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HUMAN RESOURCE MANAGEMENT AND DEVELOPMENT BİLİM DALI

THE ROLE OF HUMAN RESOURCES INFORMATION SYSTEMS IN MANPOWER PLANNING AND A CASE STUDY IN A CONSULTING COMPANY

Yüksek Lisans Tezi

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Sosyal Bilimler Enstitüsü Müdürlüğü

Tez Onay Belgesi

KAMU YÖNETİMİ Anabilim Dalı HUMAN RESOURCES MAN.& DEV. Bilim Dalı Yüksek Lisans öğrencisi ESRA GÖLSEL nın THE ROLE OF HUMAN RESOURCES INFORMATION SYSTEMS IN MANPOWER PLANNING AND A CASE STUDY IN A CONSULTING COMPANY adlı tez çalışması ,Enstitümüz Yönetim Kurulunun 25.01.2010 tarih ve 2010-1/26 sayılı kararıyla oluşturulan jüri tarafından oybirliği/oyçokluğu ile Yüksek Lisans Tezi olarak kabul edilmiştir.

	Öğretim Üyesi Adı Soyadı	İmzası
Tez Savunma Tarihi	: 16.../03./2010	
1) Tez Danışmanı :	YRD. DOÇ.DR. AHMET TUĞRUL SAVAŞ	.....
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LIST OF ABBREVIATIONS

HRIS : Human Resources Information System
HRM : Human Resources Management
MP : Manpower Planning
ERP : Enterprise Recourse Planning
MRP : Manufacturing Recourse Planning

İNSAN KAYNAKLARI BİLGİ SİSTEMLERİ

ESRA GÖLSEL

ÖZET

Bu çalışma, insan kaynakları bilgi sistemi ve insan kaynakları bilgi sisteminin işgücü planlamasında kullanımını incelemektedir. Günümüzde, insan kaynakları bilgi sistemi ile ilgili teorik ve uygulamalı birçok araştırma yürütülmekle birlikte, şirketlerin bu konu ile yeterince ilgilenmedikleri görülmektedir. Öte yanda, günümüz organizasyonları bilgiye gitgide daha fazla dayalı hale gelmekte, insan kaynaklarında yönetici ve çalışanların değerlendirilmesi için daha fazla bilgiye ihtiyaç duyulmaktadır. Bu noktada elde edebilen bilgilerin tam, doğru ve zamanında elde edilmiş olması da önem kazanmaktadır. Zira efektif ve gelişmiş bir insan kaynakları bilgi sisteminin kurulabilmesi ve yönetilebilmesi ancak tam ve doğru bilginin elde edilmesiyle mümkün olabilecektir. Bilginin zamanında elde edilmesi de önemlidir, çünkü zamanı geçmiş bir bilgiyi insan kaynakları yönetiminin kullanması mümkün olmayacaktır.

İnsan kaynakları bilgi sisteminin kullanımı, organizasyonlara insan kaynakları yönetiminde pek çok faydalar sağlamaktadır. İnsan kaynakları bilgi sistemi sayesinde işletmelerin insan kaynakları doğru zamanda, doğru pozisyonda, doğru kişiyi işe almış olmakta, işe alımlarda hatalar azalmaktadır. İşletmeler insan kaynakları bilgi sistemi üzerinde kurdukları işgücü planlama sistemiyle, işletmelerindeki değişimi etkili yönetebilmekte, gelişmiş insan kaynakları fonksiyonları oluşturabilmekte, örgütsel ve bireysel sonuçlarda arzulanan yere daha az hatayla varılabilmektedir.

ABSTRACT

This thesis examines human resources information system and the use of human resources information system in manpower planning. Nowadays, although carried out many theoretical and practical researches related with human resources information system, it's seen that firms are not interested enough with this subject On the other hand, nowadays organizations' become gradually more information-based and to evaluation of managers and workers towards human resources there are needs to more information.

In this point, it is important to to acquire true and precise information at exact right time. Because establishing and managing effective and developed an human resources information system, only will be possible with acquiring precise and true information. Acquiring information at the right time is also important, because for human resources management it is not possible to use expired information.

Using human resources information systems provides great many benefits to organizations for human resources management. By human resources information system, the selections of organizations' human resources have been made at the right time, right position and right person and the faults during selections are decreasing. With manpower planning system, organizations established over human resources information systems, organizations can manage their changes effective, can constitute developed human resources functions and can arrive required statuses with fewer errors on organizational and personal results.

INTRODUCTION

Nowadays, because of the increase in strategic importance of human resources department, the businesses have to make decisions related to employees with more solid and accurate information. For this particular reason, businesses have begun constituting human resources information systems.

This thesis examines the constitution process of human resources information system in businesses and its use in manpower planning. First two chapters includes human resources information systems and its use in manpower planning.In the third chapter,a case study is conducted in a consulting company. The comment and evaluation about the information obtained throughout the thesis is revealed in *"Conclusion"* part.

During their decisions related to human resources, human resources information system provides required informations to managers. Human Resources Information Systems (HRIS) is a process which provides ; collecting, keeping, protecting and refreshing the datas that are crucial for preparing various reports, which is related with organization's human resources and personnel activities .

First chapter starts with the concept of information systems which constitute a base for human resource information system concept. Afterwards in this chapter the transition process from personnel management to human resource management, the concept of human resource information system, usage and development process, the benefits , limits, main components and required elements in effective an human resource information system are included.

Nowadays human resource information systems become a necessity for businesses. For obtaining an effective human resource information system, human resource department must research for the most appropriate computer based solutions, structures and procedures. During constituting human resource information system,some useful and procedural steps should be followed. As a result, human resource information system can assist to productivity of whole human resource functions.

This chapter also includes the important issues to be considered in the period of constituting human resource information system especially when developing strategy, planning,designing, utilizing, the position of human resource information system in the

organization structure, and using human resource information system in the basic human functions.

According to main purposes of a business, providing right human with right place and right time is the most important goal of human resource management. For achieving this goal manpower planning has a most important role. Briefly manpower planning constitutes the center of human resource management. An effective human resource information system supported manpower planning function provides the chance of making right decisions related to human resources to managers.

Second Chapter is based on the role of human resource information system at manpower planning which is one of the main functions of human resources.The chapter begins with a general information on planning concept in manpower planning , and afterwards the chapter continues with human resource information system supported manpower planning. In this chapter performing the functions like establishing a manpower planning module in human resource information system, determining the manpower supply in the manpower planning process , determining the manpower demand, and secondary plans by using human resource information system and getting some outputs from this system are also included.

In the third chapter, information about a consulting company,details of *"PMDP Process "* that is currenty being used in this firm,which has important contribution to manpower planning,is given. In Conclusion Chapter, I showed my results which indicate that human resource information systems can be very useful for gathering required informations to make right decisions for promotions,salary increases and overall in manpower planning.

CHAPTER ONE

HUMAN RESOURCES INFORMATION SYSTEM

1. HUMAN RESOURCES MANAGEMENT

1.1. Evolution of the Human Resources Management

The most important factor the information society has brought is the increase of the value given to human being. The reason behind this is that information is a product of human being. Owing to this relation different characteristics of the organization, work, and environment can not change the most important component of a a business is human being. Human has become the ultimate power for determining, directing and coordinating the work processes. Thus the expenditures made on human have no more considered as expense but as investment.[1] Human resources include all the employers in the organization from the manager at the top to the worker at the bottom.[2]

Human resources function is a widely used management function that aims the success and durability of the organization. Human resources contribute to organizational achievement, increasing of the skills, development, continuity, efficiency and cost based labor force planning.

The increase in the importance of human as being the ultimate power in the production and service sectors has called the need for looking on the phenomena and events concerning the human being in a certain environment and integrity. Human resources management has come into existence to constitute this integrity. Human resources management examines the information and principles regarding human relations, administration and staff management as a whole.[3]

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[1] Fındıkçı, İ. **Human Resource Management**, Istabul: Alfa Publishing, 1998, p.10.
[2] Bingol, D., **Human Resource Management**, Istanbul: Beta Publishing, 1998, p.2.
[3] Barutcugil, Ismet, Prof. Dr. **Bilgi Yönetimi**. Second Edition, Management Series: 7, Career Developer, Istanbul: Career Publishing, Ecem Press, October 2002. p.48.

When the importance given to human being has increased, the classical approaches to the staff management were no more capable of responding current needs. Human resources management includes staff management activities but is not restricted with that.

Staff management contains the financial and legal relations between employers, organization and government. Human resources management, besides staff management is the primarily sub field of study, contains many areas such as determination of the staff requirements, selection of the appropriate staff members and making them accustomed to the corporate culture, motivating them, performance evaluation, resolution of the conflicts, enabling the communication between the individuals and groups, developing of a healthy climate, development of the sense of 'us', training and achievement of the employers. From this point of view human resource management includes staff management and industrial relations. Table 1 shows the transition from staff management to human resources management.

Table 1. Transition from Staff Management to Human Resource Management

TRADITIONAL STAFF MANAGEMENT	**HUMAN RESOURCE MANAGEMENT**
Giving reactions to problems	Developing new programs
Nonprotective structure	Protecting employer rights
Limited authority	Multiple functions
Limited legal relations	More balanced impact
Local activities	Multinational activities
Keeping records	Information sources management

[4]

[4] Ceriello, V.R. and Freeman C. **Human Resource Management Systems**, New York: Lexington Books, 1992, p.6.

The achievement of the organizational goals in the most effective manner is considered as the main target by human resources management. Furthermore responding to individual needs and contributing to their professional growth are among the important objects. Increasing the employers creative contribution to the organization is the other purpose of the human resources management. Another purpose of the human resources management is providing the right person to the right job at the right time. The accomplishment of this purpose requires a united effort within the organization. The continuity of the success of the human resources at the level of company, factory, and department could be achieved through upper level and most of all through line managers.

1.2. The Role of Human Resources Information System in Human Resource Management

Organizations have begun to develop human resources information system with the transformation of the staff management concept into human resources management. Due to this situation, the organizations will be able to use the time has been lost during routine works by putting the human factor forward.

Human resources management function realizes the activities of finding employees, positioning, evaluation, development of them and determination of the wages and salaries. Many organizations use the human resources information system in providing staff, positioning them, evaluation of the performance, training and development.[5]

1.2.1. The Concept of Human Resources Information System

The term human resources information system is used frequently in the routine of business life. This term has passed in the literature also as the abbreviation İKBS (insan kaynakları bilgi sistemi). The term human resources information system is used also as; human resources management system İKYS, staff data system PVS (personel veri sistemi), employer information system ÇBS (çalışan bilgi sistemleri) or staff member data systems EVS. Regardless of the term used it is purposed to mean experts', the complementary part of

[5] Aktan, C.C. and Vural, I.Y. **Information Age Information Management and Information Systems**. First Edition, Konya: Cizgi Bookstore, February 2005, p.116.

the management process, performin the job which they are responsible for, that is keeping records about employers. All these terms include not only computer applications of keeping the records about employees and reporting them but also the organizational decision making.[6]

Human resources information system is an information system supporting the human resources management. Today organizations make use of information systems with different structures such as staff information systems; preparing payrolls and payments, providing continuity of records about staff and analysing staff through organisation's activities, and human resources information systems which enhanced as much as including the all about human resources function.

Human resource information system could be thought as enhanced type of the basic record keeping and reporting system. Basic record keeping and reporting systems highlight to accuracy and completeness of the records. Many of this systems provides only basic lists, task schedules, procedures and other one way detailed reports. Some record keeping and reporting systems have a more complex capacity as graphical applications.

The wideness of the information system used in the organization depends on financial resources of the organization and its expansion type, employers' experience and the ability of using system, organizational needs and the efficiency of the procedures applied. Basic record keeping and reporting mostly fulfills the needs of organizations:[7]

- newly established
- with stable labor force
- small
- with low growth rate
- within the need of limited, predictable and traditional human resources

Human resources information systems are a developing and future oriented field of study in human resources management. By the term human resources

[6] Ceriello V.R. and Freeman C. **Human Resource Management Systems: Strategies, Tactics and Techniques**. New York: Lexington Books, 1992, p.6.
[7] Ceriello and Freeman, **op.cit**, p.12.

information system is meant, the studies related to development and use of information to facilitate the decision making about human resources management. Human resources information systems contribute to the efficiency the application and policy of the human resources management by providing healthy information about employers to line and staff in the organization.[8]

Some specific elements of human resources information system constitute the criteria showing the success of the organization. Accounting information systems are not capable of providing information about human resources success. Financial indicators while disclosing how and how much well the capital is used, can not show the level of the success of the human resources. Poor staff management may constitute a threat only if it has an impact on the earnings, thereby there may be a change in the financial reports. The arrangement of activities about the basic human resources management may require long time even it may go beyond financial period of one calendar year. Owing to all these causes human resources managers need concrete data and information. Human resources information systems provide this kind of information to organizations.[9]

Human resources information system is a mean for the accomplishment of the primary purposes of the human resources. Human resources information systems are consisted of the manual and automatic data and process in order to develop human resources assets through management policy and programs. Human resources information systems include the collecting, recording, processing, protecting, analysing, management, distribution and supply of communication of the components of the manual and automatic data that is used and created by human resources.

As a matter of fact, however, there is impossibility of using manual human resources information systems for a long term even for the small organizations. The use of expert systems has started, human resources information system may be capable of providing very complex information about human resources and success through decision making process. The utilization of expert systems technologies will enable provision of human resources information which is difficult to reach, misleading and hard to preserve.

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[8] Barutcugil, **op.cit**. pp.126, 144.

[9] Sibson, R.E. **Increasing Employee Productivity**. (Trans: S. Artan – I. Artan). **Increasing the Manpower Productivity in the Businesses**. Istanbul: Science Technique Publishing, 1991, p.49.

Human resources information systems alert the line and staff managers of the organization about the issues and relations concerning themselves, when the solution costs least. The timely diagnosis of the staff relations may prevent problems substantially. For instance information about staff attitudes may enable foreseeing the difficulties possible to arise during signing collective labor contract.

Human resources information systems will lead to efficient use of human resources through the analytical and systematic approach it brings about making important business decisions. Human resources information systems help the more effectively conducting of human resources function by providing establishment of a more effective staff.[10] A human resources information system that is quite effective and has the best functions will facilitate all human resources activities thereby will contribute to the success of the organization.

Global competition enforces the managers of the organization to take quick and better decisions. The investment to information technologies increases day by day. Especially utilization of information systems in the human resources issue, cause a change in the structure of human resources. Global competition pushes the managers for controlling the cost of the labor force, motivating employers for higher quality, customer oriented performance and always searching for the better and new to realize all these.[11]

Keeping the records about staff and legal mandatory take managers time. In this complex environment administration may overcome this routine works easily. All managers should have the information systems support for a better decision making. Human resources management also uses information systems to take better fitting decisions.

The term human resources information system is defined as ' the systematic process for collecting, preserving, protecting and updating the data organization needs about human resources, staff activities and organizational unit particularities'[12].

[10] Sibson, **op.cit**, pp.50-51.
[11] Barutcugil, **op.cit**. p.144.
[12] Milkovich, G.T. and Boudreau J.W. **Human Resource Management**. Boston: Richard D. Irwin Inc., 1991, p.160.

We may give a more comprehend definition for human resources information system as, '*the information system providing the collection, preserving and updating of the individual data about organization's human resources and organizational data about all human resources activities for organization carrying out human resources function better and transforming that data to information to facilitate the organization's strategic managerial decision making'* .

Human resources information system as a subsystem of the management information system will constitute the main subject of the thesis. It will be examined in detail in this part and following parts.

1.2.1.1. Data, Information System, Management Information System

Due to competition increasing with globalization, the use of information systems through management processes has increased. Current information systems are able to respond quickly to the consumer's demand and changes in the market. Prior to studying information and management information systems the terms of data and information will be touched on. These two terms are used very frequently in place of each other but there are differences between them.

1.2.1.2. Data - Information and System

Data is the objectificated type of the observations, made for reaching information, either in text, numbers or demonstrations. By this definition data is one of the inputs of the information. Information, however, could be defined as the known facts about a work or issue. On the other hand information has many connotations.[13] Information is the data that has become meaningful and useful through processing technique.[14]

The data is entered to computer, stored in there and taken back from the memory to be used in models developed for several purposes, processed and outputs of the system as information. Information is stored in the same way, distributed to concerning areas, and could be taken back from the memory to be used as input in another process. Data collected from several sources is transformed to information through some scientific processes. This

[13] Ingels, Franklin M. **Information and Coding Theory**. Intext Educational Publishers, International Textbook Company, Haddon Craftsmen, Inc., Scranton-San Francisco-Toronto-London, 1971, p.1.
[14] Aktan, C.C. and Vural, I.Y. **op.cit**, pp.103-108.

information constitutes the input of the decision process. When taking a decision not the data itself but the information that has been derived from that data is used. [15]

Information is the main source of the organization for business administration. Information will be meaningful for the organization if it is classified; updated and acquired properly this is the reason for organizations need to have information systems.[16]

1.2.1.3. Information System

Information system could be defined as the complete set of interacting elements that collects processes, stores and forwards data from internal and external environment to support decision taking process and control of the administration. The four components of the information; input, process, output and feedback, produces the information that organization needs for decision taking and control. Input describes the data, collected from internal and external environment, to the system. Process is the transformation of raw data into a meaningful form. Data is formed through the process and output is the meaningful form of that data for users. Output provides evaluation and regulation of the input stage of the system, and feedback is the function of examination and sending back the output.[17]

Computer hardware and software technologies are used for the functioning of the information systems. This is the reason for the recent use of terms of information system and computer supported information system in the same meaning.

1.2.2. Historical Evolution of Human Resources Information System

The use of human resources information systems has started with the use of computers to a large extent by human resources in large organizations during 60's. AT&T, IBM, GE, Ford and other developed organizations are the pioneer organizations used the human resources information systems. Other big organizations have contributed to the development of human resources information systems by reason of their specific needs.

The other groups including banks as Manuffacturers Hanover Trust, Chemical Bank, Bank of America ; and the retailers as Sears&Roebuck, Montgomery Ward have started to use

[15] Barutcugil, Ismet, Prof. Dr. **op.cit**, pp.22-23.
[16] Erkut, Haluk, Prof. Dr. **Analiz, Tasarım ve Uygulamalı Sistem Yönetimi**. First Edition, Istanbul: Irfan Publishing, Avcı Press, 1995, p.50.
[17] Aktan, C.C. and Vural, I.Y., **op.cit**, pp.101-102.

information systems to deal with the high turnover of staff, the production organizations and unions with large numbers of employers however used the system to decrease the cost of automation. In this decade the pressure for social reform has increased. State and government social programs have enlarged. These factors contributed to the increase of the need towards human resources information system but many of the human resource system were insufficient.

