding how to resolve the non-logarithmic problems, meaning an attempt to simulate human thinking, in other words, the Scout programming aimed to design the secondary artificial intelligence to help the natural intelligence in the unstructured decision-making.

It means the artificial intelligence in the behavior shown by the computer, which is considered as human intelligence. It cares domain, which examines how a computer can accomplish tasks that human remains to this day the better, and expert systems have emerged as one of the results of the work in the field of artificial intelligence and expert systems cover a particular area of knowledge, results are presented from the knowledge gained from experts and stored in the knowledge base, where is the base knowledge stored the unstructured data and qualitative data as well tacit knowledge, and knowledge base is different for the database in the fact that the latter only stored quantitative and unstructured data.

#### **3.2.2.1.1.2. Decision Support Systems (DSS)**

Decision support systems care for help to make tactical decisions, are taken such decisions by the middle management level, usually interested in this kind of decision highly efficient and effective use of resources, and the effective functioning of the organizational units of the organization, and also this administrative level attend to convert plans and strategies to the functions and responsibilities are implemented in a practical level. (Hadid, N., Hadid, R., 2003)

#### **3.2.2.1.1.3. Management Information System (MIS)**

Management information system meant that system, which handles the collection and processing of data and deliver them in the form of information to the practical and tactical decisions makers. Dependent on information technology, so that information consistent with the needs of decision makers in terms of accuracy, timeliness, integration, concentration and significance, it is intended, it aims, at the same time, to sub-systems service consisting of practical level. (Hadid, N., Hadid, R., 2003, p.39)

Management information system is "an integrated open system and contains a number of sub-information systems that supports the activities and operations of the functional systems of the organization (functional areas) within the framework of the joint coordination which is based on the specific objectives and criteria for evaluating and reviewing the system works. (Yasin, S., 2005, p.67)

Management information systems is "an integrated system consists of a group of individuals, devices, procedures and subsystems for the information, in order to provide management with everything it need of accurate and sufficient information for the organization's activities, in order to accomplish administrative functions efficiently and effectively. (Al Khateb, A., Zeghan, Kh. 2009, p.62)

#### **3.2.2.1.1.4. Enterprise Resource Planning System (ERP)**

For explanation the meaning of Enterprise Resource Planning (or integrated management software) is offered the following definitions:

The first definition: Enterprise Resource Planning is software allows the conduct of all the processes of the organization to integrate all its functions such as human resources management, financial management, and accounting, helping to decision-making, sales, distribution, logistics, production and even e-commerce.

Enterprise Resource Planning through the first definition allows unifying the various functions of the organization during the consolidation of the various applications of informatics, and until the system is integrated, should cover at least three jobs.

The second definition: "software allows centralizing data relating on temporary functions for the organization.

Software Enterprise Resource Planning allows to centralizing data or collected from the various functions of the organization and standardization to create one huge database.

This definition emphasizes "the basic principle of Enterprise Resource planning is the establishment of appropriate information applications to different functions abovementioned independently and then assembled into a single, integrated database, stator principle that distinguishes the Enterprise Resource Planning is the use of so-called workflow engine that allows with the participation of the information stored by information system.

Enterprise Resource Planning software are geared especially for large organizations (multiple branches) or the multinational and thus the cost of such software is very expensive, however, known software market of Enterprise Resource Planning extension and expansion towards the small and medium enterprises.

Also allows Enterprise Resource Planning software to achieve the following benefits: (Wissam, M., 2012, p.97)

1. Integration unit overall information system of the organization: Where through a single database, or the presence of several statements respecting the same rules of restructuring, allow software Enterprise Resource Planning to avoid a repeat of information between the various subsystems consisting of Enterprise Information System.

2. The user can retrieve data quickly, and recorded; the most important interested is possibility of entering updates to the database in real-time and distributed to sub involved applications.
3. Programing the enterprise resource planning is Multilingual, and therefore fit in with the global market.
4. Allows enterprise resource planning software to control inventories, an important component of most of the institutions that the stocks of high cost.

### **3.2.2.1.2. The Concept of Human Resources Information Systems**

A HRIS, which is also known as a human resource information system or human resource management system (HRMS), is basically an intersection of human resources and information technology through Human Resource software. This allows Human Resource activities and processes to occur electronically.

#### **3.2.2.1.2.1. Definition of Human Resource Information System**

The first definition: "Human resources information system involves a process of collecting, organizing and analyzing data on human resources and turns them into decision-making centers for the purposes of planning for human resources at the right time. (Abbas, S., 2006, p.38)

The second definition: Human Resources Information System "is a set of physical facilities (computers and accessories devices), and Informatics (database management systems, data operating systems, databases, etc. ...) and human (workers, users and programmers, ...), which works in an integrated manner in order to assign the decisions related to the management of human resources in the organization and at all levels of management industry process. (Hawari, M., Albahi, M., 2009, p.16)

The third definition: Human Resources Information "system is a system that cares about providing all the historical information, current and future, human resources, and present them to others concerned those resources is whether these entities were internal or external to learn the value of human resources, which are considered the most valuable in the organizations assets.

Illustrated by the first definition of the role of human resources information system in the data processing of human resources and convert it to information that supports the decision-making process, the needs of human resources information system for that combination of physical equipment, informatics and individuals designed and this is confirmed by the second definition, the third definition refers to the Human Resource Information System is a sub-informatics system component of the overall information system of the organization seeks to collect, preserve and deliver data describing the human resources to the internal or external entities related to human resources information system.



The basic function of the human resources information system "to meet the human resource management needs of the information you need about all personnel, and for the purposes of planning and organization of human resources in the organization, moreover, this system shall provide the senior management (strategic) comprehensive and accurate information on the function of the management and orientation of human resources and provide quantitative and non-quantitative indicators and analysis the necessary relationships to evaluate the efficiency of this administration.

This system provides planning and predictive information was able to determine the needs of the organization of human resources at present and in the future, and information that integrate with the human resources management functions of processes of selecting and appointing individuals, analysis and job descriptions, personnel training, put the stimulus programs, and systems of wages and bonuses and the transfer and promotion of individuals.

So the information provided by this system and component outputs of informational reports, and summaries to be extremely important by being specific to the requirements of the improvement and development of the efficiency and effectiveness of individuals and to reach the highest level of optimal investment of human resources in the organization.

"The primary objective of the human resources information systems is to maintain an accurate and complete data can be used when needed for the reports and records and the mechanism of the tasks and procedures. (Al Atibi, A., 2010, p.33)

The human resources information system shared border between human resource management and information and communication technology combines the management of human resources, particularly the basal and administrative activities through available means of information and communication technology, is also planning activities and data processing destined usually for consolidation within the software enterprise resource planning. (Wissam, M., 2012, p.45)

As for the intranet significant impact on the human resources information system which enables the participation of managers in some of the procedures, and thus human resources information system is not the preserve of the Human Resources Directorate and this requires on the one hand a Web page and view the development of the means necessary within the framework of the decentralization trend, Which are: (Hawari, M., Albahi, M., 2009, 19)

- Transactions available to staff on the Web site (reservation of absence requests, booking in the framework of the annual evaluation, the influence of the balance of vacancies ...)
- Transactions available to managers on the Web site (ratification of absence requests, expectant management for the holidays, the conduct of the annual individual interviews ...)