Through 60s many computer supplier have started to sell software packages. These were meeting the need to a limited extent. The human resources information systems of that time were designed commercially, however were very expensive.

Through 70s human resources information systems have begun to getting stronger. During this period many legislation concerning human resources management was enacted in USA. This decade witnessed the beginnings of online operations, telecommunication and database management.

Through 80s and 90s computers strength has reached up to microcomputers and 4th generation languages. Human resources field has become self increasingly complex with high wages, more complicated benefits, higher training and development costs and all future oriented demands. Hundreds of human resources information systems suppliers have shown up in microcomputer area. All of the systems were supporting all human resources applications recurring to mind.[18] The beginning of using microcomputers and PCs has begun to create a big impact on human resources functions. During 80s the main issue human resources information system faced with was transition from microcomputers to mainframes. In the big organizations the management applications were used partly through microcomputers and partly through mainframes. In the database of the mainframe it was quite difficult to go back and forward. Users were having hard time to find the suitable information in the human resources information system. Also information sharing was very difficult through microcomputers.[19]

In the beginning of 90s the computer networks have begun to be built. By technological development Wide Area Network (WANs) and Local Area Network (LANs) were started to be used. LAN, with connection to mainframes or independently was providing

[18] Ceriello and Freeman. **op.cit**., pp.5-6.
[19] Aktan and Vural. **op.cit**. pp.39-51.

the data that users need. Human resources department was always in the second tier in utilization from the technologies organization uses. The reasons for this falling behind were as follows:[20]

- Information systems were established on mainframe in large organizations and this was providing satisfaction to organizations.
- The cost of transition from a system mainframe based to a LAN based system was considered to be high by organizations
- There were defects in the application of LAN based information systems
- The cost and time problem were arising when running the system through the network
- The technical problems were being encountered very frequently and
- There were defects in the literature concerning the human resources information systems

The use of client-server in the human resources information system has become widespread when LAN based or mainframe based information systems have begun to be used.

These technological advances has switched the human resources information systems from client-servers to web based systems and the term 'employee self-service' has come into existence-in recent years, especially in U.S.A and European countries. This term means employee in human resources applications carry out the works about himself on his own and it passes as the abbreviation ESS in recent years especially in large organizations of USA and European countries. It has many benefits such as empowering employee, increasing his efficiency, decreasing the routinely made researches of human resources.

[20] G.M. Rampthon ve others. **Human Resource Management Systems: A Practical Approach**, Second Edition, Ontorio: Carswell Tpomson Professional Publishing, 1999, pp.16-17.

Trough 90s due to increase of development between human resources and information systems a communication gap was revealed. In order to close this gap, some institutions in USA, Canada and England has begun to provide consultancy. The very first of these consultancy institutions IHRIM (The International Association for Human Resources Information Management). In addition to this the number of private consultancy firms providing consultancy about human resource information systems were increasing day by day.[21]

Today, especially when looking at the applications all around the world, it's seen that the human resources gained a strategic importance in the organizations. The tendency in Turkey is the same. As a result of this organizations are required.

- Being effective in the decisions taken by top management. Through reaching accurate actual and well-qualified info timely.

- Being ready and planned towards change.

- Adapting to rapidly changing environment taking the right position at the right time.

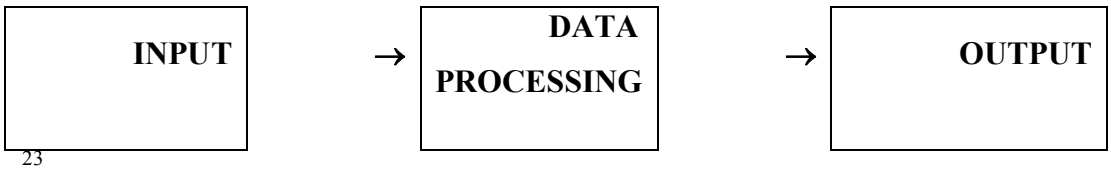
- Prior to everything knowing well the human resource and making healthy analyses.

Human resources need to human resources information systems to realize these roles. The information system used in small and middle size organisations in Turkey is computer narrow capacity enabling keeping staff records and issuing payment bills. Besides this large organizations make use of human resource information systems at a professional level. Advance software application programs assist human resources activities via mainframe and intranet. Today, there is an appreciable increase especially in providing staff activity via internet.[22]

[21] Ramphton ve others. **op.cit**. p.18.
[22] Aktan and Vural. **op.cit**. pp.114-115.

1.2.2. Basic Components Of Human Resources Information System

Human resource information system as all other information systems consists of three components; input, data processing and output. The whole working will be taken within the frame of system approach.



[23]

1.2.3.1. Input Function

Input function supplies the necessary human resource data to human resource information systems. First of all the procedure and the process required to collect desired data should be put forth. In other words the data; from where and how will be collected? Once collected, the data should be entered into system. Some information could be coded before entering computer. For instance, raw wage information could be coded according to the level of wages. Through input function by using the computer scanning technologies it is possible to enter the originals of document as real images. Today, thanks to scanning technology, the appearance of original documents, signatures even hand writing could be input to the system.[24]

After entering the data, the accuracy and validity should be provided. Validity tables could be used to define the acceptable data. This table includes the appropriate data able to check and compare data automatically. Furthermore the capacity of system is easily updated and validity tables could be changed. [25]

1.2.3.2. Data Processing Function

Data processing function is responsible for updating the data that has been kept in several days. The information about changes in the human resources such as wage increases is

[23] Aktan and Vural. **op.cit**. p.113.
[24] Barutcugil, **op.cit**. p.57.
[25] Aktan and Vural. **op.cit**. pp.128, 139.

added into system. After entering new data into system, the old date could be preserved in the form of historical data.

After entered into system, the data is updated in data processes and new data added to database. It is made manually in systems without computer. However it is realized fully and quickly in computerized systems. It can be completed just 1 minute later the data loaded in advance systems.[26]

1.2.3.3. Output Function

The output function of a human resource information system is generally open and usual. The reason for this is the most of the human resource information systems users do concern with reports and information system produced but not with the collection, validity control and update of human resources data. The main factor determining the software program is what demanded from output function.

Output constitutes the most important function of human resource information systems. Human resource information systems make the required calculations to compose the output valued by computer user and present it in an understandable form for users. This has been made by gathering statistics and writing reports manually in non-computerized systems. However with computerized systems with the help of advanced programs calculation made in a very short time and the output sent to all users' computers as colored graphics. In today's organization most of employers, line managers and other staff able to use the information in information systems directly with the help of PC's, telephones or written forms. This tendency, with changing user demand ,HRIS will play more crucial roles in enabling the input, data processing output functions of human resources .[27]

1.2.4. Characteristics of an Effective Human Resources Information System

The organization facing with number of purposes and obligation of human resources begin quickly to produce human resource information systems solutions. There is not any industrial standard yet, however many approach are likely to be successful. Using package

[26] Aktan and Vural. **op.cit**. p.128.
[27] Aktan and Vural. **op.cit**. pp.128, 140.

software, identifying data resource and making software compatible to organization conditions are among the common characteristics of a successful human resource information system.

1.2.4.1. Use of Package Software

At the beginning organizations may prefer to purchase a commercial package rather than developing a system. Human resources packages take places in the market with high number and quality and rewritten in a new code with capacity to meet the special needs of organization. Furthermore organizations want to trust on those commercial software using the scarce sources of information system, to develop a practice with capacity to provide strategic superiority. The human resources needs that have been shared by whole industry are obvious, and the companies selling Human resource software should design their product with capacity of meeting those needs. Most of organizations mentions that human resource information systems package software they use do not fulfill their needs completely. [28]

1.2.4.2. Identifying the Reliable Data Sources

Employees are the primary source of human resources. They change their addresses, present their demand for training. These changes could be made tied to reports much more fast then manually on papers. The line managers using human resource information systems directly and use the data of system and do not prefer to record those files manually. There are many acceptable methods of collecting data. These are touchscreen, by sound recognition, scanning, lightly pens, iconed commands.

Identifying the data sources has numerous benefits. For instance line manager will directly keep the background information about applicants from previous meetings and consequences of these meetings. Identifying the data source will increase the value and the quality of human resources information derived from organizations.[29]

1.2.4.3. Obtaining the Compatible Software Structure

Because of the differences between organization and numerous changes in human resources the human resource information systems software should have capacity to work

[28] Aktan and Vural. **op.cit**. pp.125, 150-151.
[29] Aktan and Vural. **op.cit**. p.139.

effectively in any environment. Human resource information systems software has the quality of meeting several demands of many organizations. There could be possibility of making change on the software with regard the demands of organizations, for an effective human resource information system.

Leap and Crino taking these characteristic bases have classified the human resource information systems with respect to degree of development. This classification has 4 stages; [30]

- Undeveloped human resource information systems, information about limited personnel and work recorded manually in files.

- Less-developed human resource information systems info & data partly kept in files and partially in system. Compared to undeveloped human resource information systems larger data is the matter but doesn't encompass the whole organization.

- Developed human resource information systems are partly or fully automatic. They have large information files. Calculations and predictions could be made.

- Advanced human resource information systems is full automatic have large information files, benefit-cost analysis, labor force planning activities could be conducted. It also has date about external environment of organizations.

Table 2. Classification of Human Resource Information Systems with Respect to Development Degrees

Undeveloped	**Less developed**
• Manual • Information about limited personnel and work (training, experience	• Keeping and getting partly automatic data • Enlarged data (such as

[30] Leap, T.L. and Crino M.D. **Personnel and Human Resources Management**. New York: Mc Millan Pub. Comp., 1989, p.177.

and curriculum vitae)	current and future performance) • Not containing the whole organization.
Developed	**Advance**
• Partly or fully automatic • Large information files (individual information, job references, behavioral evaluations) • Making calculations and predictions.	• Fully automatic • Large information files • Ability to make predictions regarding labor force planning in a large scale. • Database about external personnel researches.

Source: T.L. Leap and M.D. Crino, **Personnel and Human Resources Management**, New York: Mc Millan Pub. Comp., 1989, p.177.

1.2.5. Information Types Required by Human Resource Information Systems

There are two stages of developing human resource information systems. First of these steps is determining which data is suitable to record , second one on the other hand is identifying the required data in order to take an effective decision. Most of organizations keep large amounts of personnel data.İn an average organization, datas are kept in 126 fields and more than 500 informations related to human resources are used. As it is seen from this example the starting point of studies about human resource information systems is identifying which data to keep and which of those will be kept as it is or with little changes. In order to do those organizations mainly should know which data is kept by other organizations and whether the other departments in the organizations kept the data and information required by human resources. Thus at this point the importance of an integrated system has been revealed. It should be determined in advance what potential value in planning, controlling and decision making functions of management and management of human resources department, the

preserved data will have. The organizations making these analyses will be able to define the information field which will be used for determining human resources information system.

Human resources information system, includes the data being helpful to decide management and personnel or human resources department. For instance the information about whether a position will be included to promote from internal or external and in any case what kind, and what level of education will be necessary, is required both by managers and human resources department. The information about traditional personnel functions such as personnel turnover speed, abseenteism rates, industrial accidents are necessary for any organization, besides this any information or data organizations need according their preferences could be included.

Many of human resources information system generally includes the information following:

- list of employees and their individual profiles
- Special reports of employee groups or all of employees
- Historical distribution of information about job
- Comparison of individuals and jobs
- Reports demanded externally
- Trend analyses and comparisons of time series.

The different characteristics of organization will differentiate the information, required in human resources information system. The number of data collected and updated routinely in an organization is very high.

Human resources experts and managers make use of information within the system with different purposes to carry out several human resources functions. For instance performance evaluation information could be used for compensation management, career planning and training planning. The types of information required for human resources information system can be gathered under several groups. These are:

- Personal Information: Name surname, birth date, register number.
- Personnel Procurement Process Information: Application style, date of meeting, meeting results, reasons for hiring.
- Information about Job Experience: Previous job experiences, job knowledge, abilities.
- Education Information: Level of education, training received.
- Wage Information: Present wage, wage type, work code, special deductions.
- Working Duration Information: date of beginning to work, date of separation from work.
- Information about attitudes of employees: attitudes towards job, absence.
- Union Information: Member information, date of being member.
- Contact Information: Home address and telephone, persons to be contacted at emergency.
- Health and accident information: health treatment records, records of being injured, lost working duration.
- Vacant job position information: job title, job requirement, level of wage, date for position must be filled.
- Information about labor force market: External labor force supply according to job class, market wage level.
- Position information: position code, its place in hierarchy.
- Information about work environment: average wage of similar jobs, education, level of employees, labor force turnover rate, rate of frequency of accident.
- Information about benefits: such as retirement plans, payments for time out of work (holiday, illness)

- Information about quitting from job: date of separation and reasons.[31]

1.2.6. Benefits and Restrictions of Human Resource Information System

Human resource information system provide many benefits to organizations besides it has some restrictions. Organizations should take into account those benefits and restrictions while setting and using system.

1.2.6.1. Benefits of Human Resource Information System

There is not enough relevant information for decision making regarding human resources in organization. For instance, there is adequate information for wage rates but not for human resources plans. Information except wage management might not have the quality to be certainly used for managerial decision. Many of organizations have data about job quitting and social security records. However, human resources information system serve more then this. Human resource information system include the effect of personnel activities on success or comparative data to evaluate the requirements for contributing a better decision in field of human resources. Modern managers do not take the risk of taking strategic decisions unless they rely on concrete findings, scientific data and evaluate the results objectively. Due to these reasons organizations have a tendency to use human resources information system.

Computer assisted human resources information system provide numerous benefits to human resource department. Every human resource function make use of computers for part or whole of their activities. The automation of human resource functions will provide following benefits.

- increase in data accuracy
- increase in process speed
- more useful and qualified results.
- increase in efficiency. [32]

[31] Barutcugil, **op.cit**, pp.61-65.
[32] Aktan and Vural, **op.cit**, pp.149-153.

1.2.6.1.1. Obtaining Increase in Data Accuracy

Computers do not make mistake only not work properly,but people on the other had make mistake. Contrast to human, a computer will provide a right answer to question. Computers always look for data at right place at the right part of the right thing. If you select special values on computers and process data, the computer will include all files, always classify accurately, alerts when there is an error or inconsistent records. Computer systems generally include rules of critical ordering and validity. These rules permit only data accepted by system. There are selected criteria for certain data fields. For instance human resources information system will send back the data of 31th November or date about an employee with 1853 birth date. Moreover, it processes data more fast than made manually and owing to this users study with more valid and accurate data.

1.2.6.1.2. Obtaining Increase in Process Speed

Many people think that computers have the big advantage of the speed. Computers might be faster than manual processes in data entry, update, calculation, classification and reporting. Human resource information system may eliminate the drudgery works made manually, thus only simple work will be left. For instance, employees who are filing information as hard copy will be transferred to be concerned with data entry.

1.2.6.1.3. Creating Qualified and Developed Results

The fast processing of computers caused more people desire to work with it. Computers may develop more complicated statistical activities and sampling compared to those made manually.

Human resource information system could easily classify data, make calculations and may form links between variables. Owing to this, users are able to get more detailed information about human resources information system problems. For instance, by computer assistance they may select nominees, reach detailed demographic information, calculate cost, identify factors about industrial accidents and diseases, analyze the choices about career planning, make substitution and plan to be promoted, prepare organizational charts.

Human resources information system lists information timely and minimizes information out of date. Human resources personnel uses this information to solve conflicts and problems quickly.

Many system keep records of every data addition and change. Human resources experts use these files about processes to find source of problem in the case of inconsistency, violation of security or conflict.

1.2.6.1.4. Increase in Efficiency

There are 3 main fields regarding increasing the efficiency of human resources information system. First of them, is increasing the quality of labor force, second one is facilitating the regulating processes, third one, however, is control of expenditures. The effect of these 3 fields on efficiency realizes through following elements:

Increasing labor force quality may be realized by:

- hiring more suitable persons
- better education and development
- keeping eager personnel.

Facilitating legal regulation processes could be realized by

- Preparing equal job opportunities reports
- Reporting the agreements with unions and other additional assistances
- Preparing the employee health and job security reports.

Expenditure control, however, could be done:

- Complete application of methods and analyses of compensation management.
- Application of more suitable education and development methods.
- Answering all questions with help of optionally prepared reports.

- Having more independent users. [33]

1.2.7. Restrictions of Human Resource Information System

Computer assisted human resources information system although provide accuracy and exact timing in personnel records, is not individually sufficient to increase the success of human resources department. Many system could make better the unlimited human resources activities but even a perfect system may not be able to completely fulfill the needs of an efficient human resource department. Some records about human resources processes are still kept manually. Those processes are mainly; meeting records, interviews, activities which include checking and monitoring. Information systems can never take the place of management and communication abilities.

Many users thing that keeping all staff records in computers will solve all problems. Human resources have to check the accuracy of data. For instance computer can automatically consider invalid the data of 31th November but can not do the same for 21th November which have been entered by mistake as 12th. This correction can only be made by human resource personnel. Human resource personnel should provide consistency with professional and ethical standards within data will be entered to system, performance evaluations, wages and other materials that could be evaluated. Ignoring users' expectations, preferring weak systems and insufficient education may be considered main reasons of some defects. All situations mentioned could be prevented by well planning.

Human resource personnel may solve and clarify many issues also without computer assistance. The real need may be reorganization of human resource department or unification of information. Some organizations may prefer producing abstract reports and using better procedures in information processes and document flows. Every problem may not require automation for its solution. Still with the help of a good communication personnel function could be managed in an efficient manner.

Neither management nor uses should hope that human resources information system will solve problems about organizations. Every department should compromise for selection of system and human resources information system manager should have priority. Human resources package program sellers may promise some unrealistic expectations. Some

[33] Aktan and Vural, **op.cit**, pp.149-153.

software sellers, however, may sell software packages below its real price. Those who are responsible for planning, taking into consideration this issues should evaluate basic functions of potential software through only organization needs.

Managers should talk to computers experts about their expectations from human resources information system in advance. For instance because human resources and computer experts have different fields of interest and different jargons, they should explain those jargon to each other. They should look over carefully the needs, the possibility of communication and its good results will increase. Systems will fulfill the needs determined at the planning stage by users and managers, to some extent. If technical staff fail to understand users' and managers' expectations, it is likely to occur wrong properties of system.

Human resources information system will not provide the desired results if the system is lacking of important data and functions has an insufficient capacity. If human resources information system provides information more than desired level, this will lead users to excess analyzing and effort to pick out irrelevant information. In order to provide relevant information, well designed monitors and reports are not individually sufficient. The important thing is the reports and monitors which have been prepared by avoiding useless output.

In some cases it will not be appropriate to attribute the deficiencies to hardware or software. The success of human resources information system depends on proper planning and communication especially between users, planners, consultants and package program sellers.

The factors decreasing the effectiveness of human resources information system could be listed as.

- The purposes and politics which are not clear
- The wrong solution of problems by system
- Starting as very big, very high level of assistance
- Wrong product/seller choice.

- Including lower numbers of users
- Planning the observation effect on office work.
- Lacking plan about human resources records
- Lacking flexibility and harmony
- Misinterpretation of human resources information system characteristics.
- The weak communication between human resources and information system
- Misevaluation of changing efforts.
- Misevaluation of human resource information system.

Besides this human resources information system has a much more complex structure then any other managerial system. This is the reflection of increasing complexity of human resources and organization functions. Human resources information system has wide spread use of data and processes and provide assistantance to management at decision making process. Restrictions of human resources information system:

- The necessity to serve a very wide environment
- The necessity to overcome excess, complex and rapidly changing legal mandatory
- The dependance on time restrictions
- The necessity to adopt human resources needs [34]

1.2.7.1. The Necessity to Serve a Very Wide Environment

Human resources serve to many relevant parties. Associates, all personnel, applicants, retirees, namely all of those working in activity field, for instance , line managers at all levels, managers and employees at activity fields consistent parties. Each relevant party has its own aspect about how the human resources information system will be successful and

[34] Barutcugil, **op.cit**, pp.174-177.

each of them needs special human resources information. In order to manage effectively the needs of different parties human resources information system should balance preferences on scarce resources. It is very hard to success in creating this balance. Each relevant part has reciprocal interaction with human resources information system and affect each other from many aspects.

1.2.7.2. The Complex and Excessive Statutory Mandatory

The excessive and complex statutory mandatory about human resources or traditional personnel activities, is one of the most important problems human resources information system faces with. Because there are many regulations in labor law, the process to collect data about organization functioning, keeping and reporting them, increases. Any regulation concerns personnel also has an impact on human resources information system structure.

1.2.7.3. The Excessive Organizational Data, Process and Events

The large amounts of organizational data, activity and process about human resources, has caused to human resources information system to be the brain of this complex structure. Human resources information system even if lacking of computer assistance should manage the wide and complex functions of human resources.

i) Data

Human resources contain many types of data such as: jobs, positions, work units, courses, unions, collective contracts, wages, benefits and many others. The data collected and processed in human resources information system and human resources between organizations and industries vary between thirty and fifty. A fully working financial information system even contains infomation groups between ten and thirty.

ii) Event

Hundreds of events about human resource produce data regularly for human resources information system. For instance the events such as a meeting made with a nominee for a vacant job, retirement, address changes produces data for human resource. Human resources information system should identify those events and have planned responds for them.

iii) Process

Human resources have responsibility for different processes such as aids, health security, social activities, training and development, hiring and organizational designs. Some human resource processes are well defined and routine. However, many of them need flexible analysis and data changing each time. The recent developments on information technologies take human resource process beyond the keeping data.

1.2.7.4. Time Restrictions

Human resource management always requires a certain time management. For instance the applicants should receive the answers in a certain time frame. Besides this many human resources activities from compensation management to carry out statutory mandatory is face to face with certain time restrictions. Human resources information system has to minimize the risks that will stem from time restrictions.

1.2.7.5. The Continuous Development of Human Resource Functions

Human resources continuously come to face with new and changing situations. This situation usually contributes to success of human resources information system. Human resources department may overcome rapidly changing needs by proper software, more valid microcomputers, stronger database, networks and export system technologies.

After this chapter which is related about human resources information system concept, the activities carried out to form human resources information system in organizations will be explained in detail. [35]

2. THE FACTS THAT SHOULD BE CONSIDERED WHEN INSTALLING AND APPLYING HUMAN RESOURCES INFORMATION SYSTEM

Whatever its size is, every organization needs human resources information system. First of all organizations should decide whether to purchase or form itself human resources

[35] Barutcugil, **op.cit**, pp.174-177.

information system according to its size and conditions. Complete formation of a system in an organization may be a big burden from the personnel and money aspects. Purchasing a package human resources information system and making it compatible to organization according to needs, is another choice. This choice will also require some time, personnel and money for its design.

The forming of a successful human resources information system requires three different efforts that are; planning, designing and application. Each stage includes collecting data, presenting solutions to problems and decision making. These main three stages of human resources information system development basically should consider five issues: providing well-qualified information, being a highly functional system, providing efficient input, determining compatibility among process, output capacity and users.

2.1. Providing Well-Qualified Information

Providing well-qualified information depends on; identifying information that is reliable, timely, readable, understandable, important and consistent with purpose.

- Identifying Differences between Information and Data: Data and information should not be considered equal. Data is the collected form of events, numbers, digits or other symbols without organizing and making meaningful. Information however, the formed, structured, ordered type of data that is ready for analysis, and comments. For transmission of data to a well-qualified information, the content should be reliable, timely, understandable, readable and consistent with purpose.

- Reliable Information: That is the information which provides users and managers consistently what they want to know about. This reinforces the trust towards human resources information system. For the issue from what the reliable information is derived, many people consider accuracy of all parts of data is sufficient. In fact, reliability depends on nature of information, report types, organization standards and users' expectations. For instance human resource personnel should not ignore when they find an unreliable increase in detailed annual sales lists and performance evaluation reports if it is because their contents includes high amount of defective information. Users, should be concerned with details by minimizing the tolerance to defects.

- Timely Information: The information which is in access of users whenever they request is timely information. This characteristics depends on how and where the individual plans use information. In extreme cases even an hour delay may cause information to be invalid.

- Understandable information: Users should be able to get response to problems suddenly arose. To achieve this quality, project team should consider the requirements of both input and output. Which information in which form requested by users should be provided by the system .

- Readable Information: Well-qualified readable information gives users opportunity to make better decisions by catching the important information quickly and coming to correct conclusions.

- Important and Consistent with Purpose Information: That is the information enables users, to respond in best way to problems of organizations and human resources department through their purposes. [36]

2.2. Providing Functionality

The providing functionality of human resources information system depends on constitution of system from integrable parts, having useful functions which will facilitate decision making and planning, and ability to integrate with other information systems within the organization.

- Constitution from integrable parts: As a computer term being modular means constitution of a system from integrable parts. Human resource information system should have a separate module using same database for every human resources application instead of being one part.

- Useful functions: human resources information system should be supported with supplementary functions such as excel, word processor, and telecommunications.

- Integration and Interfaces: The system formed should have capacity to integrate with systems and interfaces that are present and used in the organization beforehand.

[36] Aktan and Vural, **op.cit**, p.90.

2.3. Identifying Input and Process Capacity

Identification of input and process capacity of human resources information system depends on speed of system, efficient functioning, validness of data, magnitude and form of database, and regain of information from system.

- Speed: Human resources activities require fast data entry and capacity of completed reports.

- Efficiency: Efficiency means rising the speed and capacity of data kept in system to the highest level.

- Recovery of Information (Save): Human resources information system should be formed as a given opportunity to recovery of information.

- Data Reliability: A well designed system includes many procedures which rise the reliability of data it includes, to the highest level. Many data defects and incorrect coding during data entry, stems from carelessness of operator. The information in system should be free from errors.

- Magnitude and Form of Database: The magnitude and functions of human resources department of organization determines magnitude and form of database. The system will be formed should have a database capacity sufficient to meet the needs of human resource functions.[37]

2.4. Identifying the Output Capacity

Identification of output capacity depends on design of press and reports, reliability of system, form of information distribution.

- Design of press and report: The reports which should be prepared because of statutory mandatory should be designed specially to managers and human resource personnel. With current and future reporting needs, by identifying data personnel required by each report, the reports may meet needs in the best manner.

[37] Aktan and Vural, **op.cit**, p.280.

- Reliability: Human resources department requires the information about applications and personnel because of legal, ethical and organizational reasons. Information such as criminal records, health records, ethnic origins, being handicapped, religious beliefs, are legally restricted to distribute. Besides this, information about wages of top level managers are also firmly preserved. The reliability of system will be formed should be provided.

2.5. Identifying Compatibility of User

Identification of compatibility of user depends on experience of user, coding and proper documenting for user.

- User experience: Human resource personnel even if does not work in a computer environment should be computer literate. Prior to human resources information system users should be educated about basic computer use, monitoring and documenting. If users are capable of this information, making use of this expertness human resources may have further benefits.

- Coding: Well functioning of a system also depends on users' ability to give meaning to data. Many system information is constructed through coding. For example day working hours may be presented with 1 and night working hours with 2. The ability to read and understand these codes appearing on monitor and in documents is left to ability of users. Using logical and easy to remember codes will facilitate understanding.

- Documenting: Every system and subsystem, every term should contain well written documents about functions, activities and error alerts. Those documents may have different properties for users, technical personnel even for every activity. The first issue should be considered for effectiveness of documents to be relevant with system loaded, the second one is different documents for different persons. These are: documents including common procedures of system that are directed to managers, user documents containing basic information for users and documents including technical information of system and program that are for technical personnel. Many modern system, have written documents at important amounts, online or ready to use if demanded. [38]

[38] Barutcugil, **op.cit**, pp.132-134.

3. FORMING OF HUMAN RESOURCES INFORMATION SYSTEM

The idea to have human resources information system is the first step of forming of human resources information system. The emergence of this idea presents the need for human resources information system. After this step, the stage of system planning will take place.

In order to have an effective human resources information system, human resource department should investigate the most appropriate/computer-assisted activity type, structure and procedures, for its activities. To take the best decision organization should follow useful but excessively time taking steps. Consequently human resources information system, may contribute to efficiency of all human resource functions.

The formed project team will identify system requirements and develop projects throughout planning stage. During project stage, the team thinks every detail and builds projects as to rise the success to highest level within defined limitations. During application stage, however, team should suggest a solution to every unanswered question.

Project team should use quantitative measurements as much as possible at all stages. These measurements should give both to managers and to project team the opportunity to make valid comparisons of alternatives. This comparison should continue from planning stage until application stage. Team project should put forward the values of a system producing complete, timely, flexible and reliable information. It should be identified from human resources information system aspect in what situation and what is meant by the term “timely”. For instance for preparing a standard report it means immediately, however for an optional report the meaning will be within 2 hours at most.

Human resources information system forming process, starting from strategy development on the issue will explained in detail in 4 stage following the strategy; planning, project and application.

3.1. Developing Human Resources Information System Strategy

Computer assisted human resources information system, gives support to users when it is applied through assisting to increase the quality of human resource activity, giving

opportunity to human resource activities coming face to face with developing job needs to become perfect. If it is not fully applied, however, it may cause increasing cost, decreases in quality, increasing job risks, even worse by threatening the survival of organization it may lead to dissolution. Unfortunately such negative results are encountered in business life.

Because of this, prior to developing and reinforcing the human resources information system organization should consider issue by strategic planning approach, identifying human resources information system that will be best for present and future. Determination of strategy by its common features, is putting forward what is expected from human resources information system. Organizations should develop an approach for human resources information system strategy. To give an example to human resources information system strategy:

- Among automation sources, automation alternatives that may be used, should be determined.

- Human resources information system that are in parts, repeating, reacting, with high maintenance cost, narrow field of use, should be avoided even if they are widely used.

- For an increase in the success of managerial application human resources information system that is automated as much as possible, should be guaranteed.

- Politics, data definitions, manual procedures and other applications lacking automation should be identified.

- The frame of project principles of human resources information system should be defined such as to enable human resources take effective, quick and with lower cost decisions.

- In human resources automation by taking guiding investments as basis, prior to technical preferences, job preferences should be stressed.

At all levels of organization human resource investments may be needed. Especially in non-centered organizations, the most useful information should be provided at minimum cost without repeat and assisting to decision taking.

Human resources information system strategy is a tool for human resources information system investment. This strategy should be carefully formed to support mission of whole organization and human resources. After the determination of strategy next step is system planning.[39]

3.2. Human Resources Information System Planning

Planning is the most important stage of forming of hris. In fact planning is a process containing two basic stages that are: identification of requirements and making feasibility analyses. Each step realized with high costs and in a long time including many months. Despite relatively higher financial costs, many of organizations deal with problems about insufficient planning. The weakness in effectiveness of hris. stems from weakness of planning.

Generally management believes that forming of human resources information system will solve problems of organization. However, it is very hard, sometimes to present current situation and sometimes to figure out the lacking in information needed by management. The understanding purposes of organization and the data that supports the system have importance in planning the human resources information system. Besides; the effectiveness of human resources information system will be formed depends on current system, organization and environment understanding of appropriate computer system for human resources.

Despite this, any well planning stage is not individually effective to form human resources information system. To achieve success, human resources management should be sure about performance of human resources project team at every step of planning stage. These steps are the following:

- Establishing the project team
- Identifying the system requirements
- Making feasability analysis
- Providing support to human resources information system

[39] Barutcugil, **op.cit**, pp.104-108.

At all steps it should be remebered that planning only itself is not the aim. These steps are guiding for realization of human resource information system designs.[40]

3.2.1 Forming The Project Team

Today many human resources information designs are formed and functioned with the help of project teams. Project manager, in its traditional meaning, is the one who enables process optimum efficiency and regulates it. Selection of team and its abilities are important as much as other components of the design. A successful human resources information system requires a project manager that will sacrifice all his time for human resources information system. One or more person that will work for this issue should be responsible for only transmission of human resources information system into reality.

Forming of a project team will make human resources information system more effective on working together, feed back, and giving support. Project team should be responsible for plannig, design and application of the system. The planning duty of team includes identifying requirements and making feasability analysis. Throughout design stage, it deals with development of technical properties. In application stage, however, it will be concerned about issues such as: forming system, purchasing package program, data transmission, training and making program compatible.

Project team may carry out all these functions by itself or may can use the consultants and subordinates concerned with issue from human resources or informtion system. Project teams generally take help of the consultants for human resources information system design and development. How to identify the persons that will make up the project team and the person that will sacrifice all his time to this job is a difficult issue. Knowledge, talents, personality should be considered in balance. Project team may be established from human resources personnel who have information about activities and functions of human resources of the organization,are capable of understanding management information system and payments (accounting).

Technical personnel may be selected from management information system personnel or from external personnel, human resources information system personnel , however, may be selected from human resources mangers, final users or consultants. If a

[40] Barutcugul, **op.cit**, p.78.

multiple functioning human resources information system is on the table, project team by considering this situation, could be established from personnel of different fields. For an effective establishment of human resources information system project team, selection and training, clearly identifying the roles of team members and providing effcetive communication have importance. Human resources information system should have following properties:

- Project team should have strong managerial skills
- Technical personnel should be capable of understanding software
- Management and users should identify functional requirements
- Software and consultants should be the best of their area[41]

3.2.2. Identifying of System Requirements

Identification of system requirements include what type of data will be defined, analyzed, preserved, repeated, and identifying other demands of users. Planners consider the final tendency in human resources management, meet with users and other personnel, examine current system and prepare suggestions. To identify in detail and completely what human resources information system will do, could be defined as identification of requirements. The important point at identification of requirements is to define whether that human resources information system mission meet the expectations from human resources information system indeed.[42]

Identification of requirements consists of the steps of: evaluation of existing systems, and evaluation of other human resources information system, conducting user questionnaires, evaluation of work systems, composing scenarios and forming prototypes.

i) Evaluation of existing human resources information system

Many organizations use computer-based human resources information system with different properties in order to support human resources applications. These systems could preserve confidential records regarding payments or use special computer for each application

[41] Barutcugil, **op.cit**, pp.132, 145-149.
[42] Barutcugil, **op.cit**, p.139.

field. On the other hand existing system even if equipped with latest technology might not be fulfilling the needs of human resources completely. Conducted requirements analysis should contain the control of existing human resources information system. The success of the new system depends on putting forward the lacking and defects of existing system and developing alternatives to solve them. While checking existing systems answers to following questions are investigated:

- How is existing information flow realized?
- What type of information is required?
- Who are in the need of information?
- How often this information is needed?
- What are the criteria of suitable information?
- Where is the information?
- How fast is required information reached?

Answers to those questions will give information about functioning and properties of existing human resources information system and put forward problems about it.

ii) Evaluation of other human resources information system

In some cases, organizations may examine other organizations' human resources information system with the aim of evaluation. This usually realizes among non-profit organizations, public institutions and organizations linked to a group. Analysis of other system is made as the analysis of existing system of organization.

iii) User questionnaires and opinions

Project team should conduct questionnaires or interviews in order to learn about users' needs. Those interviews and questionnaires should contain data collection, usage, maintenance, reports, time and process requirements of usual working of all functions. Users' experiences in computer systems should also be investigated.

iv) Analyses of Work Systems

Decision makers in the organizations are always in the need of information human resources information system. Project team expects to take a brief from the management which explains the most important human resources information system information of the organization as a whole. This meeting process, if the team gets ready and organizes well, may raise the expectations of management about all human resources information system project. Project team should also learn those expectations of management. Those who put forward the work strategies have got many methods to identify organization's needs. A human resources information system project team prior to meet with all top level managers should examine all alternatives.

v) Scenario Analysis

Interviews as a whole help to identify the requirements. Scenario analysis, however, is only a simulation of attitudes of potential final users at potential real situations.

vi) Forming prototype

In order to identify the requirements of human resources information system prototype approach also could be used. With this approach project team constitutes a model functioning through different repeating of user definitions and system functions. Prototype enables users to show their reactions against system. It creates opportunity to modify disliked properties and making additions for lackings.

vii) Conducting feasibilility Analysis

Feasibility analysis could be defined as detailed evaluation of benefits of existing system and newly formed human resources information system. Feasibilty analysis provides the allocation of resources through purposes leading achievement of success. This analysis contains not only hardware costs, payments made for software but also the time will be spent for consultancy, development of software, revision of documents and teaching of users. Additionaly it covers financial analysis, funds allocated for human resources and application program. Feasibility analysis is identification of the need of system for organization and how

much it will cost. This feasibility analysis is development of different alternatives such as preserving existing system, purchasing a new non-flexible system, purchasing an expensive but flexible system. This analysis should contain technical, managerial, economic evalutaions for each option.

Technical evaluation should put forward technological and functional properties of the system. This process should start with determination of the property of meeting identified requirements of existing system and other system on the market. The external and internal adaptation performance of software that will meet additional needs of organizations are evaluated.

Managerial evaluation investigates effects of human resources information system on organization climate, organization structure, management support, hiring and training processes.