#### **3.2.2.1.2.2.Input of the Human Resources Information System**

HR information system needs to input group to be able during the production of what is required of them, and the most important outcomes of these inputs: (Hawari, M., Albahi, M., 2009, p.22)

1. The organization's policies and related critical human resources requirements;
2. Rules of payment of wages or forms of dealing with the process of payment of wages;
3. External sources to get workforce;
4. Internal sources to get workforce;
5. Personal data on human resources in the organization;
6. Accurate description for functions in the organization;
7. Rules used in the organization performance measure.

#### **3.2.2.1.2.3.Output of the Human Resources Information System**

The Size and type of output differs from one system to another and depending on the type and size of the work done by the organization, and the most important outcomes: (Hawari, M., Albahi, M., 2009, p.23)

1. Human Resources plan;
2. The selection and order of human resources (assistance in a timely identification of the workforce).
3. The training plan and training needs of the organization.
4. The results of the performance evaluation of employees at various levels.
5. Assists in the preparation of safety reports professional.

#### **3.2.2.1.2.4.The Role of Human Resources Information System**

Human Resources Information System runs on assigning the function of human resources management through the following: (Al Atibi, A., 2010, p.35)

1. Best of conduct repetitive tasks.
2. Centralize data.
3. Follow-up the best data for the employees.
4. Greater interaction with this data.
5. Exchanging best for this data.

#### **3.2.2.1.2.5. Benefits of Electronic Human Resource Management System**

By reviewing the relevant literature, this paper extracted some benefits of E-HRM from various studies which are as follows: (Niwlouei, F., 2012, p.154)

1. E-HRM has the potential to influence both efficiency and effectiveness.
2. Effectiveness can be affected by improving the competence of both managers and employees to make better, quicker decisions.
3. A higher internal profile for HR leading to better work culture.
4. It leads to a more transparent system.
5. Considerable reduction of administrative burden.
6. Provides Integral support for the management of human resources and all other basic and support processes within the company.
7. A more forceful workflow in the business process, productivity and employee Satisfaction.
8. E-HRM can save costs while maintaining the quality of data.
9. Decentralization of HR tasks.
10. Standardization.
11. Access to ESS training enrollment and self-development.
12. User-friendly interface.
13. Connectivity with the client's existing information system (payroll accounting, ERP, attendance registration, document systems... gradual implementation.
14. Parametric and customizability.
15. Access to archived records and documents Employee & time managers self-manage employee mgt.
16. The generation of HR metrics to support strategic decision making.
17. Transforming HR professionals from administrative paper handlers to strategic partners.
18. The automation of routine HR tasks and replacing “filing cabinets”.

### **3.2.2.2. Intranet and the Internet**

Intranet allows the user to use the services provided by the Internet, with the difference in the fact that these services are at the organization level, as it walked through the so-called intranet server, the most important of these services, mentions the following: (Hadid, N., 2007, p.91)

1. E-mail service.
2. Listings service deployment.
3. Chat service over the Web.
4. Messaging mail service.
5. Visible meetings service over the Web.
6. Online telephone service at the enterprise level.
7. Find information service.
8. Discussion forums on the Web service.
9. Service is involved and transfer of special P2P networks files.

Intranet adoption to lead the human resources also allows for "the abolition of the use of paper and to gain time with regard to administrative procedures and automate transactions between employees and the interests of the users and validation and collect information at all organizational levels.

### **3.2.3. Human Resource Management by Knowledge**

#### **3.2.3.1. The Concept of Knowledge Management**

Knowledge management is the acquisition and use of resources to create an environment in which information is accessible to individuals and in which individuals acquire, share and use that information to develop their own knowledge and are encouraged and enabled to apply their knowledge for the benefit of the organization. (Harman, C., Brelade, S., 2007, p.6)

##### **3.2.3.1.1. The Essence of Knowledge, its Kinds and its Importance**

###### **3.2.3.1.1.1. The Essence of Knowledge**

Knowledge linked a condition, or a reality, or a side, or a specific problem and based on the data and information available and connected to them, and therefore the relevant knowledge directly to both the data and information that provide access to knowledge, as follows:

Data, which represent the raw material that is reached and collected on the basis of what is happening of the events and the facts, which are represented by numbers, or words, or forms, or pictures, or symbols, and so make use of it is available, and should be available in the process of precision and clarity of data collection in the representation of what actually check out the events and facts.

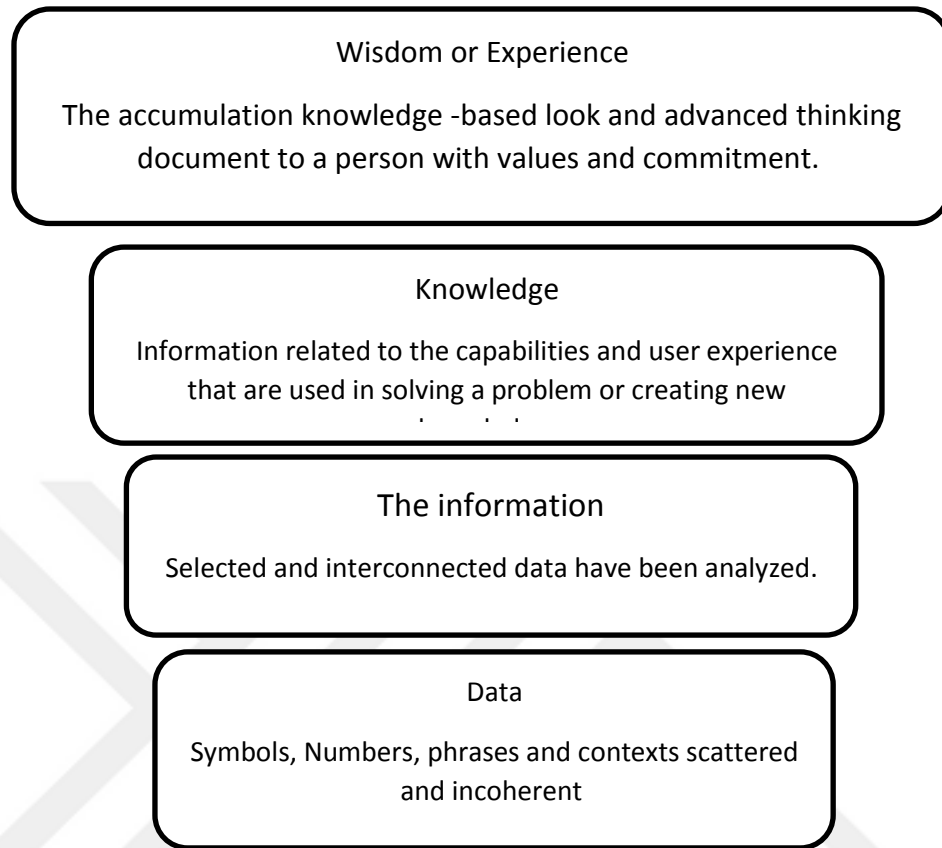
Information is accessible through the "data collection, recording, classification, storage and retrieval, turning data into information by using the data processing manually or automatically, "Information is the data set that had been organized, so that the information is drawn from the data and the form in which it provides greater certainty and reduces uncertainty, which helps to make the right decisions, the information represents a meaning which bear symbols and signs, words, shapes and images contained in the data. (Srur, S., Dakhelallah, Kh. 2006, p.79)

Knowledge constitutes the "full and intensive information and data to use and that are related to human capabilities, which provide him with cognition and perception and understanding of the information.