Economic evaluation, however, is the most important part of feasibility analysis. All alternatives are evaluated with the help of benefit cost analysis. Economic evaluation usually consists of two steps. In first step team identifies the coal, provided benefits and values of existing systems. Briefly the existing system is evaluated. In second step team realizes evaluations of costs, benefits and systems could be offered against existing system. Project team should prepare a working schedule and a checking list for each step. Team should come to an agreement on the prediction of life expectancy of existing and potential systems. The rapid changes on technologies, computers, statutory mandatory and personnel management policies have an effect on life expectancy of human resources information system. These evaluations should contain also the predictions of effects of increases in inflation, wages and salaries and changes in other costs on the life expectency of system. [43,44]

3.3. The Design of Human Resources Information Systems

The design stage contains product development and regulation of the system itself. Designers decide whether to purchase or not desired software according to results of

[43] Barutcugil, **op.cit**, pp.167-172.
[44] Aktan and Vural, **op.cit**, pp.221-223.

examinations they made. Designers evaluate how much the project will be successful with commercial packages and will adopt to them. [45]

Organizations generally use package software for issues such as nominee applications, payments and aids. For other applications such as a career planning issue design team could make modifications on software according to organizations' and users' needs. In fact the most preferred commercial softwares are those possible to make additions about issues such as identifying data fields, constitution of screens and preparing reports at program level. This step contains identifying database, developing code lists, preparing flow schemes, developing report requirements and identifying requirements for additional applications. In this step project team should establish especially the hardware and suitable software for it through current technical environment and future aims.

The definitions of requirements appeared through planning stage will provide effective information about data requirements enabling project team to continue the design. Design process consists of three main parts. These are:

- The identification of data requirements with the help of data structure, content and control design.
- Selecting, constitution or adaptation of software meeting data requirements
- Selecting of hardware that will make software functionally working.

The most important point through design stage is providing quick and proper entry of relevant data. The other important principle is preventing the double entry of the same data. For example with an integrated system between accounting and human resources information system can solve this problem.

3.3.1.Constitution of Database

Projecting of database is one of the most important stages of system design. Project team is compelled to take into account all data collecting, use, analysis and report elements that human resources functions needs. This is a time consuming and patience requiring work. Through planning stage, members of team identify needs of input, output and analytic

[45] Barutcugil, **op.cit**, p.75.

functions. The human resources information system developers should produce the main system according to identification of requirements.The human resources information system database is closely concerned with personnel, personnel candidates and previous personnel of human resources department. This database is functioning as matrix of information. It contains information about every issue such as name, home address, birth date and title of employees.

Database could be taken into account in two way. At first it is the information collected and kept in the system. Second, collecting data about personnel taking part in main file. This means "real" data entry corresponding data personnels at all issues. The titles show data elements and other data shows real data in table below.

Name	Birth Date	Work Class	Annual wage
A	1	33	120
B	2	35	100
C	3	38	150

Hence database is bringing together the data elements. Developed database requires taking into account many factors. Those factors are: data personnels related to these records, codes for data personnels, the arranging of data to fit to the whole human resources, data sources and using frequency. [46]

3.3.2. Determination of Data Sources

Data sources have effect on data arrangement. Generally, those who develop human resources information system, need information provided by employees and human resources personnel. Because of wide function of human resources system,it should collect data about many issues. Those contain organization itself, demographic information, applicants, retirees, researches, external data and other human resources programs.

[46] Barutcugil, **op.cit**, pp.73-74.

Some of data sources for establishment of human resources information system database contain not only applications, studies and human resources personnel but also research companies, payments, information obtained from government institutions. These are data provided from present system, applications employees, human resources, external services and other departments.

3.3.3. Determination of Information Flow

The identification of all special data elements and creation of first database could be sufficient only for functioning of human resources information system. To create a truly functional system project team should determine which data to flow and how it will flow, and , and which users will demand what and obtain what from the system.

Project team should ensure that it is authority and supervisor on changes inputs through determination of date sources for each field. Operation flow defines where data comes from, how system processes data and how the final output is formed. Project team should examine operation flow. Operation flow might contain following steps for many data personnel:

- Acceptance of status changes
- Thinking about its suitability
- Coding
- Determination of data entry and accuracy
- Operation processing
- Preparing operation and providing validity
- Those that are requested for output
- Making expected calculations
- Formation of outputs

- Output production (written or electronic transfer)[47]

Project team could identify operation process grafically with flow schemes. This type of demonstration exhibits where the operation begins, how it develops and how it is coded for data entry and how the output is formed. Here, the needs of human resources function and technical requirements of system are also important.

3.3.4. Determination of Screens

Outputs are ready-to-use data. Although many people think output as pressed reports, for many users it is in the form of interactive screens. Because of this, screens are very important for effectiveness of the system.[48]

Many human resources information system programs guide users about activity opinions and data through screens and menu. A system presents user information, message and options using computer screen. Screens from a link between users and menu and other option processes. Appendix 1 shows a screen in the human resources information system containing personal information and functioning in menu form.

In order to raise the terms such as easiness, speed, fitting, accuracy to the highest level, human resources information system should have attractive screen orders with activities, clear understandable messages and logical flexible quickly responding processes. Proper screen orders should address usual expectations of users as well as technical expectations. Screen designers, should consider graphic and text designs together. Screen orders should present alternatives for meeting users's expectations.

3.3.5. Determination of Reports

Personnel reports are the most used and final products of human resources information system. In fact many people evalutates system with respect to responding ability. Reports are the only element considered for this ability. Today managers still feel themselves more comfortable with manually reports compared to those electronically made.

[47] Aktan and Vural, **op.cit**, pp.200-202.
[48] M.B.Pflaum, "Optimal Interfaces with HRIS", **Personnel Journal**, (May 1990), p.78.

Designers should determine the reports required by all functions that will use human resources information system. It should contain not only organization's internal reports but also reports externally requested and those reports providing communication between personnels.

The content, type, design, frequency, sort and distribution should be considered for each report. The determination of reports means which of detailed, abstract or matrix form to be selected, determining its type, which of the schedule consisting of raws and columns, text consisting of words, graphical description consisting of graphs and shapes to be selected, and determination of whether reports sort demanded as optional reports (Ad Hoc) or electronic outputs.

The word "image is message" as Simon Goldstein says, the importance of reports should be be supported with graphs for effectiveness of decision making. Human resources information system should be able to report information with different graphs. Those are; line graphs, plane tables, distribution tables, pie charts, data diagrams, bar graps and column graphs. The reports have big importance transmission of human resources information system from a system keeping information to decision-making enabling system. [49]

3.3.6. Providing Control and Security of Data

It may not be always possible to provide reliability of human resources information system completely. However those who design human resources information system should prepare system that could be used only by authorized persons. As a design and application part of system project team should identify security needs, put forward security criteria and determine methods that will control activity and effectiveness of those criteria. Many of these steps are realized through application stage however the main frame of security procedures should be consisted at design stage.

The limited acceptance of personal data is an important issue for human resources information system security. Human resources managers are compelled to prepare policies and procedures about control and preserving of data. Some of data require relatively more frequent controlling. The new approaches about database are proposing to establish

[49] Aktan and Vural, **op.cit**, p.140.

authorized systems for control of personal data. However the confusion about how to manage the reaching personal data is an important problem.

The decision about reaching system should be dealt with at the feasibility stage as first stages of system development process. Those who design human resources information system and human resources information system managers should determine who can use which parts of system with which purposes. Some organizations put forward information about potential users, functions and their acceptance to system by preparing privileged matrix. [50]

Users should use the system only for accomplishment of organization purposes. These are organizational purposes such as adding some new records, modifying records or deleting records. Management because of its upper level position have a little priority for acceptance to system. However, because of the difficulty to document changes they made, managers should not change data.

Answers to the questions such as which personal data are worth to collect for organizations? Whom are those data belonged? Who should be allowed to reach these data? Questions like these will determine who will cary out the desired use of information. Design team after determining which data for according to which work group will be accepted should define which data will be accepted limitedly. Data security is an issue about positions not individual characteristics. The information requires security at different levels are the following:

- Previous conviction records
- Top level managers salary
- Performance interviews
- Performance evaluation results etc.

Input controls and codes have important roles in data security. In many cases designers and managers do not know which data will be used by whom. The most applied

[50] E.R. Eddy and Others, "The Effects of Information Management Policies on Reactions to HRIS: An Integration of Privacy and Procedual justice Perspectives, **Personnel Psychology**, (Summer 1999), p.2

criterion however, logically the acceptance of personal information to system which organization needs. [51]

4. APPLICATION OF HUMAN RESOURCES INFORMATION SYSTEM

The last stage of human resources information system development studies is application. The aim through application stage is realization of designed system. Application of system starts with obtaining hardware and software. After examining and evalutaing sources of software and hardware the organization should provide those required. [52]

4.1. Purchasing Package Program

Human resources information system project team encounters with many organization supplying software, hardware or package programs including all of those, in software and system search stage. This step is identification of software even hardwere meeting organizations' purposes best with lowest cost and highest quality. [53]

In the human resources information system literature program sellers term used equivalent to organizations supplying software. Selecting of software includes evaluation of properties of commercial softwares on the market. This step after should contain the preparing and development of contract with seller company about installation and maintenance of system.

Project manager should be very careful while selecting the most experienced and reliable system. Organization may experience bad situations because of selecting wrong package program supplier. Purchasing on a software and hardware not suitable to their needs can arise very big problems for organizations. In some cases they demand service duties but could not have or the supplier of package program has been closed.

The selection of proper package program supplier contain identifying potential seller and establishing good contact with them and careful considerations of offers they made.[54] The

[51] E.R. Eddy and Others, **op.cit**, p.107.
[52] O'brien, J.A., **Management Information Systems**, Boston: Richard Irwin Inc., 1990, p.100.
[53] O'brien, J.A., **op.cit**, pp.130, 192.
[54] Aktan and Vural, **op.cit**, pp.39, p.91.

success of human resources information system made up from this commercial package depends on selection of proper package. In the past human resources departments had difficulties to find package program suppliers to human resources that will fulfill their special needs. Today, however, they come face to face with difficulties while providing the human resources information system meeting organizations needs. The questions should be answered while determining package program supplier are the following.

- How long the program supplier company is making this business
- Whether the program supplier is experienced in the business field the organization is in
- The organizations that program supplier installed a system until now
- Whether the program supplier company gives guarantee or not
- Whether it provides traning or not

The answers to those questions will guide organization for human resources information system package program selection.

4.2. Utilization from Consultants and Consultancy Companies

Consultants help for the selection most proper system for automation of personnel records. They may enable the objectively selecting technic and functional requirements. Experienced consultants are not influenced with advertisement content speech of sellers, they help us to take opinions from suppliers and activating of system.

Quilified consultants can avoid the problems possible to occur during automation and management of personnel records. An unqualified consultant, however may cause time and money waste for organization by realizing a weak investment. Worse than that he may lead organizations to an non proper solution.

The term of human resources information system consultant includes professionals making suggestions about human resources and information systems in return of a fee. As well as numerous package programs there may be many consultants with different characteristics. A consultant suitable for a small organization might not be appropriate for an

international bank. Organizations while determining their consultant will realize their own profession. While some organization give importance to experience on a competitive fields, others could pay attention to be worked in human resources in the past. Generally, the positive impression of consultant's knowledge and experience about allocating organization's resources well will have an importance for its selecting.

Organizations should have good reasons for applying to a consultant. In some cases it may not be suitable. If organization managers do not know how to select proper human resources information system, they will have trouble also through consultant determination. In such a case management should formerly identify purposes and requirements. Later it should handle other issues.

To obtain on effective result in human resources information system consultant evaluation human resources management should follow the steps below:

- Identifying compatibility of knowledge and abilities in the organization
- Determining the needs of human resources information system project and the benefit could be obtaines from consultant
- The decision of organization about what type consultant to look for
- Putting forward the criterias for consultant selecting
- Establishing connection with human resources information system consultants and making interviews with them
- The evaluation of reference and experiences of consultant that it's most appropriate for human resources information system
- The contract interviews with consultants evaluated to be proper.

Some organizations might come to an agreement with consultants for all automation process from planning to application of human resources information system. In this case consultant will have an adviser role. This option will have a higher cost for organization but probably the result will be good.

Some organizations may use consultant only while purchasing package program in order to lower cost. Human resources information system project team will be more succesful when it uses organization personnel through consultant guidance. Large organizations may overcome the issues such as installation of system, personnel training by having their own human resources information system experts. Small organizations, however, make use of consultants for system installation and similar one time projects.

4.3. Conducting Contract Interviews and Obtaining Guarantee

A succesful human resources information system depends on a contract made between organizations and package program supplier. Contract is a map showing liabilities of both parties. Contract determines the conditions such as preserving software, loading system, maintenance service, resopnsibility about training and documents. Without making a good contract it is difficult to obtain good results. It is possible to make one or more contract in human resources information system project. Some contracts include software program suppliers. Other contracts, however, may include consultants, educators and those providing externally service duty. Human resources information system project team should establish very well the relation between parties to contract and avoid from making mistake. An ideal contract should contain the information human resources information system project team derived from evaluation of offer results. This should include software, establishment of system, hardware, services and support services. The problem likely to arise in future should be predicted and solutions should be found. [55]

4.4. Activating the System

Activating stage contains transmission of human resources information system from plan to a functional system. This process may take from two months to two years and could be in structure varying from main frames to microcomputers. Loading software is generally the simplest step activating stage. The most important step of activiting stage is training of personnel. Many groups such as system operators, users, analysts and managers need this training. The company which sells software generally provide its training too. However some traninings are so much common and are not effective in cases adapted to organizations. These

[55] M.L. Gallager, "HRIS: Before you Sign HRIS Contract", **Personnel Journal**, September 1994, pp.6-8.

trainings may ignore organization's culture, special activity characteristics and users' opinions.

During activiting time human resources information system can create a common working environment to organization managers, computer experts, human resources personnel through asking questions about acceptance of temporary shortcomings, learning some new technics and sharing responsibility. However the change can be stressful. The lacking of a good plan and project management at transmission to system can cause stress for employees. This stress, even if activities are going well may affect the users perspective to human resources information system negatively.

Activiting process requires well managing abilities, technical and functional knowledge, and communication with everybody concerned with human resources information system. A well management should realize following steps while activating stages.

- Planning of activiting
- Developing policies and procedures
- Training of project team
- Loading of system
- Modifacation of system
- Defining interfaces
- Users' training
- Testing of system.

4.4.1. Planning of Activating the System

Activating of human resources information system requires a plan in which the project purposes are defined, time schedules are formed, responsibilities are determined, resources allocated and control mechanism is established. Depending on complixity of project, managers may use planning and management tools containing Gannt schemes, CPM

and PERT techniques and project management software. The planning steps of activating may be considered similar to project management.

4.4.2. Developing Policies and Procedures

Each automation project has an influence on organization's policies and procedures. Human resources information system project can be excluded from this, it requires to reconcile the new system with existing human resources and information systems policies and procedures. Establishment of human resources information system has a big influence on manual policies and procedures of human resources department.If human resources department fails to combine automatic and manuel procedures,it may come across with conflicts and defective data. Human resources project team should solve possible conflicts in first step. During establishment of human resources information system, human resource policies and procedures should be regulated over again. These include, flow of work and operations, timing, the rules such as human resources discipline and security, and policies and procedures about flexibility of the system.

4.4.3. Loading System

Loading system should not be considered equivalent to activating system. Loading constitutes the technical basis of activating and describes establishment of software over hardware.

4.4.4. Modification of System

Some users may easily load and run the system, however many human resources department may be required at least to make some changes after the system loaded. Some of these changes realize during system design stage but the most important part takes place after the system loaded.

4.4.5. User Training

The systems whose functioning is known and understood by users are qualified as the best human resources information system. Human resources management could be developped by the information obtained from providing traning and support as a part of human resources information system.

The most important stage of human resources training will be put on the agenda while activating the system. Many organizations consider training the first stage of development process in software and system fields. Training is necessary for every individual concerned with human resources information system. Naturally, different training programs for different users should be prepared.

Training programs may be classified into three groups:

- Human resources information system project team members and trainers should receive a training including all aspects of the system. Because project team will guide other users, this training should be priorly and first given one.

- Technical support personnel need training in order to constitute links between activities and programs, the loading and activiting and maintanance of new system.

- Human resources managers and experts need detailed information to understand the capacity of functions of system. Thus different trainings about human resources information system should be given .

4.4.6. Testing of the System

The aim of testing stage is examining the outputs of human resources information system, fixing their accuracy and being sure about system's activities.The human resources information system project team should complete performance tests of the system before paying for package program and charging technic personnel for different jobs.

Performance measuring tests can be gathered in two groups. The first of these is control tests, defining performance of system by using data samples. Second one is a parallel test. Through this test, the results obtained by using real database are compared with results the previous system produced. Human resources information system project team conduct both tests compare results and reveal performance of the system.

4.5. Maintenance and Development of System

Increasing needs for usage, changing organization climate and changing legal regulations require human resources information system to be evaluated and developed periodically. With maintenance and development function the service life expected from human resources information system can be increased. Lacking of a proper maintenance lowers the service life of system significantly. Maintenance of human resources information system is primarily in the meaning of software maintenance and development. Hardware maintenance and development comes later.

When the requirement of data and reporting for organization has risen, the issue of maintenance and development of system comes into existence. In fact the maintenance and development of system makes up the huge part of the fund organizations allocated for information systems. Usually, 60% of installation and running cost of the system is consisted of maintenance and development cost. Maintenance is a valid activity from the moment system delivered.

After the system started to work, it is necessary to control the accurate and updated information provided timely within the process and to measure continuously the effectiveness of the system. The changes on information requirements of organizations and developments in computer technologies should be looked over continuously and adapted to system.

5. MANAGING AND ORGANIZING THE HUMAN RESOURCES INFORMATION CENTER

Organization may establish a unit with “human resources information center” title depending on wideness of human resources information system use fields and personnel number concerned with system. Whether gathered under such a unit or not, human resources information system management is an important issue. Bisedes this organization structure of center and organization will be engaged.

5.1. Human Resources Information Center Management

Due to the increased importance given to human resources information system, new and developed abilities should be used for organization and management of human resources information system. These are developing relations between employees and employers, restructuring of work processes and following and developing of growing data need and automation processes.[56]

Due to the fact that human resources information system is an intradisciplinary activity, human resources information system managers have very crucial roles. Human resources information system managers have freedom of activity and relations with organization personnel more than other function managers.The human resources information system managers should have interaction with numerous and different professionalls. They have to learn strategic needs of organization functions, problems about external environment, power sources, human information banks and who the skilled individuals are.

Human resources information system manager deal with preparing of plans and managing activities. Furthermore personally he contacts with many person, goes around departments and work units. Large organizations carry out this work only with personnel reporting to human resources information system manager. Management of human resources information system facilitates interactions within human resources information system and across human resources information system and other organization units. The human resources information system management includes:

-Project team

- Human resources information center personnel

-Human resource personnel

-Other departments (finance and information technology process)

-Management

-Other personnel

[56] Aktan and Vural, **op.cit**, pp.108-112.

-Consultants

-Package program suppliers[57]

Organization structure has an influence on defining effective management of human resources information system. This influence may be gathered in two fields. These are:

-The nature of organization structure (whether it is central or centrifugal) is effective on the success of human resources information system functions.

-Information requirements and information flow present not only information types reached through system but also it simultaneously serves on the issues such as where data comes from, where it is used, related with organization structure. Shortly, organization structure and information flow are effective in human resources information system management.

5.2. The Effect of Organization Structure of Enterprise on Organization Structure of Human Resources Information Center

Building up an effective organization structure of human resources information system depends on full comprehension of organization structure. For instance a company may be running its activities just in one location while it has 500 personnel, in this case compared to a company with 150.000 personnel and active all around the world, it will have different levels and forms of utilization from human resources information system. Characteristics of human resources information system will differentiate according to size of organization. For instance while large organization tend to use main frames, small ones may prefer microcomputers. Size can be taken into account together with personnel number and location place. The structure of human resources information system will be constituted differently according to these size elements.[58]

A hierarchical management structure may establish human resources information system organization structures varying from horizontal to matrix organization. Right below

[57] Barutcugil, **op.cit**, pp.145-149, 185-194.
[58] M.E. Grossman, "The Growing Dependence on HRIS", **Personnel Journal**, September 1988, p.57.

the organization structures are mentioned and their influence on human resources information system organization is examined.

The division of an organization to many geographic units on local, regional and country basis will have effect on human resources information system organization structure. For each geographic unit human resources information system could be locally built to achieve the better on the issues such as laws, laborforce market conditions, cultural differences about human resources, local wages and similar issues. This model will be more useful when human resources information system department is constituted locally different for each region.

Customer focused organization model is a structure in which produces and services oriented to definite consumer and industry are presented. For instance retail ready apparel customers or bank industry. This model usually requires human resources management to be built very centrally and it may be central if absence of geographical differences through organization of human resources information system is taken into account. Naturally if geographical dispersion exists, data entry and process about human resources information system will be more successful at local level.

Through functional organizational model the employees in all departments such as production, engineering consider human resources information system management differently. They need different types of human resources plans, support systems and data. For instance a skill inventory database showing personnel reference documents, licences, expertness, education and technical capability, even if company sells an advanced technology product or service, will have higher importance for production and engineering department then marketing department. Because of the variety in human resources plans and programs, different human resources information system system will be required.

Human resources department may require division to subunits in companies with horizontal organization. Those requirements, payments, benefits, and other human resources data could be studied in different parts. The people who designs and applies the system should prepare an optimum human resources information system possible to make use at all levels of company.

Whatever the organization structure is, this situation can not prevent human resources information center to have a complex structure. In such cases, payments and benefits might be central. Apart from this, human resources functions can be built up locally. Even if activities are divided to personnel and line levels, some operations and data could be carried out centrally.

5.3. Organisation Structure of Human Resources Information Center

Human resources information system organization model may be determined compatible with numerous requirements of users and change in company's demand. Functions of human resources information center which will be established depend on the mission of human resources department. Some organizations may gather human resources information system personnel under a unit called human resources information center. The reason for establishment of human resources information center systems from only the continuous need for users and personnel concerned with the system.[59] This group may consist of subunits such as user services attached to human resources information system or human resources information center manager, optional reporting, technical quality control, system development. Primary duty of human resources information center is carrying out data processing function. The other duty is providing contact with persons installed the system. Human resources information system manager should prepare personnel center and ensure that each staff received the proper training throughtout accomplishment of human resources information system.

Human resources information center organization has components such as enabling communication with users, giving training, documentation and reporting. Apart from this, financial and managerial issues and, technical maintenance can be considered separately . For small organizations it may be necessary to employ one staff for each component but for larger organizations it might be more than one.

[59] J.Pasqueletto, "Computers: No more Us vs. Them", **Personnel Journal**, December 1987, pp.63-65.

5.4. Main Application Fields of Human Resources Information Systems

Organization collect and process hundreds even thousands of data for each employee. Many organization might not have possibility to automate all data about personnel. Because human resources has a very wide field, companies supplying human resources information system prefer selling only special applications by retail.

Each human resources function has its special place in human resources information system. Human resources information center usually provides software which enables management and analysis of database according special needs of human resources function, and decision supporting tools. These are report writers, tabling programs and statistical analysis packages.

Personnel and financial restrictions lead human resources information system planners to adding important systems to human resources information system formerly and later according to requirement.

Many human resources departments start working with keeping main human resources records, and wage and benefit systems. The applications such as training and development, labor force planning reinforce the human resources information system. Other applications may be added later if the function is a main part of the human resources department. In some cases these applications may process independently, sometimes, however, new information and maybe reports depending on requirement can be added to main database. The subsystems in human resources information system are usually, hiring, positioning, wage and benefit management, industrial relations, performance evaluation, laborforce planning and budgeting.[60]

The applications possible to be included in human resources information system to human resources functions are tried to be examined in a study without going into details. Naturally characteristics of human resources function will form the human resources data. Owing to this, the applications will take part in human resources information system and terms and models will be put forward differentiate across organizations.

[60] B. Leonard, "The Myth of the Integrated HRIS", **Personnel Journal**, (September 1991), p.114.

5.4.1. Laborforce Planning

Human resources department builds up a special function to plan, predict, analyse and explain the change and needs in human resources. Many departments name this function laborforce planning or planning and developing. Organizations use the term “labor force planning” too.

Laborforce planning has many benefits from organization’s aspect. Proper planning enables organization to keep eager personnel and make them work functionally, effeciently at a reasonable cost. Labor force planinng is also used to reveal personnel demand and supply together with benefit and cost, and applied as a decision-making supporter through realization of strategic goals.

Planning the main part of human resources function is also very important from human resources information system point of view. The application field of labor force planning will be explained in detail in the third part of this study.

5.4.2. Recruitment and Employment of Personnel

Personnel recruiting and employing is the most computer utilized function in human resources management. The module of personnel recruiting and employing has a big importance in many human resources information system. The most important reason for this,is the process of personnel recruiting and employing has a large place for organization. With computerized process of personnel recruitment and employment, much more success is achieved in current laborforce market about creating equal job opportunities, finding personnel.

The main users of personnel recruitment and employment module are human resources personnel, and they use it for personnel finding and recruiting. This activity should contain information about not only work applicants but also those newly hired, existing personnel, those separated from work and retired personnel. Besides demographic information, abilities and capacity, job experience information should be kept in the system.

The activity of personnel recruitment and employment function directly effects other activities of the organization. If this function is carried out best, that means in other units of organization the best possible personnel will be employed.

Any human resources information system with personnel recruitment and employment module will increase efficiency. The existence of this module additionally will provide organization following benefits:

-Automation of data recording, classifying and calculating will provide cost saving.

-It helps to recruit more effective and efficient personnel. Through computer data, the previous performance analysis of many person who is suggested and applied for a vacant job is provided and therefore suitable position will be determined.

-In the case of need for large numbers of personnel, it will provide speed and prevent time waste. It will make possible to consider and screen applicants quickly.It will also help for shortening the time between a position is opened and filled and placing the right person to that position.

-Complete, appropriate and professional communication with applicants ant those newly hired will be provided.

-Employment lists will be kept. Therefore, it will help system to be trustworthy for employees and human resources personnel. By excluding applicants for closed positions and unqualified individuals from screening, the accurate processes will be developed.

-Requirements of equal job opportunities will be realized. Defined purposes, time schedules, successions will be accomplished by creating equal job opportunities.

-Recruitment and employment process will check itself.

-Information collected throughout this process will enable human resources personnel and management to establish a professional and effective unit.

5.4.3. Compensation Management

Compensation management is constituting and controlling of standards for direct monetary return for personnels' working. The biggest problem this function faces with is identifying wage standards for each job. Special wage rates for each department employee can be easly determined with proper information. Compensation management has the responsibility of issuing the gross wage has been earned and net wage will be received by

each individual. A properly functioning compensation management function will help organization to control cost, increase efficiency, find appropriate personnel and keep them. Compensation management provides human resources information about basic duties which is required to realize its mission. By considering and understanding the value and content of a job, an individual could be selected, supported and evaluated for that position. Due to these reasons managers always want human resources information system with job evaluation function to have compensation management module.

Management usually reluctantly supports human resources information system applications enabling effective use and management of financial resources. Because of the fact that compensation management is directly related to expenditures, human resources information system always has a compensation management module. Planning and realization of compensation management module requires compensation management knowledge rather then computer knowledge.

Compensation management is a function in which especially job evaluation is made manually. Computerized systems make required level of quantitative analysis and calculations very fast and accurately. For instance they can accomplish the process of wage level determination very quickly and accurately. Because wage calculations are related with cash, any development in speed and accuracy will increase the organizational efficiency and minimize the possible errors. Computerized compensation management will enable all subfunctions of compensation management to be made timely, properly and in a flexible manner.

The human resources information system assisted compensation management is able to provide variable dependent internal wage researches according to position, time or year dependent wage researches. Moreover it may cover results of wage policies according to merit, control and limits of wage management and external wage researches. Wage management module usually produces job classification tables showing wage types and rates for each job group. Furthermore, it constitutes tables for wage salary rates. It makes use of information made up by other human resources functions' applicants while realizing these activities. For instance information about persons comes from recruitment and employment module, and seniority and performance information from industrial relations module.

Compensation management module most of the time includes also fringe benefits. Depending on the organization conditions, benefit module could be established separately. Benefit management, apart from wage includes high financial regularly made payments. Retirement plans, health benefits, insurance payments are included among those. Benefits have an important role on the attitudes of employees towards organization. Through an attractive benefit support, qualified personnel will be reached and kept in the organization. Benefit management has similar and different aspects from compensation management. Wages and benefits cover the biggest part of human resources expenditure in most of organizations. Like compensation management, benefit management help organization about how to distribute internal financial resources. The purpose of compensation and benefit management attracting the eager personnel and keeping them in the organization. Rephrasing more clearly, the purpose of benefit package of organization is comparing providing requirements and lifestyle of potential personnel and the advantage of hiring and keeping them in the organization. To achive this purpose benefit management carries out following duties.

-Investigates the effect of personnel and demographic information on benefit options and costs.

-Developing and evaluating the benefit plans meeting organization purposes.

-Determining the qualitatively fitting benefit plans.

-Enabling personnel to understand benefits.

-Presenting the change in benefits to all personnel throughout the time.

-Following especially the recent legal regulations and reflecting them to the system.[61]

The existence of benefits module in human resources information system contributes to management of financial aspect of benefits. More accurate and detailed check of expenditures and necessities is made. For example owing to more proper demographic information, insurance information will be formed more accurately. Insurance premiums will be paid on time. With benefits module the benefit related to situation of each employee is

[61] Cariello, V. R. and Freeman, C. **Human Resoruce Management Systems: Strategies, Tactics and Techniques**, New York: Lexington Boks, 1992, p.472.

easily reached. The changes in personnel status can be reflected immediately to benefits. This will increase the job satisfaction.

5.4.4. Training and Developing

Training activity in an organization similar to compensation management has priority in keeping the personnel in organization. The strategic combination of training for this purpose encompass the orientation of new personnel, identifying and correcting ability problems, providing problem solution aimed training and long term careeer development.

Human resources usually deals with training after the basic functions personnel recruitment and employment,compensation and benefit management . Human resources information system can provide effective management of training need of personnel. Because of increasing training cost managers begin to give higher importance to this part of human resources. For instance management policies enforces 7 or 10 days of training and development program per annum in organizations capable of this issue.

Most frequently observed training application is participation to course. Another application is providing the training and development interactively with the help of human resources information system. The purposes of training functions depend on environment, culture and training development approaches of organization. Training function is related with other functions of human resources.

Many job at first requires a university diploma. Besides this, training need could be met by trainings taken from inside or outside of organization. Organization structure, the quality of job are effective an training to be internal or external. For instance telephone organizations train its personnel through on the job training, because quality of job training inside the organization gives effective results.

The increase in software programs in recent years caused the human resources information system assisted training applications to be in the agenda. A study conducted in 1986 revealed that half of the organizations in USA carried out human resources information system assisted training activities.[62]

[62] Op.cit, p.529.

Organizations can get following benefits from the training programs made with assistance of human resources information system.

-easy determination of training programs and participants.

-enabling personnel to receive proper training they need

-identifying the trainings that personnel received individually until that day

-obtaining more accurate information from the evaluations made after training.

Some aspects of training and development, especially planning and meeting is difficult to perform with computers. In such cases computer software programs have a supporting role. Training software frequently provide computer assistance to applications of performance management, ability deficit analysis, course development.[63]

5.4.5. Industrial Relations

Industrial relations function provides support to facilitate communication between management, employees and unions. In addition to this it helps individually (without becoming a member of a union) to employees. Industrial relations function can be considered the most comprehensive activity at human resources department. Despite industrial relations generally are only related with unions, in this study it will be explained in a content including not only this meaning but also discipline and performance evaluation.

The first main purpose of industrial relation module is providing a supportive work environment to employees. It serves as a guide and moderator to complexity of human resources services. Industrial relations accomplishes the activities as giving support to personnel about issues such as performance evaluation solving the problem of not coming to work, forming the rules about work and payments, providing relation with unions, use of assets, financial straits, family problems. Industrial relations system in order to achive its purposes completely, require an human resources information system including these functions.[64]

[63] V. Frazee, "Go Paperless One Sheet at a Time", **Personnel Journal**, November 1996, p.72.
[64] Cariello, V. R. and Freeman, C., **op.cit**., p.473.

Through all human resources activities human resources information system support can be obtained. In third part use of human resources information system in laborforce planning will be explained in detail.

CHAPTER TWO

THE USE OF HUMAN RESOURCES INFORMATION SYSTEMS IN MANPOWER PLANNING

1. PLANNING AND MANPOWER CONCEPTS

The successful use of human and financial resources of the organization depends on planning. Today organizations make planning almost for all of their functions. The highly competitive environment enforces organizations to make planning.

1.1. Planning Concept

Planning which is about future of organizations is identification of position organization expects to be in future and the way going there. Simultaneously the type of movement to achieve desired outcomes is chosen. Plan is identifying more than one purpose and choosing one the most proper fur future among them.[65] Planning implies answering the following questions about an issue: why, when, how, where, by who, why, by how much cost and in which time. The ability to answer those questions indicates to the existance of plan. Managers are responsible to achieve organizational purposes through the best use of human and financial resources. Plan will identify for what these resources are used and how they used also whether they used well or not.[66]

By examining the developments tendency and properties of events, making assumptions about them and considering that they will repeat in future and using relevant statistical techniques planners make predictions. To make predictions managers should have and preserve some information.[67] Today it is made with planning information system assistance.

The system called enterprise resource planinng (ERP) is a software system which provides effective and efficient planning and controlling of all resources of organization such

[65] İ. Özalp, **Business Management**, Eskisehir: Birlik Ofset, 2000, p.195.
[66] T.Kocel, **Business Management**, İstanbul: Beta Publishing, 1998, pp.71-72.
[67] Op.cit, p.73.

as capital, material and manpower integratedly in the computer environment.[68] The effective and efficient planning of resources organizations have through strategic purposes and goals will provide advantage for competition. Especially the active communication across departments, easy and immediate access to information, time saving in ordering and purchasing, direct contact between customer and organization are important properties for use of enterprise resource planning system in the organizations.[69]

1.2. Manpower Planning Concept

Organizations having enterprise resources planning system are able to determine easly the stocks, sales and production planning besides the number of personnel required for these activities. However manpower planning should not be considered only determining the required number of manpower. Manpower planning concept has a much broader structure. The main aspect of manpower planning covers manpower dimension of enterprise resources planning, planning of personnel movement, succession, hiring, and retirement ever planning of training.

Human resources management is among the main functions supporting organizations. Providing the right person, at right time at right place through organizational purposes is the primary object of human resources management. Manpower planning has the most important role to accomplish this purpose. Shortly manpower planning constitutes the center of human resources management. Manpower planning is determining of management and organization, the human resources for present and proper for the desired future conditions.

Effective manpower planning is the key point of success of the organization. Ideally planning is required to be made prior to other activities of human resources. Effectiveness of manpower planning depends on human resources manager's use of planning methods appropriate to needs and resources of the organization. Many orgaizations make planning for production, selling, advertising. The success of an organizations depend on adding of manpower planning prepared with strategic approach to other plans. By making manpower

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[68] M.Tanyas, "One of the key compenents of providing superiority on the competition: ERP", **Baan Planet**, August-October 1999, p.15.

[69] I.Tuncay, "For Trade Required Digitalization", **Macro**, December 1999, p.96.

planning the current and future personnel need of organization may be determined therefore time and money waste could be prevented.

Through the result of manpower planning activity, preparing of movement program which will provide required number of personnel capable of qualities to achieve organizational goals at required time is aimed. Manpower planning is a dynamic process established over people, work, time and money components.Manpower planning is prediction of personnal need, evaluation of personnel demand and compromising demand and supply through various programs about personnel.

Succession planning, predicting managers, using non-statistical methods, computer simulation, personnel inventory, statistical techniques, animation model, markow model, production search model and delphi technique has been revealed as methods used for laborforce planning. Manpower planning made by using these methods is conducted for training development, preventing personnel deficit, supporting decision making, legal mandatory, preparing budget, carrier planning, demograplical changes planning, preventing firing and regulating internal age distribution.

2. USE OF HUMAN RESOURCES INFORMATION SYSTEM IN MANPOWER PLANNING

Manpower planning is providing information to decision makers to realize the organizational aims. The necessary data for manpower planning should be collected, organized, synthesized and produced in desired pattern effectively and timely. Manpower planning process requires identifying the future personnel need according to organization's size, main job groups requirements, totally organizational needs, and regulating data about manpower as in the form of input to decision support systems to facilitate analysis and application.[70]

[70] Sabuncuoğlu, Zeyyat, **Human Resources Management**, Bursa: Ezgi Bookshop, 2000,p.30.

Successful human resources management involves a good manpower planning. Modern manpower planning inevitabily requires computer-assistance. Manpower planning issue includes many variables and it is very difficult for organizations to make these computer models manually. Computer-assistance in manpower planning will provide following benefits:

-Increasing human resources effectiveness

-Activiting harmony between personnel activities and organizational purposes.

-Providing the economic one while employing new personel

-Enabling human resources information system to feed personnel activities and other organization units.