The "Knowledge is the information interacting with technology that is increasing its influence significantly when shared. (Alsawa, E., 2007)

And "If the technology is a huge engine of society, knowledge is the fuel of this engine; this engine receives every day the best and richest food. (Abu Alnasr, M., 2007, p.62)

Figure (3-3): Depiction of the Relationship between Knowledge and Wisdom, and the Rest of the Constituent Elements



Source: (Al Zeyadat, M., 2008, p.41)

Knowledge is more than information and a higher stage of them, as is the case in the fact that information is more than data and the highest stage of them, and then the data provides information, The information allows knowledge, which is data processing produce information and good understand and absorb the information produces knowledge and repeat the application in practice leads to the experience, which "means the individual skill and specialized knowledge in a particular area that has developed and accumulated over a long time, leading in turn to the wisdom of any good judgment and making the most rational. (Alian, R., 2008, p.56)

#### 3.2.3.1.1.2. Types of Knowledge

It can contain the knowledge of types and many forms, including: (Al Khateb, A. Zeghan, Kh. 2009, p.25)

1. **Tacit Knowledge:** It is the non-phenomenon, which is the knowledge included in that people have this knowledge available and stored by their minds, and they contain these minds of knowledge and ideas cannot be separated from them.

2. **Knowledge Phenomenon:** Is that knowledge that "the individual able to express them without difficulty to speak, or in other ways to connect visual or audio, as embodied materially through the embodiment of this knowledge on paper in a book, or a report, or research or study, or bulletin, or through stored in a computer or other documentation and storage devices, and thus the knowledge capable of being stored, publishing, transport and distribution, and therefore can benefit them and apply what you come out of the solutions to the problems and processors for real cases.(Khalaf, F., 2007, p.53)

### **3.2.3.1.1.3. The Importance of Knowledge**

It highlights the importance of knowledge at the present time, as a result of knowledge associated with the information revolution and the technology revolution, and the use of the results and discharge data and knowledge in all areas of the economy, and the evolution of its activities, which is as follows: (Al Khateb, A., Zeghan, Kh., 2009, p.55)

1. The increase continuing and rapid use of the contents of knowledge and legibility and secretions in all areas of the business.
2. The knowledge represents important base in achieving innovations and technological discoveries and inventions.
3. Continuous increase in the investment of the direct relevant to knowledge, and that the resultant formation of knowledge capital represented by intangible assets and intangible and the resulting increase in the products of knowledge and science, which expands in size constantly.
4. Continuous increase in the organizations and projects that work in the field of knowledge generative, productive, and widely used, and represented by the information and communications organizations, software, research and others.
5. Knowledge is considered an important economic resource and an essential element of the production as a result of the importance enjoy.

### **3.2.3.1.2. The Concept of Knowledge Management and its Goals**

#### **3.2.3.1.2.1. The Concept of Knowledge Management**

Knowledge management is interested to invest cognitive resources and build memory of the organization based on the exchange of knowledge and participation through continuous systematic process. (Yasin, S., 2005, p.94)

Can be similar this concept to field and the concept of information management if it should to be build and develop the management of information resources in the organization especially and the community generally, it is to be in the knowledge era, the knowledge management materials available with a focus on the most important part of these resources which is intellectual capital, or the head of the

cognitive money, which is a resource for the production of new knowledge and innovation means the advancement of society and the economy and human life.

Knowledge management "is the acquisition and use of resources to create an environment, where the information is accessible to individuals, can they have to use, share and develop their knowledge, and become the fans to use their knowledge for the benefit of the organization. Thus the knowledge management requires the creation the environment of the organization by facilitating the exchange of information and work in the center dominated by transparency, the information remains the source of knowledge.

Knowledge management "is complex and multi-layered and multifaceted concept and therefore it is not possible to imagine the presence of mind and inclusive definition of knowledge management. (Yasin, S., 2005, p.99)

Knowledge management is considered based on second definition is multilevel and they are not independent administrative function from the rest of the organizational activities, Because knowledge management is a package of diverse activities and organizational processes cross-functional areas that the process of formation of new knowledge on an ongoing basis, management synergy between the information and communication technology innovation and the ability of human resources in the organization.

Knowledge management "is the sum of the organization methods and technologies that aim to create, collect, organize, store, deploy, use and transfer of knowledge, And transforming important information and expertise possessed by the organization and which are necessary for various administrative activities and decision-making, problem solving. (Mahaya, A., 2008, p.101) Through this definition of knowledge management is evident and clearly the activities or operations of knowledge management.

As long as the knowledge is one of the organization's assets, the knowledge management tasks is investment of these assets to achieve the greatest possible return, investment in knowledge assets includes the generation of knowledge and add value to the knowledge generated through the use of information and communications technology, storage knowledge, and distribution to create new knowledge, development and use.

Knowledge management does not mean the use of information and communication technologies in the ranges and fields of knowledge, and knowledge are not worth the technology and "information and communication technology is one of the basic forces that drive knowledge management forward, it changed from generating mode, transmission and distribution of knowledge," The solutions offered by the Knowledge Management What However, an integrated combination of human and technological terms.

Knowledge management is the result of a "strategic will and teamwork Permanent, which translates creates an added quality of each body value, this value-added find vitality circulating through the experience of each individual in the organization,

where the latter become a guarantee for the continuation of each public organization whether public or private, and one of the main drivers of growth.

#### **3.2.3.1.2.2. Knowledge Management Goals**

Knowledge management aims to achieve the following: (Al Kubaisi, S., 2005, p.49)

1. Captivate knowledge from their sources, storage and re-use.
2. Attracting the largest intellectual capital to develop solutions to the problems that facing the organization.
3. Creating a regulatory environment that encourages everyone in the organization to share knowledge and to raise the level of knowledge of others.
4. Determining the fundamental knowledge and how to obtain them and protect them.
5. Re-use of knowledge and maximized.
6. The possibility of building learning and spreading a culture of knowledge and motivation to develop and compete through human intelligence.
7. Ensure the effectiveness of the organization techniques and convert tacit knowledge to know the phenomenon and to maximize the returns from intellectual property using the inventions and knowledge in their possession and trading innovations.
8. Organizations shift from the traditional economy to the new global economy (knowledge economy).
9. Working on the collection of smart ideas in the field, and contribute to the dissemination of best practices in the home.
10. It aims to creativity and awareness and purposeful design and adjustment disorder and environmental complexity and self-organization, intelligence and learning.

#### **3.2.3.2. The Concept of Human Resource Management Knowledge**

The human resource management knowledge of masterminding the human, technical and material potential in order to achieve its ability to provide the output of the human characterized by outstanding abilities and skills appropriate to the needs of different organizations supplier, As well working on the development of capabilities and tools and processes in order to achieve a transcendental capabilities to meet the projected demand for human resources in distinct time periods to come. As human resources management is following developments in the knowledge society and the structure of the labor market, and is working to develop strategies, plans and programs and all its activities in line with those developments.

The human resources management philosophy of knowledge attends to the following things: (Al Salmi, A., 2010, p.89)



1. Human resource is the most important asset that the administration dealing with it.
2. Human Resource represents real capital of the organization.
3. - Human wishes to participate and take responsibility for his work.
4. - Increase the efficiency of the individual to work within a team.
5. Empowerment of the individual and is intended to "participation of workers in decision-making, this by giving him the necessary powers and information.
6. Expand the use of information technology to connect teams and enable workers

Below is a comparison between the traditional human resource management and human resource management knowledge through the following table

Table (3-3): Comparison between Traditional Human Resource Management and Human Resource Management by Knowledge

<b>Traditional Human Resources Management</b>	<b>Human Resources Management via Knowledge</b>
<ol style="list-style-type: none"> <li>1. Concerned with the physical construction of man.</li> <li>2. Focus on automated performance of the functions.</li> <li>3. Do not require human thought and acquaintances.</li> <li>4. Do not apply the concept of empowerment.</li> <li>5. Focuses on the physical elements in the vicinity of performance.</li> <li>6. Focus on the use of financial and material incentives.</li> <li>7. Focuses on the development and capabilities of the individual mechanical skills.</li> <li>8. Focus on the abilities of the individual.</li> <li>9. Concerns expire by employing the individual and the follow-up of its affairs.</li> </ol>	<ol style="list-style-type: none"> <li>1. Care about human mind and acquaintances.</li> <li>2. Focus on intellectual and mental performance.</li> <li>3. Trying to derive the underlying knowledge.</li> <li>4. Apply the principle of empowerment and techniques.</li> <li>5. Concerned with the moral and intellectual aspects of the work itself.</li> <li>6. Focus on the use of moral incentives and grants powers.</li> <li>7. Concerned with the development of intellectual abilities and creative energies of the individual.</li> <li>8. Working on teamwork Development.</li> <li>9. Concerned with performance management and achievement of results.</li> </ol>

Source: (Al Salmi, A., 2010, p.90)

The obvious comparison between traditional human resource management and human resource management by knowledge evidenced traditional human resources

management interest in the conduct of human resources of the Organization Affairs, whatever the competence and abilities, the interest in these resources are limited and can be viewed through human resources management functions are not interested in the generation and trading investment and Intellectual assets that its own, the most important concept in human resources management by knowledge is intellectual capital.

### **3.3. The Contributions of Information Technology in the Activation of Human Resources Management Function**

The emergence of the Internet and the development of the exploitation of information technology in the functioning of the Organization has become necessary to convert the function of human resources management to electronic management of human resources, and its appearance necessitated the existence of new terms such as e-recruitment, e-training, working-mail, one of the most important applications that depict the IT investment to improve procedures human resources and exercise the basic functions for the management of these human resources.

#### **3.3.1. Electronic Recruitment**

The recruitment process is one of the most important functional activities carried out by the human resources management in the Organization efficiently and effectively, On the basis of the successful of its completion is determined by the path of job organization, whether the marketing function or productivity or financial, and especially in the organization that occupies human resources management position clear in its organizational structure and based.

Recruitment is very important task to provide the most important resources of the organization, that is human resource, and there are important fundamental principles of employment can be summarized as follows: (Alian, R., 2007, p.47)

- ✓ **The Principle of Efficiency:** means need to choose the best advanced elements of the advertised jobs and more able to do.
- ✓ **The Principle of Equal Opportunities:** It means giving equal opportunity to all applicants for a job advertised.
- ✓ **The Principle of Impartiality and Objectivity:** It means stay away from favoritism and personalism in selection of individuals for jobs advertised and appointed, and the need to follow the foundations of a sound process in this area.

Asylum the organization to electronic recruitment is an opportunity to "discover the candidates of the organization, it is the area of communication and marketing, but even make the candidates loyal to the organization, who can be customers of the organization," as for the e-recruitment has several advantages: "speed up the procedures, expand collaborators search field and new at the international level.

Table (3-4): The Advantages and Drawbacks of e-recruitment

Advantages	Disadvantages
<ol style="list-style-type: none"> <li>1. The cost is low.</li> <li>2. Speed in the advertising.</li> <li>3. The lack of restrictions in terms of size of the advertising.</li> <li>4. More attractive method for the new generation candidates.</li> </ol>	<ol style="list-style-type: none"> <li>1. A large number of candidates.</li> <li>2. Inappropriate if the candidates more experience.</li> <li>3. Method recruitment neglected by individuals who are not looking for work.</li> </ol>

Source: (Wissam, M., 2012, p.83)

In addition to the advantages presented in the table, the organization can resort through e-recruitment "to invite the chosen candidate to fill the vacant position of doing their first steps in the electronic management via the Internet, even if it did not receive in the organization, but it is entrusted with a CD-ROM loaded once given him the possibility to influence a set of documents through the Intranet organization filled out demands for the establishment of Public Management.

### 3.3.1.1. Forms of E-Recruitment

There are three forms of e-recruitment:

- A. Organization Website:** Spread the use of the Foundation's website to declare vacant positions, even if at the moment to resort to this method especially large institutions, the basic advantage is the modest cost of reversing the published ads in newspapers started, in addition to that announcement the price is not affected by its size, and there are no restrictions regarding the size of the information contained in.
- B. Government Websites:** e- recruitment through government websites is the best way to recruit in the case of employing less experienced candidates.
- C. Special Sites or Job Sites:** Many sites specialized in the recruitment of users, the price needed to place your ad are usually modest, but usually the work of researchers can display their applications to work for free and their ads are usually short.

Internet is one of the relatively modern sources in attracting human resources operations, but in spite of this modernity there is an increasing trend in the percentage of organizations that rely on the Internet to attract the necessary relevant competencies of human resources, which are commensurate with vacancies, on the other hand, there are numerous web site aimed at providing job opportunities for job seekers by clarifying vacancies and how to enroll, and "after receiving job applications begins processing phase in order to choose qualified for the test, which is manually is expensive and cumbersome and time-consuming, as it should resort to the use of software, whether it comes to dealing with requests or pass the test for

those involved to participate and then will process each process in record time while providing considerable for money, making-appropriate decision and choose the best candidates and lifting at the end of the process performance.

Integrated recruitment process to complete a set of activities is the recruitment, selection and appointment, and is considered the electronic polarization of the most important e-recruitment applications to the extent influenced by information technology where the human factor remains a crucial and often for information technology in the selection and appointment.

polarization then recruitment through use the Internet of the organization is less expensive compared to other sources of polarization, in addition to the polarization over the Internet is usually where immediate response to advertise their jobs may be on the same day of the announcement is also compared with other sources.

It also the e- polarization means "to attract the process and lure manpower to apply for positions via the Internet, where they are interviewed job seekers with employers (authority's polarization) either through these agencies alone of free sites on the network, or from specialized companies and institutions in this field.

In light of the above definition process of e-polarization are done either: (Bn Antar, A., 2010, p.46)

- In direct way by announcing vacancies on the companies' web sites, institutions as do some companies.
- By organization and companies working in this area and is considered a virtual organization, which acts as a mediator for job seekers between the requesting parties peer-charging certain fees.