-Coordination among other human resources activities such as personnel finding and selecting, career planning.[71]

2.1. The Role of Human Resources Information System in Manpower Planning Development

Human resources information system assisted manpower planning activity has been observed at 60s. At that time, manpower planning had basic statistical requirements up to a point. Human resources departments were taking into account less or more the gender, race or other social factors in manpower decisions. Wages and benefits were simple to some extent. Therefore those having reasonable statistical ability were able to make manpower planning. Human resources by enlarging with issues of career planning, organisational design and restructuring, transmission and succession analysis, has become more complex.[72]

With segmentation of human resource function management has delegated manpower planning applications to operational research personnel. Those experts although they were good at statistics, were not able to understand human resources issues and procedures at all. This situation were not satisfying human resources department at all.

[71] Sabuncuoglu, **op.cit**, p.29.
[72] Ceriello and Freeman, **op.cit**, p.551.

In mid 70s when the computer-assisted planning was increasingly widespread, 1/3 of organizations in Fortune 500 were applying manpower planning successfuly. Through 85 less than half of all organizations had manpower planning function having advance techniques. Today, however, in order to help organization development and strategic plans except very small very small ones, all organizations make manpower planning. This development increase the use of computer assisted systems in manpower planning applications. The special issues of manpower planning such as succession planning and organization design, however, supported by a few numbers of systems.[73]

2.2. Importance of Human Resources Information System based Manpower Planning

Manpower planning activity usually causes very few or almost none addition of data to human resources information system. That is to say with an advanced human resources information system database it is possible to fully make manpower planning activity. The most important aspect of manpower planning is that it includes comparison of current personnel and organization requirement. The use of human resources information system in manpower planning activity will provide:

-Organization's effective management of change.

-increasing the accuracy of strategic plans

-forming of developed human resources functions

-achieving the desired position at organizational and individual outcomes and supporting the decisions will be taken on issues about organizations.

Manpower planning applications are as a link through this comparison process. While organization gets benefits such as efficiency, profit, effectiveness, personnel will have job satisfaction, development and personnel benefits in the result of manpower planning.

In today's dynamic job environment the survival key factor for future is effective management of change. Understanding the job environment and personnel inventory will help to take better managerial decisions. In order to manage the change effectively organizations

[73] Ceriello and Freeman, **op.cit**, p.552.

should have an human resources information system responding purposes and human resources information system assisted manpower planning activities, and increase its experience on these issues. Manpower planning use human resources information system as a necessary support for job cycle. Human resources information system assisted laborforce planning in job cycle. Manpower planning use human resources information system for valid, accessible and integrated constitution and continuing of the data necessary to support decisions.

The human resources data which is necessary, useful for decision-support activity, large guides the success of manpower planning aplications. Owing to this, to support manpower planning process human resources information system is utilized.

The need of developing information design on organizational scale is a critical factor because it enables management to become aware of personnel inventory, environmental factors and legal requirements. In addition data used for the quite special issue manpower planning might be useful to support decisions of different issues. Human resources information system is used for collecting, control and analysis of data to take better decision about the organization. Decision support providing data completely supports manpower planning applications such as succession planning. Type of data collecting, process controls and complexity of analysis are related to the questions should be directly answered by organization.

Manpower plannning function supported with an effective human resources information system enables manager to take right decisions about human resources. These decisions imply providing people with right quality and quantity to make organization effective in future. Organization decisions provide balancing the current and future manpower supply and demand. A functional human resources information system supports manpower planning at three aspects, these are: strategic planning, succession planning and providing manpower supply demand equilibrium. In 1986 August issue of Human Resources Reporter Magazine First Interstate Bank Crop Company states their view about human resources information system as the following “we see the human resources information system as a glue useful for keeping the organization all together.” The human resources information system could be considered a background element in human resources information system application supporting. However, just like a theater play without decor implies nothing to

audience, without human resources information system it is impossible to manage effectively the human resources activities.

Complexity and development level of human resources applications are directly related to human resources information system development level. The success of manpower planning applications depends on complete and timely info obtained from human resources information system. There is always need for information obtained from human resources information system in planning applications. For example collected personnel turnover rates are used for prediction of future personnel demand of organization for different areas. Human resources information system is guidance because it has data about not only number of those separated but also job types and abilities required for vacant job.The human resources information system has important role to achieve success in organizational and individual outcomes, and to entegrate laborforce planning with plans and process of organization. The data in human resources information system of an organization reveals the level and type of decision support requirement.

Making manpower planning with human resources information system existence helps to carry out activities such as hiring, firing, training, promotion more effectively. human resources information system assisted manpower planning clearly provides profit to organization. Many organization manager will evaluate this superiority in quick development, change or recession periods more easily.[74]

3. CONSTITUTING MANPOWER PLANNING SYSTEM IN HUMAN RESOURCES INFORMATION SYSTEM

Human resources departments constitute special functions guiding manpower planning needs. Sometimes these functions imply only reflecting employee existence or activity planning such as personnel activities. Sometimes it rather provide information for strategic decison-making directly compensation than helping strategic planning function. If manpower planning is strategy centered, other human resources functions may use basic tabling and prediction software to make other operational predictions and plans and being guidance to human resources personnal through their needs. Sometimes human resources

[74] W. I. Travis, "How to Justify a HRIS", **Personnel Journal**, February 1988, pp.85-86.

department can make central planning over planning requirements of every function. Organization can prefer this option if there is lacking on computer use and statistical abilities, which planning requires, in other human resources functions. Human resources activity against manpower planning is very complex. This includes personnel supply, wage planning, benefit planning, training and development and retirement plans. Other planning needs, however may increase periodically according to size and speed of organization.

Because succession planning depends on supply and demand of manpower, it will be accurate to include it in manpower planning. Organization design is in the responsibility area of manpower planning and has close link with it human resources information system.[75] The information in the system enables to forming of organization structure automatically.

Today manpower planning process is carried out with computers by forming different scenarios. Making manpower planning automatically will provide to reveal and compare the manpower number will be needed in the short time according to different situations. In the base of a developed manpower planning system, computer modeling exists. A model includes the relations or relation groups among variables. Model program provides processing data mathematically by simulating them as different events likely to occur in future. Modeling, simulation and manipulation concepts are frequently human resources information system. Modeling implies the process therein analysis and experience relation is established. Determining working of model with independent variable groups or input or identifying the effect of model on dependent variables or output is simulation, manipulation defines going over parameters and variables. That does not mean to examine how variables affect the results of the data projections.[76]

3.1. Determining Manpower Planning System

Determination of manpower planning system should start with organizing of human resources management and model establishing process in which the forces effective in job

[75] Ceriello and Freeman, **op.cit**, p.556.
[76] Ceriello and Freeman, **op.cit**, p.557.

environment are revealed. Planning team should determine computer experts and source types appropriate for manpower planning and predicting. What type of reports and outputs are demanded and what possible requirements and resources in future should be decided upon agreement. How many factors are likely to affect future and relative importance of different situations should be identified.

Those making manpower planning based on these factors could work with system designers to determine the best model type. In order to alter data requirements labor force planning team will be able to collect data after choosing the model they will normally use. Planners consider labor force prediction in two forms as demand and supply. Both sides of planning have internal and external effects. Demand and supply prediction is affected from either internal factors such as organization policies, quality of management , promotion opportunities, wage level or external factors such as manpower market demand, local economic situation and competition. Similar data, matrix and techniques are used for predictions of both demand and supply. The mission of manpower planning is providing total personnel need (demand prediction) and the personnel that will meet this need (supply prediction).[77] Different models may be determined for manpower planning. Especially the models used for manpower planning are on the matter. Network flow Model, Renewal Model, Markow Model and Cohort Model are the most important ones.[78]

i) Network flow Model

This model studies individuals' career predictions, and later predicts possible job movements in future. Model requires historical data formed according to job, position, occupation groups and ability groups and enables to carry out what-if analysis. Network flow model includes also entry and exit factors such as hiring and separation due to different results. This model is used at most in the organizations in USA and thought to give correct results. When employees easily predict individual career ways, model gives more accurate results.

[77] Ceriello and Freeman, **op.cit**, p.558.
[78] Ceriello and Freeman, **op.cit**, p.558.

ii) Renewal Model

Preparation of sketch of work groups as a flow from individuals to whole organization. This model gives better results in organizations with high number of personnel, predictable career ways and homogeny groups.

iii) Markow Model

Markow Model defines predictable linear career ways in stable organizations. This model assumes that outside of the organization, life of personnel will stay same. It is established on the basis of assumption that personnel will be provided with repositioning through the organization.

iv) Cohort Model

This model is established on following the personnel employed by organization nearly at the same time. It includes the model of losses and changes of these personnel from the moment they are hired until separation. It makes labor force plans according to personnel turn rate occurred in job functions or in all departments.

Strong computer programs will provide high accuracy in their predictions of professionals . Planners should not forget that predictions are possibility. The future strategies could be approximately predicted but it is very difficult to reach the values that will provide certainty.[79]

3.2 The Establishment of Manpower Planning System in Computer Environment

Module is software which is a combination of data and mathematical rules. Although manpower planning and prediction systems have many special characteristics it is possible to constitute a common manpower planning package. These packages usually start to work with standard tabling packages. Due to this, those constituting the program, desire statistical programs that will make mathematical calculations to be added in to system if not included. A manpower planning module includes many data files. Most of these files are formed as matrix and include following elements:

[79] Ceriello and Freeman, **op.cit**, p.558.

- Beginning personnel number
- Separation rate
- Growth rate
- Succession situation
- Other variables or data able to affect combination of organization personnel number

Many manpower planning modules are quite simple and important thing to know is that where data should be placed in module. Effective presentation of columns and rows in matrix will be possible with identification of effect of external environment factors, and values and weights of variables.

When a module is constituted, planners usually start to work with small data samples. Prediction made with computer assistance is made manually by planners at the same time. Designers and potential users should evaluate these two prediction processes through comparison. Therefore the validity of the module will be provided. The accuracy of large scale predictions made with computer will be enhanced only in this way.[80]

3.2. Starting to Use Manpower Planning System

The beginning of computer assisted planning process, in other words the beginning of manpower planning systems use in human resources information system starts with opening of one of the files formed as matrix. Users may change each cell by data entry to rows and columns in matrix. Each cell defines a value as a number of rates. These values are usually related wit personnel number. For example user may desire to make changes considering economic situation. When user opens the file and make changes about situation he desires all files will be ready for prediction. Prediction made will be related to all fields of human resources function. Personnel turnover, retirees, successions, training programs will be carried out at the result of this prediction.

[80] Ceriello and Freeman, **op.cit**, p.562.

User should be able to choose the duration of validity of the prediction will be made from the program. He will use also statistical programs if required while making program calculations. After completed the calculations are presented on the screen, it will be useful before taking the results as reports if user studies them on the screen.

Planners should create a series of what-if analysis covering future scenarios. As mentioned before user firstly will form matrixes then make predictions later changing one or two variables will make another prediction. Comparison of results will provide forming of possible future scenarios. Forming what-if analysis is considered same with forming scenarios.[81]

A well designed program should alert the user about faults and restrictions related to demanded calculations. Compared to many human resources functions manpower planning module makes much more calculations with few reports.[82] Input, process and output components of determined, established and activated labor force planning system will be studied in detail in next part.

4. COMPONENTS OF MANPOWER PLANNING SYSTEM

Manpower planning activity could be carried out with manpower planning system established over human resources information system. It may be realized also with support of human resources information system. This support implies taking information necessary for planning from human resources information system and preparing reports about planning through this information obtained from human resources information system. Either a sub system is established for manpower planning or necessary information for manpower labor planning is obtained from human resources information system, after necessary information is processed reports are formed.

Human resources information system is a concept supporting human resources management. It gives support for planning the personnel need of the organization, developing the potential of the personnel, control of personnel policies and programs. The purpose of

[81] Ceriello and Freeman, **op.cit**, p.563.
[82] Ceriello and Freeman, **op.cit**, p.564.

human resources management that is effective and efficient use of human resources will be realized with help of human resources information system.

The plans about possible needs of human resources in future require identifying the number and qualities of current and future personnel need. This duty could be done in two steps. These are:

- Predicting organization's personnel need in a certain period
- Analyzing the meeting capacity of the existing personnel this need

Comparison of these two stage will guide the managers through the period that plan includes. Employing staff, decreasing personnel, the decisions about training development program issues will be decided according to comparison of these two situations.

Main application field of manpower planning is determining required future personnel of organization for achievement to its purposes. Organization's purposes constitute the base for determination of personnel need. The factors affecting and are likely to affect the supply and the demand of labor force should be understood while predicting. Some parts of the factors are not in the control of the organization and difficult to predict in advance. A good prediction could be achieved anticipating the deviations in these factors and their impact on human resources need as possible.

This study takes manpower planning process in frame of system approach. Inputs of manpower planning are obtained from human resources information system database. The information consists of studies made through guidance of this information is entered to system so that reports about manpower planning are provided.

Historical data such as personnel turnover rate, retirees, firing, and successions will cause difficulty in predicting about issues of recession, expansion, ability deficit in continuously changing organizations. A manpower planning system using historical data of human resources information system and environmental data could make quite accurate predictions reflecting easily the frame of possible effect of organizational changes.

4.1 Inputs for Manpower Planning System

Information is absolute element of decision-making. Accurate, readable, proper information enables better decision-making. Information about manpower planning has an indispensable importance in decisions about organizations taken by human resources management and upper level management.[83] An effective manpower planning depends on amount and quality of information used through decision process. This, however, requires detailed examining of current information and thinking how to reach valid information in future. Collecting and preserving this information should certainly be one of the main activities.[84]

This information is required to be coming from a regulated human resources information system, reliable and processed as ready-to-use.

Some part of personnel information is particularly information about the labor force planning. The most comprehensive ones of them:

- Human resources market information
- Information leading permanent staff policy of organization
- Information reflecting abilities of working personnel of organization
- Data showing attitudes, behaviors, manners and morale of the personnel
- Information about absenteeism and late coming of personnel
- Manpower costs and budget information[85]

Prediction models use manpower planning functions to support activities such as training development, personnel finding. Purpose of human resources information system assisted manpower planning helps management for determining issues of abilities of existing and future personnel supply, personnel finding, training, career and substitute planning,

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[83] G. Stainer, **Manpower Planning: The Management of Human Resources**, London: William Heinemann Ltd., 1971, p.47.
[84] G. Stainer, **op.cit**, p.36.
[85] B. Aytek, **Manpower Planning in Businesses**, Ankara: Ankara Economical and Commercial Academy Pub. No. 115, Kalite Pres, 1978, p.109.

organization and work design. Manpower planning activity regardless of model type used and time frame planned depends on attitude of organization and using of basic human resources information system data.

4.1.1. Information Helping Prediction of Manpower Supply

Although it is difficult to separate information helping prediction of manpower supply and demand with certain lines, we could make a classification as manpower inventory information and external manpower market information for information helping manpower force supply prediction.

i) Manpower Inventory Information

It is important to know which abilities the staff in organization possesses when making plans about human resources. It is relatively simple for small organizations how many personnel has it, which work they are concerned with and which abilities they possess. However for large organizations it is difficult to deal with these issues without an inventory system capable to provide enumeration of these abilities. Manpower inventory is an archive that information about staff is organized and ready to examine whenever required. Every organization has to get some extent information necessary to form such an inventory. This inventory helps management in decisions about product and services issues just as personnel related issues. Moreover it will guide managers about new decisions and changes will be made in strategies. Where and how the inventory will be used depends on the type of information it includes. Inventory should contain the current duties and abilities of each personnel. It is divided into two kinds: manpower general inventory and ability inventory.[86]

Manpower general inventory is the counting activity of employees working in an organization in a period according to age, gender, training, wage received, seniority and status. For this purpose the information related to situation is collected with questionnaires distributed to employees in some periods. Collected information is classified with mathematical and statistical methods.[87]

[86] Geylan, R., **Personnel Management**, Eskisehir: Birlik Ofset, 1999, p.38.
[87] Sabuncuoğlu, **op.cit**, p.36.

Besides personal information, the information about working manner of personnel; the names and addresses of other companies personnel worked, employment chronology, military service status, working, abilities, management manner, foreign languages he knows, special interests and hobbies, will be obtained thanks to inventory. This information is helpful for evaluating human resources required from the aspect of promoting personnel or giving him a special duty, confirming the wage paid to him or the job he was appointed, increasing production level of organization and accelerating activities.[88]

Manpower ability inventory, however; is a study reflecting personnel characteristic feature such as ability, talent, training and experience of current personnel. Ability inventory includes information such as training, foreign language level, internal service trainings participated, job experience, age, gender, seniority status, received rewards and pensions, organizations and positions worked until that day, duties he may take upon himself. The important point is to know which information is more necessary for organization. With the help of human resources information system coming together and preserving of this information are facilitated.

Many organizations need additional information for manager level staff. Due to this, a separate inventory could be formed. There are two methods to form manager inventory. First of these is collecting detailed information about managers such as performance, strong ,weak sides. The second method includes information about requirements of manager position.[89] Whichever of the methods is used, the important thing is to get necessary information whenever it is required.[90] As a result ,current manpower profile is identified with information obtained from these studies. Identifying current abilities and insufficiencies, anticipating possible vacant positions of future and determining those will fill position from inside could be done with the help of inventory. Shortly designing of current resources for future is provided.[91]

ii) Information about External Manpower Market

Information about human resources market consists of macro human resources information and contains possibility of meeting future personnel need. The data showing

[88] Aytek, **op.cit**, pp.110-111.
[89] Sabuncuoglu, **op.cit**, p.39.
[90] Yüksel, Ö., **Humen Resources Management**, Ankara: Gazi Bookshop, Second Edition, 1998, p.63.
[91] Bingöl, D., **Human Resources Management**, İstanbul: Beta Publishing, 1998, p.75.

labor force supply and demand unemployment status and personnel ability mix in organizations around in activity field or work region of organization take part in this group. External labor force market data will have an important rule in prediction of qualified personnel possible to be needed by organization in future.

Organizations get possibility of comparison among organizations with human resources information system including information about organizations attracting personnel, wage they give, succession opportunities they provide. Therefore they make regulations in reward and wage system itself.

4.1.2. Information Helping Prediction of Manpower Demand

Work analysis information and personnel turnover rate information come at the top of information helping prediction of labor force demand. Manpower information about absenteeism rate and external environment has influence also in determining labor manpower demand.

i) Job Analysis Information

Job analysis is a study searching quality, quantity, requirements and working conditions of job with different methods, and revealing them. Job analysis present basic job information related to structure and main properties of job enabling manpower classification.[92] Job analysis information is regulated in a definite form and constitutes job definitions and requirements. In the result of job analysis, the necessary personnel characteristics, abilities, formal and professional training of personnel likely to carry out duties the job requires have important role in determining manpower demand.

ii) Manpower Turnover Rate Information

Information about manpower turnover rate includes information about job separation data of personnel, reasons of separation, contact address, payments will be made, probability of reemployment. Separation of personnel will raise the manpower deficit. Quick fill of personnel depends on right prediction of turnover rate. Owing to this, personnel type separated from job and with whom this position will be filled are very difficult to identify.