### **3.3.1.2. Benefits of Electronic Polarization**

Compared to the methods of traditional polarization (declaration: internal advertising, ads in newspapers daily and periodicals, ads through radio, television, or invite applicants to visit the organization or summer training or visiting schools and universities) to achieve the electronic polarization, which is talk of attracting some of the benefits of which method: (Bn Antar, A., 2010, p.58)

- A.** Super speed in an interview jobseekers by business owners and requesting authorities, and that saves a lot of time, which is in the business world is of great value, and perhaps this is the most important feature of the electronic polarization.
- B.** Reducing polarization costs compared to traditional methods, with no need to publish advertisements in newspapers and magazines or field visits to educational institutions.
- C.** Reduce paperwork and clerical size where they can address the applicants and their resumes electronically where "special software for the conduct of human resources given the possibility of the conduct of applicants and allows storage

and good processes to these requests," without need for many papers as is the case in conventional processes.

- D. Outperform polarization-mail on traditional methods in terms of the number of attracting them where they can attract thousands of applicants for easy access to them on the one hand, as well as address them in many countries around the world as a whole on the other hand.
- E. Can through e-polarization overcome the barriers of place and time where they can attract human resources from anywhere in the world easily, regardless of the barriers on the geographical dimension as well as the time between the State and by conducting interviews and tests and receive CV and applications for employment through the so-called collective to connect distance,.

However, the disadvantages of the electronic polarization, where could not answer accurately, such as: (Bn Antar, A., 2010, p.61)

- Is advanced appropriate for the job?
- Is it possible for applicants to adapt to the culture of the organization?

Such questions require human intervention as it relates to the side of the evaluation can be performed accurately interaction occurs between the parties concerned to the process of polarization.

It is not wise to ignore the new technological methods and how they can be combined with the methods and strategies of polarization currently used, and therefore use of the Internet in the polarization can lead to improved polarization practices, but it is not a substitute for traditional methods of polarization.

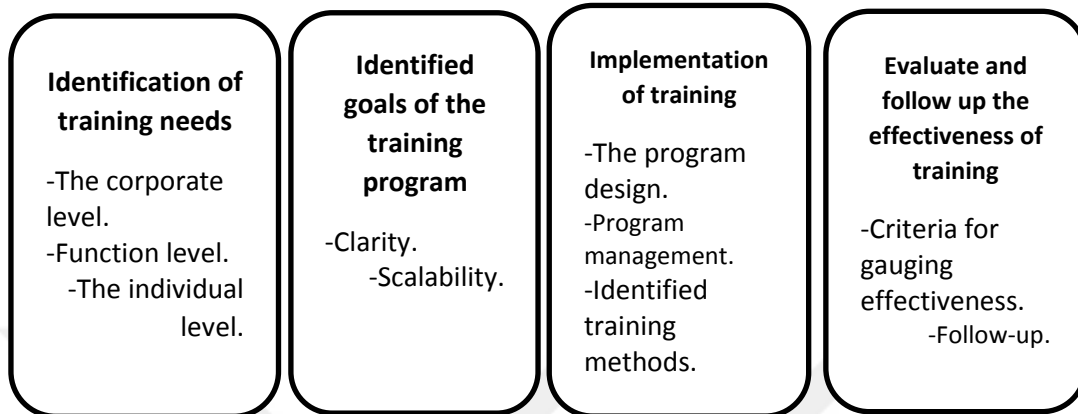
### **3.3.2. Electronic Training**

The introduction of e-learning represents a significant change in practice that needs to be managed carefully particularly as there are a number of important components at different levels that require alignment through the process of change management. E-learning is already being used widely in education and training, and this can be exploited in the home and in community centers, as well as in universities and the workplace. Individuals are discovering that they can now access courses that were hitherto unavailable to them, making it easier for them to get involved in personal and professional learning. In addition, through the use of technology, learners can be provided with opportunities to have access to other learners in diverse contexts thus removing some of geographical constraints attached to the learning process. One of the other major potential benefits of e-learning is that it has the capability for training to proceed at a pace that it is appropriate to the learner.

### 3.3.2.1. E-Training Process

The following figure depicts the training process consisting of four stages:

Figure (3-4): E-Training Process Stages



Source: (Al Musawi, S., 2004, p.38)

#### 3.3.2.1.1. Identification Stage of Training Needs

Means the training needs of "the size of the gap between actual performance by a particular person (quantity and quality) and what must be the performance required according to the criteria, benchmarks and targets and plans approved, Based on this, we can say that the concept of training needs is associated with two-dimensional timelines are:

1. The first time dimension: addressing deficiencies and deficits in the current performance levels of the organization, and is reflected to achieve the short-term training objectives to meet the shortfall in knowledge and skills, and the formation of positive attitudes towards the organization and modifies the functional behavior.
2. The second time dimension: reflects the strategic objective of the training and related to the resolution of individual problems in the future by refining his skills and abilities and modify his behavior and trends for rehabilitation to fill higher positions, as this dimension is designed to keep pace with technological changes and developments, and possible circumstances in the future resulting from competition.

And the identification of training needs are done through the following analyzing: (Bn Antar, A., 2010, p.74)

1. Analysis of regulation: by answering the following question: Where is the need for training?

2. - Work Analysis: What kind of training is required?
3. - The individual Analysis: Who needs training?

The needs are related to an increase or develop or change of information and knowledge among some individuals, or all of them.

### **3.3.2.1.2. Identified Goals of the Training Program**

Setting goals of the training program is clearly and properly so contribute to the correct future decisions, and these goals per se standard is measured by the performance required after training, as these goals are measurable quantity and quality both in terms of time, cost or quality performance.

### **3.3.2.1.3. The Implementation Phase of Training**

This phase includes three integrated and interrelated aspects: (Al Musawi, S., 2004, p.42)

1. The training program design.
2. Management training program.
3. Identify methods used in training.

### **3.3.2.1.4. Evaluate and Follow up the Effectiveness of the Training Phase**

Can be defined evaluate training as "procedures used by the administration in order to measure the training program efficiency and its success in achieving specific goals, and measuring the efficiency of the trainees and the extent of the change wrought by training including calendar, As well as to measure the efficiency of the trainees who carried out the training work.

There are four criteria for management can be used in the evaluation of the effectiveness of the training program, are:

1. The reactions of the trainees.
2. Learning that he acquired the trainee.
3. The behavior of the trainee at work.
4. Results at the corporate level.

### **3.3.2.2. The Methods Used in Training**

There are many training methods that can be used to achieve the training objectives, the following are the most important:

- 3.3.2.2.1. Lecture:** Training is done mainly through a series of lectures by the trainer to the trainees, and allows the trainer to the trainees ask questions and open discussion to clarify various aspects of the

subject of training, this is a method of less expensive methods and least time-consuming especially in the case of increasing the number of trainees. (Zayed, A., 2003, p.34)

- 3.3.2.2.2. Inbox:** The training of the inbox to provide the trainee what looked like a group diary and letters are given to a regular concern a particular function, this method fit to train an individual to acquire the necessary knowledge and variety to make different decisions.
- 3.3.2.2.3. Simulation:** The practical reality representation until the individual can acquire basic skills in conditions similar to a large extent practical reality, this method of training is of special attention the fact that more simulation exercises are simulated computationally, which is a computer program that simulates the situation and train apprentice by design.
- 3.3.2.2.4. Practical situations:** practical situations is an effective means of modern training, used these cases to achieve several training goals such as improving the individual's ability to take various decisions, diagnose and analyze complex and disparate problems.
- 3.3.2.2.5. Role-playing:** This method is used for the development of the participants in the program's abilities on the decision-making through the representation of a certain role, and allows a high degree of interaction between the trainees of this method," it is possible to use this method to provide participants with the skills and responses to behavioral complex, or conduct interviews with clients or preset specifically good for the roles of alternative scenarios for each role.
- 3.3.2.2.6. Sensitivity:** Essentially is a training method development and training in order to provide participants with trends and new values and modify their behavior, if it is a way to help the participants to cause a radical change in attitudes related to work.

The "e-training is more receptive of trainees compared to the traditional method of training", it is "a special program to develop competencies in coordination with the objectives of the organization, also it requires action (e-training) use the Internet to complete vocational training and modernization of continuous training, the purpose of Electronic Training is individual or collective training flexible according to the organization requirements, and this successful exploitation of this new tool requires a clear vision of the organization strategy and development organization, this tool requires the renewal of the training program content to be consistent with market needs and with the needs and capabilities of the user.



### **3.3.2.3. E-Training Definition:**

It can be e-training defined by the following:

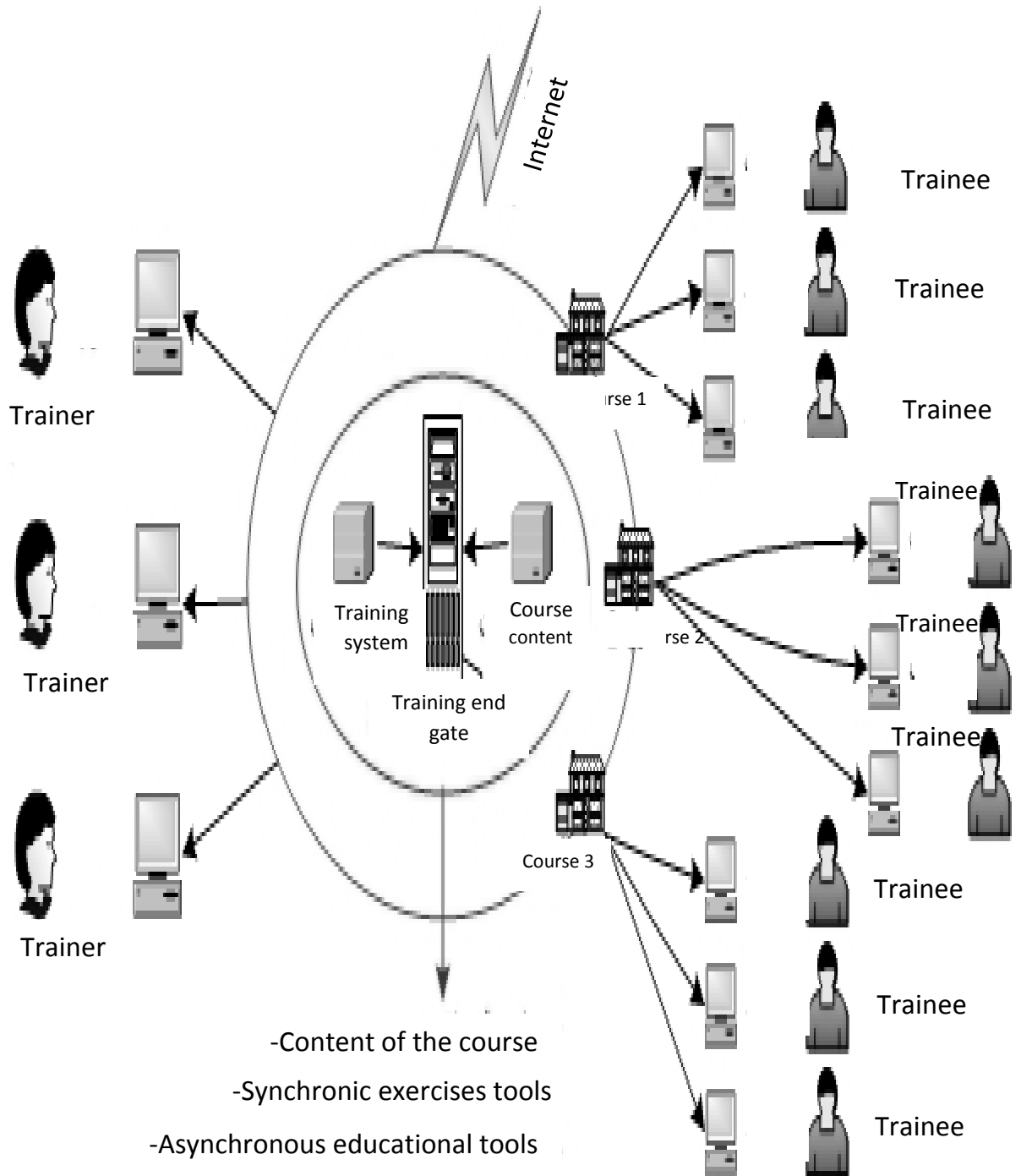
The first definition: e-training "is to provide training and educational programs through a variety of electronic media, including CD-ROMs and the Internet simultaneously or asynchronous manner and the adoption of the principle of self-training or training with the help of coach.

Through what is stated in the first definition of e-training, is a training process that uses the Internet to view and delivering electronic bags or interact with the trainees, whether synchronously or asynchronously or instructor-led or without a coach or a combination of all, it allows the trainee to choose its training program in line with his work and proper training conditions and available he has to train without having to drop out of work.

The second definition: "e-learning can be defined as the process by which create a rich interactive environment in applications dependent on computer technology and networks and multimedia, which enables the trainee to attain the training process goals through its interaction with the sources, in the shortest possible time and with minimal effort given away, and the highest levels of quality without complying with the limits of place and time. (Hasan, Sh., 2011)

The second definition adds to the first definition the importance of e-training in the economy time and effort compared to classical training, and e- training is characterized easy to use and improving the valuation of classical training, which provides high levels of quality in the training also does not restrict the trainee and the trainer boundaries of time and place. It is also "remote training is one of the types of e-training, which is a training process in which the trainee disconnected or away from the coach geographic distance is usually bridged by using modern means of communication.

Figure (3-5): Building E- training



Source: (Al Mazi, S., 2011)

E-training building includes several procedural steps to the process of training of e-content development, which includes the content of the training courses processing after analysis of the training requirement and design courses of private e-training activities; through the electronic content development team has completed the development of the gate and the support available to trainee ways: (Al Mazi, S., 2011)

- Phone support.
- Support by e-mail.
- Discussion forums (Web site).