[92] Sabuncuoglu, **op.cit**, p.52.

Personnel rate information together with performance evaluation information evaluated and information about achievement level of separated personnel is preserved.

Personnel turnover is used in literature also as rate and rotation. This rate implies the number of personnel entered to and separated from organization in a certain period of activity. This rate is calculated as following:[93]

$$\textit{Labor force turnover rate: } \frac{\textit{Total numbers of those quit the job}}{\textit{Average labor force number}} \times 100$$

Average laborforce number is calculated as below:

$$\textit{Average labor force: } \frac{\textit{Number of labor force at beginning of period} + \textit{Number of labor force at the end of the period}}{2}$$

Labor force turnover rate could be calculated quarterly, for six months and annually. There is not a standardized labor force turnover rate valid for all organizations. This rate may be interpreted differently according to structure, work branch, labor force number and size of organization.[94] From labor force planning aspect generally if this rate does not present big changes across periods, predictions will be made more easily.

iii) Labor force Absenteeism Rate Information

Absenteeism information implies not coming or late coming of personnel to job without any program that is to say out of permission and annual holidays. Absenteeism rate is

[93] Sabuncuoglu, **op.cit**, p.40.
[94] Sabuncuoglu, **op.cit**, p.40.

calculated by dividing the working hours lost in a period due to absenteeism to planned working hours of organizations.[95]

$$\textit{Absenteeism Rate: } \frac{\textit{Total labor force work hours lost}}{\textit{Total labor force planned work hours}} \times 100$$

Calculating absenteeism rate will increase accuracy of prediction of demand from labor force planning aspect.

iv) Information about External Environment

Information such as inflation, interest rate, unemployment rate, manpower growth, international market opportunities, and population information could be obtained from regulator institutions, marketing research reports and external database. To give an example to use of external data in manpower planning: prediction of a decrease in petrol prices may cause a petrol company to think that consumers will use more cars. Thus, it might increase the personnel in gas stations. However' if we consider this example again, organization might consider to employ less example in wholesales and refinery level. The reason for this is lower petrol prices' creating the tendency for decreasing marginal profitability therefore production.[96]

v) Information coming from functional units

Complete functioning of manpower planning depends on data coming from organizations' strategic plans, marketing, selling, production functions. The ability of manpower planning to produce accurate and complete results is related with its functioning integrated with organizations' information systems covering the predictions of financial planning, production planning, marketing and sales and human resources information system. With integrated functioning opportunity to direct access to information. This will provide a big advantage to organization. For example manpower planning is used to determine sales

[95] Sabuncuoglu, **op.cit**, p.42.
[96] Ceriello and Freeman, **op.cit**, p.570.

predictions, required personnel number according to amount of product organization wants to produce.[97]

4.1.3. Other Information about Manpower Planning

Performance information, career information and training development information are among in information used for manpower planning. This information takes part in manpower inventory. However, when more detailed information is needed, it may be obtained with details from performance, career or training development systems. Especially for preparing succession plans, performance, career and information gain big importance.

i) Performance Informations

From the aspect of manpower planning information such as performance evaluation, personnel interests, working preferences, satisfaction levels, and periodic results of all performance values could be obtained from performance system. With the help of this detailed information the remaining behind abilities of personnel may be revealed. Moreover the performance information derived is absolutely necessary for succession planning. To make succession planning this performance information is required to be quantitative. For instance being ready to succession may be defined with 1 and not being ready with 0. In other words using performance information for succession planning will be easier if information is quantitative. As a component of manpower planning succession planning will be effective if there is detailed performance information.[98]

ii) Career Information

The positions of personnel in previous organizations, the positions he worked in organization until that time, seniority capability, received training, potential capacity, individual career expectations are necessary information from manpower planning aspect. Career information will enable organization to plan required manpower more accurately. Career information in hand will facilitate succession planning even more. Career planning and succession planning are not too much separate phenomena. While succession planning as a

[97] Ceriello and Freeman, **op.cit**, p.569.
[98] Aytek, **op.cit**, p.120.

component of manpower planning considers issue as filling of a position, career planning is a discipline trying to make parallel the career life of individual and organizations' needs.

iii) Training and Development Information

Training and development information have an important place in providing personnel needed per manpower planning. The insufficiency of personnel provided inside or outside of organizations are exposed to training in desired directions. The information about education level of personnel are academic degrees', last education level, trainings received inside or outside of organization and success level in these trainings. Education level of personnel is important determining the payment will be made to him. Moreover it provides information for succession, exciting and appetite and developing and achievement abilities.[99]

4.2. Manpower Planning Process

Manpower planning process may differentiate across organization s however with its common features this process is realized through identifying purposes, analyzing environment, taking opinions of line mangers, comparing number and quality of existing personnel and required personnel of organization and preparing succession planning. Manpower planning could be realized without forming module with support of human resources information system. As mentioned before, this means making manpower planning with the help of information in human resources information system and obtaining reports again from human resources information system. Manpower planning process take three factors as base which are predicting manpower demand, identifying manpower supply and succession planning. These factors are supported with identifying purposes, environment analyses, and job analysis and performance evaluation. As mentioned before saying that all of these factors exist in each end every organization will not be a correct statement but every organization directly or indirectly accomplishes these activities. When manpower planning process is realized with labor force planning sub system constituted over human resources information system duties these of this hr department will decrease. Hr department managers and experts will have opportunity to see situations with all detail and different scenarios.

[99] Aytek, **op.cit**, p.112.

4.2.1. Identifying Purposes

Identifying purposes like in the all other planning activities is the first and most important step of labor force planning. Success of labor force plans ids directly related to realistic purposes identified. Organizations should identify their purposes considering its private conditions, employee characteristics, organization culture shortly internal and external environment conditions. In this step performance activities and results expected from organization are identified and spread to lower levels. Personnel number of organization and its distribution according to gender, age and education level keeping less or more than required will be developed through organizations' purposes.[100]

4.2.2. Analyzing Environment

Labor force planning is under the influence of external environment factors. Organization will be effected from laws and socio-political pressures and even will adapt. Technological novelties, raw materials scarcity, education level of personnel and change in abilities will affect planning process. Together with these, economic conditions are very important for labor force planning. Making a successful plan depends on taking environmental conditions into account. After analyzing the external environment in which the organizations' personnel need will be found, constitution process of programs about human resources could begin.

4.2.3. Taking Opinions of Line Managers

Labor force plans should be related with all parts of organization. Collaboration with other departments' managers in labor force planning process has vital importance. Labor force planning process could function more effectively when guided and supported by all line mangers in the organization. All line managers could give start to labor force planning process with answering following questions:

- Are special economic conditions and organization factors that will affect one to five following years present? For instance could predictable tendencies in market and economic conditions require restructuring or recession of organization? Which function of organization may be affected from this? Which market plans may lead those internal effects?

[100] Ö. F. Akyüz, **Stratejik İnsan Kaynakları Planlaması**, İstanbul: Sistem Publishing, 2001, pp.136-137.

- How will organizations' units look like one year later, two years later, three years later? (Human resources information system should provide updating of organizations' charts as beginning of the process. With the help of what-if analyses organizational structures could be produced quickly.)

- What are the organizational problems the organization is experienced and successed to deal with? (This question provides management the possibility to discuss relation and communication problems.)

- What are the issues in human resources department is experienced on such as performance abilities, employment? How many personnel are required? When, where, which abilities and information the personnel are required to possess?

Giving written answers to these questions will constitute the basis of organization labor force planning. The data necessary to reply those questions should be partly provided by human resources information system. Additionally the system should have analysis capacity and function of reporting analysis made understandable for users. Knowing what system has it is important at least as knowing reporting of analyses and their results. Human resources experts could obtain statistical information for each unit. A prediction made as beginning for potential vacant positions should take retirement plans prepared in advance as base. Moreover detailed evaluation of these data could be done with line mangers adding human resources information system the information it is not included but known in the work environment which are transfer possibilities, promotion probabilities, resignations and retirees etc. Human resources information system should at least have information about job definition and relate them with organizational structure and position information. Moreover system should have the capacity to present this information very quickly and in an understandable form.

4.2.4. Determination and Comparison of Manpower Supply and Demand

Later than purposes are defined, the environment is analyzed and line managers' opinions are taken, it is time to determine and compare manpower supply and demand. If organization has problem in filling vacant positions with qualified personnel or predicts this kind of problems human resources probably is taking decisions demand oriented. Manpower planning could be said to be supply oriented more if desires to motivate the personnel, keep them in organization or treats them equal when it has not got control in turn rates, internal

transfers or succession issues. Manpower planning sub system provides organization big easiness and speed in determination and comparison of supply and demand with regard to various internal and external conditions.

i) Determining Manpower Supply

Manpower supply defines the personnel the organization has in a plan period.[101] Determining organization's manpower supply is the process of determining the quality and quantity of employees in the organization. Tools mostly used in determining manpower supply are personnel general inventory, personnel ability inventory, succession planning schemes, personnel turn rates and absenteeism rates.[102] Determining manpower supply is the primary activity of determination of labor force demand. While predicting manpower supply steps above should be followed:[103]

- Preparing manpower inventory
- Predicting personnel likely to separate from organization with various reasons in plan period.
- Adding manpower inventory to the staff that will come from transfer and external personnel providing
- Adding personnel provided with succession
- Determining manpower supply with taking all steps into account

Evaluating organization's internal manpower inventory includes not only collecting basic demographic data such as position, gender, time spent in work but more. Prediction process requires comparison and manipulation of demographic data of current manpower, potential promotion, abilities and experiences. Evaluating manpower inventory is identifying the supply and deficit of the abilities presented with regard to organizations purposes,

[101] Aldemir, C. And Others, **Personnel Management**, Izmir: Bakıs Publishing, 1998, p.48.
[102] Yüksel, **op.cit**, p.63.
[103] Aldemir and Others, **op.cit**, p.49.

structure and work groups. Human resources information system is used for protection and management of data considered as demographic and qualitative.

Manpower planning uses the human resources information system in identifying the tendency in each and every type of current data about personnel. If an average size of human resources information system serves main human resources functions, manpower planning rather than saving data and interpreting them accomplishes data collecting function. Many manpower planning activities are about not only individuals but also vacant jobs, succession, transfers and separation events.

Planning supply prediction could be used to identify internal career ways of personnel in each position. Supply prediction information has big importance in other human resources functions, applications. Personnel providing, training, equality in wage and employment could be realized successfully with the help of prediction information. Personnel providing uses labor force supply information to determine criteria according to importance of positions for those will be employed. To develop and promote personnel gained abilities, talents, received training labor force supply information is used. Waging uses manpower supply information to regulate rewarding systems for providing and keeping the personnel which are in key positions. Manpower supply information is utilized for providing equality in employment, preparing time tables according supply and demand in future and putting purposes forward. Managers, however use this information to develop proper abilities will meet the need of future personnel.

While making supply prediction internal and external manpower should be considered together. Human resources information system should include necessary information for manpower supply prediction that is the information of personnel within the organization and personnel possible to be found outside of the organization.[104]

Planning possible supply in future requires data such as manpower movement, ability levels, requirements or a transfer for a position, retirement, separation and time restrictions in employment resources. Budget restrictions have priority for most organizations. All these information enables determining the abilities likely to be acquired in future. For instance identifying future supply the movement to a job upper than an average level through a special

[104] Ceriello and Freeman, **op.cit**, p.559.

career way will be possible with special qualified, demographic information obtained from human resources information system. In order to determine supply of personnel likely to be promoted in special job categories data obtained from human resources information system is used and groups that will be followed are determined. These data are:

- Firing, retirement, and resignation: For a definite job turn rate may be 5%. The real numbers for a year may show tendency of %5 of total personnel in average through the year.

- Personnel not promoted: Performance, working hours, abilities, experience data help to determine personnel will not be promoted.

- Transfer to other job: Real numbers for one year is determined with average over one year period and trend data.

- Inactive personnel: Number of personnel remaining constant.

ii) Determining Manpower Demand

Manpower demand is manpower the organization will need in future. Manpower demand is used as also labor force requirement in literature. Manpower demand prediction, however, is determining type, number and quality of manpower the organization needs in short and long term.

In very broad definition, demand prediction is predicting number of personnel with special abilities and takes part in special job groups the organization will need in a definite time in future. Organizations perceive demand prediction as a factor to determine internal promotions. Today demand prediction for organizations could not go beyond an effort producing results with high uncertainty. However, similar uncertainty exists for all activities of organization. Manpower demand prediction is dependent to many factors difficult to prove their success. This depends on customers, competition situation, changes in legal regulations and technological developments. For instance any change in product development, service duty and sales volume will affect human resources. In order to constitute values for these

variables, labor force planning experts should directly be involved in strategic plans and development activities of the organization.[105]

Possible changes in organizational purposes, efficiency level, organization structure and work structures are elements directly affecting labor force demand. Several methods are used to predict Manpower demand influenced by economic, technologic and legal factors.[106] However saying that results achieved through Manpower demand prediction models are certainly true, will not be true. The reason is that factors such as enterprise size, age, activity field, organization and management structure are effective in determining the method for labor force demand prediction models vary according to predictions are whether long term or short term. For short term predictions mental guesses and for long term predictions statistical methods are preferred.[107]

iii) Comparing Manpower Supply and Demand

Comparing manpower supply and demand which is the next step after purposes, demand and supply of manpower are determined, helps to take final decision for manpower planning. Management gives most importance to comparing manpower supply and demand. Usually when manpower plans are spelled out, comparison of supply and demand is understood.

Determining manpower supply and demand requires making comparison and deciding about how to balance them. The decisions management take will differentiate in cases which manpower supply is less than demand and more than demand. In the case of supply shortage, to realize organization's purposes practices such as training current personnel, increasing shift hours or more working hours could be applied or employing new personnel may be preferred. When there is surplus of supply, the cost of excess manpower is determined by considering possible increases in business value for anticipated period. In the result of these comparison a plan showing how much and with which abilities and talents personnel will be proper for each position. In this plan the main issues such as the activities

[105] Ceriello, **op.cit**, p.560.
[106] Aldemir and Others, **op.cit**, pp.42-43.
[107] Subuncuoglu, **op.cit**, p.45.

will be done or removed, therefore number and abilities of personnel will be needed; the number and abilities of current personnel and training need should take part.[108]

4.2.5. Making Succession Plans

Succession planning is the process in which the plans about movement of individuals in organization to upper levels are formed and labor force planning experts and activity managers use succession planning for decisions about internal positioning of existing personnel in future.

Potential succession and other positioning decisions are generally in responsibility of activity managers. Here, human resources department has a hidden consultant role. When necessary time and complexity for plans development is taken into account, succession planning usually is limited with crucial jobs. For example it is applied only for upper level manager positions. Upper level term could be defined for two or three level below CEO. Organizations with advanced career development system may enlarge succession planning up to professional and organizational positions. Succession planning concept implies different meanings for different organizations and managers. According to some managers it means filling a vacant position. For other managers succession planning has a more detailed meaning. Career ways and filling possible vacant positions with successful personnel support. Between these two views there exists unlimited middle level position.

Succession planning defines current and future job requirements and determines candidates' fitting and movement easiness to upper levels. This is generally done through using personnel tables showing successes for each management position. Succession planning process generally includes 12 to 36 months and required to be updated periodically. It will be more proper to define succession planning as developing ability pool of organization and choosing successor for a position. Succession planning encourages personnel with career they will have in organization also identifies human resources restriction, ability deficit before any job vacancy occurs. With succession plans personnel could get ready to take big responsibilities for possible job vacancies in future. Moreover large organizations use succession planning for better integration with integrated institutions. Succession planning although most of the time considered same with career plans is a special type activity of

[108] Bingöl**, op.cit**, pp.87-88.

career developing. It may be defined as identifying the positions enable to carry out works without a hitch and planning possible to come to those positions.[109]

To ensure guarantee for future of the organization those will come to important positions should be determined in advance. Succession planning helps organization to allocate its trained and experienced human resources through future plans and growth requirements. For development and application of succession planning, balancing organization's structure with respect to needs of both organization and individuals and industry conditions are points at issue. Changing of industry creates restrictions for planning and development of substitutes in many organizations. Succession planning process is similar to constructing a building. Human resources information system constitutes foundation of this building.

Like other manpower planning activities succession planning process should be integrated with strategic planning. The final step of manpower planning activity is succession planning. The reason is that manpower supply and demand data, training evaluation and job evaluation data is required. Human resources information system by blending these necessary data realizes substitute planning. After strategies of organization are identified, management could obtain information from human resources information system about performance, potential, abilities and experience the personnel pool has and each individual has.

Succession planning starts with identifying target positions. These positions are generally the upper level positions that are important for continuity and success of organization. Those making succession planning determine a potential substitute for each position with personnel records in human resources information system.[110] Training and development, and management prepare and keep these lists if human resources information system activities about job classification or position lack. Human resources information system has an important role in preparation of these preferential lists. With the help of human resources information system many types of information such as work groups, job classes, age or service may be classified.

Succession planning uses human resources information system to obtain personnel information necessary for determining potential substitutes for each position. In order to define individual substituting probability for special positions planners develop algorithms,

[109] Ceriello and Freeman**, op.cit**, p.553.
[110] Ceriello and Freeman**, op.cit**, p.570.

reveal certain work parameters, biographies, experiences, education of individuals and other similar issues. A human resources information system with succession planning module develops these algorithms automatically. Developing algorithms requires great attention and frequently assistance of external experts. Those making succession planning study on internal career ways which are guidance for target positions. They look at experience and individual career ways in similar positions to accomplish this. This information helps choosing the potential qualified individuals for each vacant position represented in succession planning schemes. Organizations find difficult to deal with this so they change structures and names of works and apply more manual processes.[111]

The biggest obstacle for succession planning is obtaining necessary data and information to support the process. Human resources information system helps to overcome this obstacle in succession planning applications. Succession schemes and reports about succession planning are prepared with data about personnel and position data derived from human resources information system.

4.2.6 Design of Organization Structure

Responsibility of organization design is generally carried out by using organization schemes. Each manager or individual is shown in a box and linked to subordinates and superordinates with lines in these tables.