#### **3.3.2.4. The Importance of E-Training**

The importance of e- training can be stated as follows: (Hasan, Sh., 2009)

1. - The trainee is in control of the learning process while the trainer be sufficient guidance trainee.
2. - Trainees involved in the educational process (positive train).
3. - Access to apprentice training bag in time and the right time for him.
4. - Create an interactive relationship between trainees and trainers.
5. - Use all available means of assistance and the use of dysfunctional patterns in training.
6. - Reduce the cost of training and raising the efficiency of trainees.
7. - Reduce the cost of travel of the trainee and the trainer.
8. - Encourage trainees to surf the Internet through the use of hyperlinks to gain access to additional information about the subject of the lesson.
9. - Developing the capacity of the trainee to use the computer and take advantage of the Internet, which helps him in their future career.
10. - Encourage the trainee on self-reliance and access to knowledge-building phase self.
11. - Allow trainers to develop training material using the internet and electronic sources.
12. - Allowing coaches to keep records of trainees and return them at any time and from anywhere.
13. - Time and curriculum and exercises depend on the level and skills of the trainee, not a group rate.

However, it remains the primary objective behind this modern method of training is to create added value for training, and it should be every time be sure to add this technology will improve the procedure (training procedure) in order to:

- New knowledge of the trainees receives.
- The integration of this knowledge.
- Retrieval to develop their skills and performance of their jobs.

#### **3.3.3. Electronic Work**

e-Working is regarded as a method of working using information and communication technology in which the work-related activity that is carried out is not bound to any particular location.

### **3.3.3.1. Definition of Electronic Work**

Allowed ICT to the possibility of doing business without the necessity of a physical presence of the employee himself in the work place to oversee the implementation of its functions is called this kind of business work email which is "a way to work remotely using information and communication technology, the following definition of electronic work: (Wissam, M., 2012, p.59)

The first definition: "the quality of the work is done by using information technology and the resulting practice to work and easy implementation without the need for physical presence between the parties to work."

The first definition of the electronic work shows as a way to work remotely using information technology, so as to perform the work in isolation from the workplace, if the work is not a mail function in itself but a means to perform the work.

The second definition: "electronic work is the work that is being done under a contract of employment, regularly after work on the perimeter and the team with the help of information technology.

During the second definition of electronic work is for a certain group of employees in terms of their work contract is renewed on a regular basis when needed and enjoy the independence and flexibility in terms of location, employees can remotely be divided into two categories: (Al Essa, A., 2001, p.71)

- I. Working remotely at home: These class working remotely include who spend in their homes every working hours almost doing their jobs, and the those visiting the office for meetings or to take over after the material from time to time, and despite the fact that visits on a regular basis, but they are often no more than a day in the week On average, and it within this category programmers Computer, and employee sales which receives purchase orders over the phone, and data entries, here excludes the traditional style of work freelancer who works in the houses, which are mostly workers are working outside of the normal workplace in the tissue industry, those in fact do not use electronic means of communication, or as part of their information technology.
- II. Mobile remotely working: "who spend most of their time outside the office, either by moving from one place to another or working at customer sites," and they often are: salespeople, engineers Maintenance, and advisers.

### **3.3.3.2. Benefits and Constraints of Electronic Work**

Organizations interested in electronic working because of its benefits and important and new positive features for individuals and employers and for society in general, besides the benefits that will be listed later, there are benefits will accrue to the same environment, in terms of reducing the large amount of fuel consumption,

and reduce traffic on the streets and reduce accidents. (Al Zuman, A. et al. 2004, p.14)

- Reduction efforts and expenses resulting from the follow-up staff with their presence and their absence.
- Low cost of hiring and freedom in the choice of site offices, where there is no need to provide offices for all staff.
- It can be used for many different areas of expertise and from near and far at the lowest cost, where the service is provided without the physical presence and presence.
- The high level of quality because most of the work carried out by these technical means, can be reviewed and improved and rejected the amendment and the easiest and least expensive.
- Provide employment opportunities for classes of society were not given an opportunity to participate in the work, including the disabled and the handicapped.

Electronic work faces some obstacles that limit the benefit from it, "and a whole change will face rejection at the bureaucratic institution classic and mentalities of Messier and the worker at the same time, Poses field trials of several legal problems (the legal framework for the worker) and process (how to determine the fare) and insurance on the worker the right to intellectual property to produce and the right to work for the benefit of other institutions at the same time, this without forgetting the psychological problems of the loss of work and the community atmosphere at work ", it is" It does not offer psychological gratification and it needs many workers feeling of belonging to a team.

Led "This development in the exploitation of information and communication technology to work remotely to the emergence of a new group of workers spend most of their time working away from the decision-making centers, they are overly deterministic remote and have flexible working hours, the imposition of the presence of a new type of managers to guide them.

"Alleged that when increased the distance must be greater communication, this depending on what sees from behind a dimension where some managers are in their offices close to their employees, but that the contact material only, information and communication technology help them to stay in touch through the use of tools (a surveillance camera , e-mail, intranet, phone ..) These cyber managers increased their meetings through electronic communications within the framework of organizational goals to hide their inability to management understand the use of ICT as a single agent for the exchange of information and not a real factor for the connection.

## CHAPTER FOUR

### CONCLUSION AND RECOMMENDATIONS

#### 4.1. General Conclusion

Found organizations themselves facing major challenges and different ways in management, requiring them to find new ways to enable them to accommodate these developments and meet challenges especially the increasing reliance on information and communications technology had a deep impact in the organization, whether in terms of shape, structure, or on the other hand, provide a range of strategic options to address them in order to improve their performance and continued, it delivered a stunning development in the use of information and communication technology multiplicity of ways to use this technology, as this digital revolution represents an important opportunity for the organization to try to achieve a competitive advantage, and the development of productive and creative energies, and as a result of this development has occurred structural change in management functions and working methods of the organization, and therefore how can information and communication technology to serve the function of human resources management and contributes to the activation of the organization?

Knowledge has become in light of these new changes created by the technological revolution essential feature of contemporary economies attributes, and technological development and advances in communication and in view of the increasing importance of knowledge as a motive for the main growth and move the economy to a knowledge-based economy where knowledge achieved the bulk of the value added, contemporary organizations benefited greatly from information technology and its mechanisms to improve performance and productivity, where the latter is the information technology in all its dimensions and capabilities of the things strategic task in the transfer of knowledge and generation and participate.

Increased importance of human resources in the knowledge economy and that both the generation of advanced technology, or the achievement of use, efficient way to this technology, which ensures access to the best possible degree of production, which achieves the evolution of the economy and its growth, also supports the knowledge economy mainly on providing creative and capable of generating human resources new and appropriate knowledge and the process can be implemented and enjoyed a high level of quality and shared with others and have the ability to employ and invest properly for the benefit of the organization, the management of human resources with the knowledge concerned with the head of intellectual capital and the philosophy that the organization which owns the intellectual capital have the ability to maintain a superior knowledge level, here are rejected the first hypothesis, which requires that human capital occupies a priority in the knowledge economy and its ability to produce knowledge and employment efficiently in all its activities to promote human level.

Electronic management of human resources is the tool to do human resources management with the knowledge they are seeking through the use of information technology to run the information through the processing and transfer and delivery of computers and software and hardware save and retrieve the letter and the transfer of wired and wireless via the communication media in all its forms and different kinds: written and audio-visual, and that effect the transfer the message from the sender to the junction across networks to provide information used to solve a problem or create new knowledge, electronic management of human resources is also investing in IT to perform its functions, and this confirms the second hypothesis which states that the electronic management of human resources is seeking to assimilation and the conscious use of information technology in the practice of the basic functions of human resource management.

Electronic management of human resources application at the corporate level will lead to the strengthening of the relationship and interaction between the employee and the director of human resources management, and is moving from the logic of management to marketing logic where it becomes the employee customer so the Directorate of Human Resources to be retained and it provides a service that would charge, while the field study showed, although employment the Ministry of Finance about 57,906 employees neglected exploiting information technology through electronic management of human resources applications to get closer to the employee and his service in terms of human resource management in the ministry remain traditional ending concerns the employment of the individual and the follow up its affairs, and it is rejected and not to accept the third hypothesis of: Ministry of Finance has a huge number of employees and the Directorate of Human Resources in the Ministry of Finance must resort of the latest information technology and dramatically for its support in the management of this huge number of staff.

## **4.2. Research Results**

Displays through the following conclusions reached them through the preparation of this scientific research:

### **4.2.1. Theoretical Results**

1. Known human resources management in terms of function, goals and roles of multiple changes, dovetailed with changes witnessed by growth of institutions, industry, science or needs related to human resources development, all these developments contributed greatly to the growing role of this administration, and the different perception of the role and importance and prestige.
2. Formed the functions of human resources management an integrated system is the function of the performance evaluation of human resources at the core of this system in terms of performance evaluation of an important input to the systems of other HR system outputs, and is seen as a system nourishes and feeds.

3. Information technology left a digital gap between nations and thereby divided communities into three categories: sharing communities capable and produce new technology, connected communities can communicate with the world's consumers of this technology, isolated or marginalized communities which cannot be played any role in the field of information and communication technology.
4. Featuring the information society, a society that follows the industrial society the ability of individuals with access to information most of the members of this community and are busy producing information and collected and banked, processed and distributed.
5. Economic activity is divided into four sectors: agriculture, industry, services, information sector and the latter includes all organizations that produce hardware and software that enables the operating and delivery information.
6. Knowledge is the commodity is concrete differ from the rest of tangible goods by being produced once sold several times and the marginal cost close to zero and thus the investment returns are very high, so the knowledge is a commodity trading by the need to manage them, thus opening the road in front of the emergence of what is known as the generation of knowledge management control, storing, sharing and dissemination, the use of knowledge and application.
7. Knowledge occupies in the knowledge economy more space than ever before and more profound than had been known, it was the knowledge of old used to convert existing resources into goods and services and in the narrow limits, but now in this kind of economy, there is no limit to the role of knowledge in the conversion of these resources available only but it has become a lead role in marketing.
8. Human Resources Management bother with the knowledge of human mind and knowledge and seek to drive the underlying knowledge of it also focuses on the intellectual and mental performance has interested the development of intellectual capacity and creative energies and investing in intellectual capital.
9. Includes the acquisition of technology transfer and localization of the technology generation, where the intended transfer of the transfer of its industry methods and means of production of manufactured environment to other non-manufactured technology, as for the technology generation are finding innovative or new technologies developed locally.
10. Human capital is considered part of the intellectual capital as it represents the total human capital individuals and competencies owned by members of the community which while competent and most of these elements represent a well-deserved intellectual capital.
11. Will lead the electronic human resources management application at the corporate level to strengthen the relationship and interaction between the employee and the director of human resources management, and is moving from the logic of management to marketing logic where it becomes the



employee customer so the Directorate of Human Resources to be retained and it provides a service that would charge.

#### 4.2.2. Practical Side Results

1. The Ministry of Finance is public organization rich in human resources employs about 57,906 employees.
2. After explaining the meaning of each of the major keys to this research, which represents the information and technology, as well as information technology, it reached a researcher to a precise definition of information technology which, Information Technology is using of all kinds of technology and convert data form of raw materials to information, and transported and stored in the electronic form to be learned from them a better and easier, and includes: computers, communication means, linking networks, and other equipment that are used in communications, and the main element in which is Human.
3. Information and Communication Technology includes all uses of computers and communication networks and information devices trading wired and wireless, and this technology included usually in communication devices from a phone, fax and Internet, which is used for the purpose of performing traditional tasks in business.
4. Information and communication in modern system has an important and major role in the events of the shifts of various scientific fields of administrative and development of ways by moving the system from traditional style to the electronically way.
5. The organization that conducted the research, is Ministry of Finance and Economy has problem in application of information technology on the implementation of an important section of the administrative work, mainly it consist of those departments and general directorates:
  - The minister:** Is the supreme head of the ministry in charge;
  - Deputy Minister:** The tasks assigned to it by the minister;
  - Training and financial, administrative, and economic development center (TFAEDC): Headed by An Employee of Director degree;
  - General Directorate of the Office:** which the personality directorate is a part of this directorate, and managed by a general director;
  - General Directorate of Budget:** The tasks of the plan and budget and the preparation of the regional budget, and managed by a general director;
  - General Directorate of Accounting:** It oversees the liquidity of the public treasury,
  - General Directorate of Taxation and property:** The functions of tax administration requirements and organize their accounts and follow up on their loans;

**General directorate of custom;** Implementation of the customs law and assume the functions of all the conditions and paragraphs who is by the various government departments of the province;

**General Directorate of retirement:** Implementation of laws and calculating retirement of employees of provincial staff internal security services forces the service;

**General Directorate of Commercial Banks;**

**General Directorate of Specialized banks;**

**General Directorate for Legal Affairs:** Interpretation and analysis of financial provisions and the achievement of a bill and the system work;

**General Insurance Company:** Execution insurance funds and public and private properties, and life insurance;

6. Through the outcome of the study and research of the departments of the Ministry of Finance and Economy as well as mentioned in the above point, the researcher conducted that in this organization (Ministry of Finance and Economy) has a personality directorate under the general directorate of office is equally to the human resource department and doing the same functions that human resource doing.
7. After the study realize that the personality department of the Ministry of Finance and Economy has not used information technology on its system for performance their working, that is not suitable with international management system cannot performance its working according the globalization development.
8. A sample that the researcher have been taken for study the application of information technology on the human resource directorate, which is the Ministry of Finance in Algeria, shown that system has a positive effect at this organization.
9. The most important functions of human resource are: Recruitment, organize salary, employment training... etc. and without applied of information technology system cannot take advantages from this function as modern management.
10. According the organizational structure that human resource directorate connected with Ministry of Finance of Algeria is as following: the minister, secretary-General, Human Resource directorate.
11. The most important functions of information technology in Human Resource which are: e-recruitment, e-working, and e-training.
12. The Program that used by Human Recourse directorate is called Avantech: is a program designed by a Canadian company for manage human resource system in Ministry of Finance.

### **4.3. Suggestions and Recommendations**

From the above results are offered the following suggestions and recommendations to the Ministry of Finance and Economy:

- 1- I suggest changing the name of personality department to Human Resource directorate, and that need to create a general directorate called Human Resource in the Ministry of Finance and Economy.
- 2- Activation information technology programs at Human Resource directorate in all organizations of the government especially in the Ministry of Finance and Economy.
- 3- Opening special conferences for interesting activation information technology in human resources through benefits of researches and reports doing for that.
- 4- Create new department at universities and institutions to rehabilitation cadres of this field.
- 5- Making a contract with a big company in the technology and communication field to design a program that suitable with the environment of Ministry of Finance and Economy.

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