One of the main purposes of manpower planning is to integrate organization strategies, works and organization plans providing organizational support. An organization is a complex system reflecting the culture and strategies of enterprises by itself. Work types, relation patterns as information support or decision mechanism, duties in work and persons placed to these works are important components of a complete picture of enterprise.

Human resources information system accomplishes the function of preparing organization schemes mainly with the special graph software. Although many programs use boxes and lines, some programs use forms where individuals are listed in index. Some programs prepare organization charts by using special graph software. Organization charts are prepared from data in main personnel file of human resources information system. These data consist of name, manager, responsibilities and department of work. While preparing an

[111] Ceriello and Freeman**, op.cit**, p.570.

organization chart some data may be required to be entered manually in a simple human resources information system. However in advanced human resources information system organization charts are automatically accepted as main file data.[112]

4.3. Outputs of Manpower Planning System

Manpower planning reports prepared with the help of information derived from database and placed in human resources information system compose the output from the aspect of system approach.

4.3.1 Reports about Manpower Supply and Demand

Manpower supply predictions generally determining currently filled positions, works, work groups, and number and quality of personnel in training development programs. Reports about supply prediction are generally formed as a series of graphs. Each graph should target a different point in time such as now, one year ago and one year later.[113]

The reports presenting training status, service duration, number and quality of current personnel are important reports showing labor force supply. Training status report should present the number of personnel will be placed in a special position in future and certain level of training they should receive. Service duration report should exhibit number of personnel according to service duration namely the seniority.

Developed supply prediction analysis should have capacity to define the influence of qualified staff of enterprise on human resources activities. For instance the reports listing current personnel should contain the numerous 'keep personnel' scenarios which take the plans to increase the rate of keeping personnel by human resources and management as base.[114]

A typical demand prediction report enables to predict the number of personnel organization will need. This report lists personnel number according to job class, degree, department or other variables. While providing personnel from outside, labor force planning enables listing the level of personnel finding and employing as to meet labor force demand.

[112] Ceriello and Freeman**, op.cit**, p.572.
[113] Ceriello and Freeman**, op.cit**, p.575.
[114] Ceriello and Freeman**, op.cit**, p.576.

As a measurement of internal demand it produces reports showing succession events. By considering this situation planners may predict the demand will occur through successions. Of course internal supply of qualified personnel through succession should not be overlooked.

Manpower planning usually makes succession predictions. Evaluation of the results of changes in definite variables provides this. For instance compensation management, training, and personnel turn rate will enable to make this prediction.

Personnel turnover is a reason for human resources demand arises. Personnel turnover analysis report classifies the separated personnel with respect to factors such as department, job level, gender, ethnic origins, age, location, reason of separation, special abilities and experience. As a demand prediction tool these reports show types and numbers of repositioning requirement of manpower planning.

Demand prediction enables decision makers to evaluate special planning to decrease undesirable level of personnel turnover rates. For instance manpower planning should enable the comparison of separation rates of personnel with comparable ability levels from different job classes. This could be realized only with support of human resources information system. The more detailed planners identify changes the better decisions managers will take. With a decreasing personnel turnover rate organization will intend to employ personnel therefore cost of personnel providing and orientation will decrease.

Manpower planners compare the predictable demand and supply of personnel with certain qualities. Supply and demand comparison reports should list personnel predicted in manpower plans that organization or unit will require any time in future. Planners should pay attention to the difference between supply and demand numbers.[115]

This difference might lead human resources and management to keep organization effective and efficient and make personnel satisfied. Supply demand comparison helps to explain following issues:

- Personnel insufficiency or abundance for job classification and management positions

[115] Ceriello and Freeman**, op.cit**, p.575.

- Need of personnel providing activity (subsidiary personnel need and new positionings)

- Need of training and development programs (new or transfer personnel)

Some manpower planning departments bring supply and demand comparison to the point that comes that goes. However this type of reports is entry-exit reports in which number of new comers and those separated equals. Entry occurs as a result of employing, coming back, transfers from other units and other sources. Exit reflects the result of intended or unintended separations or transfers to other departments. Planning frequently creates historical reports on this issue. The reason is that none of other human resources functions has a responsibility about this data. From this point of view they may use entry-exit reports as planning tools. This is a very important superiority because it shows possible changes the management anticipates. Entry-exit likely to occur in future may be determined according to factors such as age of labor force, changes in wage applications or changes in retirement policies.[116]

4.3.2 Succession Planning Reports

Manpower planning prepares reports management uses to develop succession plans. The reports human resources information system formed about succession planning are; succession planning position reports, reports showing quality and capacity, reports about personnel candidates and substitute plan schemes.

Position reports, when substitute planning for each position is considered this report includes name of currently employed person at this work and planned retirement or separation data list. This list furthermore shows substitute plan condition (such as potential, pending, current) and personnel characteristics. Managers use this report to make final choice for positions including substitute planning or to determine which way substitute plan will follow.

Quality and ability reports are formed through information derived labor force inventory. This report should include each individual's training biography, job experience out

[116] T. Kaynak, **Human Resources Planning**, İstanbul: Alfa Printing Publishing Distribution, 1989, pp.39-40.

of organization, jobs he worked in organization, ability level and trainings he received within service. Historical abstract of career development of individuals at each position should be prepared for each position.

Another form of this report is listing qualities and those previously employed in that position. For instance in this report at least 5 business administration graduate, at least 2 engineer origins previously employed as sales manager and 2 person worked in marketing department should be presented.[117] Moreover career purposes of candidate and which position they desire to come should be included.[118]

Personnel candidate reports include substitutes human resources information system could list for a position. In a very detailed report, name of each candidate other basic information, name of job, manager, performance development should be revealed. With the help of this information manpower planning and training development departments should determine additional career development and training programs enabling individuals planned for substitute to be fitting for that position. Training development department by considering this report[119] should prepare career development report for each candidate.

Succession planning schemes are made to facilitate observing of substituting options and its various effects from organization scheme. These schemes help managers to understand the details of each option. For example following may be interpreted from substitute plan scheme: If CEO of organization separates from job, marketing wise president ,may become CEO, sales manager may come to place of marketing wise president and public relations manager may become sales manager. However in another substitute plan scheme it may be revealed that marketing wise president will be CEO but new marketing wise president will come from outside of organization and all other positions will remain same.[120]

[117] Ceriello and Freeman**, op.cit**, p.577.
[118] Ceriello and Freeman**, op.cit**, p.578.
[119] Ceriello and Freeman**, op.cit**, p.579.
[120] Ceriello and Freeman**, op.cit**, p.579.

4.3.3 Reports about Organization Structure

Organization reports may be as scheme or hand book. Many programs include various graph designs for organization charts. Some programs allow organization to make its own design. A complete organization chart is a series of integrated charts showing organization departments and sub units in a box separately for each individual. Straight lines, dotted lines, arrows and other symbols define relation among personnel. Each box should not only show the name of personnel and name of job. Simultaneously it should include more complex information such as job degree, location, extension line number.

Human resources information system together with organization charts should be able to form organization hand book. Through constitution of organization hand book structure of index prepared by considering authority delegation, and reporting relations.[121]

4.3.4 Reports about Manpower Planning

Manpower planning function sometimes prepares reports comparing real data and previous predictions. One of these is comparison of predictions of turn rates and numbers within a year and realized turn rate and number for that year. This comparison might include time series analyses and observations for different points in time. This situation may include interfering special cases such as natural disasters, regulator changes, and changes not in the control of managers and not predictable by management.[122]

Importance of human resources information system stems from continuous need for decision support analysis within an organization. Manpower planning applications depend on purposes supported by work strategies and data requirement. A complete database and reliable manpower planning process provided by human resources information system enables organization to take more accurate decisions.

As a result the use of human resources information system in labor force planning process when taken in the frame of system approach, providing necessary information for planning constitutes input function and preparing required reports through this information constitute output function. Manpower planning function for human resources management

[121] Ceriello and Freeman**, op.cit**, p.579.
[122] Ceriello and Freeman**, op.cit**, p.577.

although it falls behind of other human resources functions has begun to have an important role. The main reason for increasing importance of manpower planning activities is organizations started to ask the question of 'where will we be in future' rather than the logic of 'saving the day'. Because manpower planning has so many variables it requires the support of information system. An advanced human resources information system facilitates making manpower planning system. Manpower planning can be easily made with manpower planning system constituted over human resources information system. Using human resources information system in manpower planning will provide many benefits to organization. Especially it will help forming an advanced human resources function increasing accuracy of strategic plans, effective management of management and taking decision support for different issues. Organizations should evaluate organization circumstances in detail and have human resources information system capable to work with information systems in organization. Especially minimizing the effect of Turkey's volatile environment could be possible with support of human resources information system and making labor force planning shortly anticipating future of human resources quickly and accurately.

CHAPTER THREE

A CASE STUDY IN A CONSULTING COMPANY

1. PURPOSE OF THE RESEARCH

This study is aimed to demonstrate how the human resource information system works in a consulting company that utilizes competency approach in performance management and development processes. Also it is aimed to analyze how human resource information system has a significant role in manpower planning of the company.

The general purpose of this research is revealing the situation related to how much constituting a human resource information system and then used in their manpower plans of in a consulting company. In accordance with this common purpose, there are three sub-purpose of investigation. These are:

- Revealing of how to perform manpower planning activities by using the human resource information system in this company.

- Observing the possibilities of performing the manpower planning function in human resource information system.

2. RESEARCH METHOD

Data which is stated in the application section is obtained from perspective of a counselee who is participating as an employee and whose performance will be evaluated by counselors and HR specialists at the year end review. In addition, all documentation about the

human resource information system which applied in aforementioned audit company is examined in detail.

3.INFORMATION ABOUT THE CONSULTING COMPANY: ERNST&YOUNG

Ernst & Young (or "EY") is one of the largest professional services firms in the world and one of the Big Four auditors, along with PricewaterhouseCoopers (PwC), Deloitte Touche Tohmatsu (Deloitte) and KPMG. According to Forbes magazine, as of 2008 it is also the 9th largest private company in United States[123].

Ernst & Young is a global organization of member firms in more than 140 countries. Its global headquarters are based in London, UK and the New York,U.S.

Ernst & Young is the result of a series of mergers of ancestor organizations. The oldest originating partnership was founded in 1849 in England as Harding & Pullein. In that year the firm was joined by Frederick Whinney. He was made a partner in 1859 and with his sons in the business it was renamed Whinney Smith & Whinney in 1894.

In 1903, the firm of Ernst & Ernst was established in Cleveland by Alwin and Theodore Ernst and in 1906 Arthur Young & Co. was set up by the Scotsman Arthur Young in Chicago.

As early as 1924 these American firms allied with prominent British firms, Young with Broads Paterson & Co. and Ernst with Whinney Smith & Whinney. In 1979 this led to the formation of Anglo-American Ernst & Whinney, creating the fourth largest accountancy firm in the world.Also in 1979, the European offices of Arthur Young merged with several large local European firms, which became member firms of Arthur Young International.

In 1989, the number four merged with the then number five, Arthur Young, on a global basis to create Ernst & Young ("EY").

In October 1997, EY announced plans to merge its global practices with KPMG to create the largest professional services organization in the world, coming on the heels of another merger plan announced in September 1997 by Price Waterhouse and Coopers &

[123] http://www.forbes.com/lists/2007/21/biz_privates07_Americas-Largest-Private-Companies_Rank.html

Lybrand. The merger plans were abandoned in February 1998 due to client opposition, antitrust issues, cost problems and difficulty of merging the two diverse companies and cultures.

EY had built up its consultancy arm heavily during the 1980s and 90s.In 2002, EY merged with many of the ex-Arthur Andersen practices around the world, although not those in the USA, UK, China or the Netherlands[124].

3.1. Ernst&Young Services

Ernst&Young, provide global services in four main areas: Assurance, Tax, Transactions and Advisory. Through these services, the company can help clients retain the confidence of investors, manage their risk, strengthen their controls and achieve their potential.

EY has four main service lines:

- **Assurance** (54%): comprises mainly financial audit (core assurance).
- **Advisory Services** (12%): consisting of three subservice lines: IT Risk and Assurance, Risk, and Performance Improvement.
- **Tax Services** (22%): includes Business Tax Compliance, Human Capital, Indirect Tax, International Tax Services, Tax Accounting & Risk Advisory Services, Transaction Tax.
- **Transaction Advisory Services (TAS)** (12%): includes commercial, financial, real estate and tax due diligence, mergers & acquisitions, valuation & business modeling, corporate restructuring and integration services.

[124] http://en.wikipedia.org/wiki/Ernst_%26_Young

3.2. Global Structure

EY Global does not perform client work. It sets global standards and oversees global policy and consistency of service. Client work is performed by the member firms. Each EY member country is organised as part of one of five areas:

- EMEIA: Europe, Middle East, India, Africa
- Americas
- Far East
- Oceania
- Japan

Each area has a single management team that is led by an Area Managing Partner who sits on the Global Executive Board. All areas are integrating their business models.

On 1 July 2008, EY received approval from partners to integrate all of its 87 country practices in Europe, the Middle East, India, Pakistan and Africa to create a single EMEIA managerial entity effective from 1 July 2008.

3.3. Ernst &Young People First Strategy

Ernst and Young's traditional approach to finding 'the right people' has been to select a large number of graduates from university, to provide them with on the job experience and to support them while they study for their Chartered Accountant qualification. About 70% of the graduates the firm recruits are for audit work (Assurance and Advisory Business) with most of the remaining 30% going to Tax and a small number to TAS (Transactional Advisory Services). This is supplemented by recruiting externally for people who have suitable skills and qualifications.

Ernst & Young has faced three main issues in recruitment:

- Increased demands for professional services (especially audit services) by clients and increased work for Ernst & Young, therefore requiring more people.

- Fewer qualified people available for Ernst & Young to employ.
- Increased competition for professional services staff.

So how have Ernst & Young set about ensuring that they still manage to attract and retain the right people, despite a highly competitive employment climate? The partnership has utilised a network of channels to generate candidates through referrals from its existing employees, its alumni, recruitment agencies and increasing its reputation and brand presence through advertising in the press and online. It has also developed a 'People First' strategy that offers an environment in which people can develop as positive, highly competent and effective individuals and where they can realise their potential and deliver quality service to clients. The partnership has also been active in ensuring that the people it already has want to stay by increasing the awareness of flexible work policies such as creating the opportunities for people to work part time, or to be able to work from home and offering people the option of buying up to two weeks extra annual leave.

Ernst & Young's 'People First' strategy extends outside the organisation. The Ernst & Young Foundation was established to focus community involvement and financial contribution. The partnership aims to contribute to communities, facilitate work/life balance for its people and enhance Ernst & Young's reputation. Through the Ernst & Young Foundation's Workplace Giving program, employees can make donations from their pay to the charity of their choice. Ernst & Young matches the donations, making a significant financial contribution to the community. This money funds vital community needs like education for underprivileged young people, food and shelter for the homeless and medical research into cancer treatments. Ernst & Young also provides services described as 'pro bono' services for which no charge is made as they are seen as part of enhancing Ernst and Young's reputation and also as a means of the partnership to give back to the community. An example of this is Ernst & Young's cooperation with the St James Ethics Centre where they audited the survey The Corporate Responsibility Index conducted by the St James Ethics Centre. This was a survey completed by 27 Australian companies of their corporate strategy, management practices and responsibilities in the workplace and in the marketplace.[125]

125 http://www.afrbiz.com.au/page.asp?3652=419111&E_Page=416317&3648=417169&case=417821&intPageNo=8

4. PERFORMANCE MANAGEMENT AND DEVELOPMENT PROCESS (PMDP) IN ERNST & YOUNG

4.1. Ernst & Young's Learning and Development System

EYLeADS provides a comprehensive suite of tools used to manage all of employee'sperformance management, development, and learning activities. EYLeADS aligns people with a consistent, easy-to-use performance process for the company's Counselors, Counselees, and leadership. In upcoming parts we will describe describe how to use theperformance and competency management functionalities within EYLeADS tomanage all of performance, competency management, learning, and development process activities *(V. Appendix 1).*

4.2. What is PMDP?

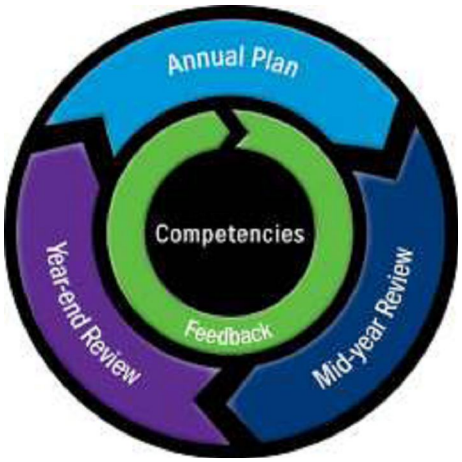


Figure 1: PMPD Structure

The performance management and development process (PMDP) is a critical element in company's People First strategy. It helps employees fulfill their personal potential and it helps the global organization achieve its strategic goals. Through PMDP users can:

1. Establish clear work expectations that are aligned with the global organization's priorities.

2. Receive feedback that will help you develop your competencies and your career.

3. Receive guidance that will help you enhance your performance and satisfy your development needs *(V. Appendix 2)*.

The key components of the process are:

- An annual planning stage with goal setting at the beginning of the year.
- Feedback stages which recur throughout the year.
- Mid-year progress check.
- A final year-end rating.

Specifically, PMDP provides a clear framework for employee's contribution comprising:

- A Personal Scorecard to ensure that employee activities and efforts are aligned to strategic priorities of the firm and the business unit of employee and to provide clarity on the measures that will be used to evaluate employee's performance.
- An individual Development Plan which provides a framework to map employee's career and personal development aspirations. This sets out the agreed "what, how and when" of employee's specific development requirements agreed with employee's counselor.
- Ongoing quality counseling to ensure that employee is being supported in his role and his career and personal development going forward.
- Ongoing feedback to help employee enhance his performance, develop his competencies and his career.

4.2.1 Responsibilities

The following responsibilities are involved in the performance management and development process:

Counselee: From a performance management and development perspective, every employee is a Counselee and participates in the three stages of the performance management process: annual planning (which includes setting your annual goals), mid-year reviews and year-end reviews. The Counselee sets, completes, updates, and monitors his/her goals, requests feedback, and participates in the mid-year and year-end reviews.

Counselor: The Counselor helps define, develop, review, and approve the Counselee's goals. The Counselor also works together with the Counselee to identify other performance reviewers to provide ongoing feedback. The Counselor conducts mid-year and year-end reviews to provide consolidated feedback and assessment. Finally, the Counselor drafts annual performance ratings, discusses the Counselee's performance at roundtable events (as appropriate), and meets with the Counselee to deliver final annual review information.

Feedback Provider: The Feedback Provider is any person who provides formal feedback (Example: engagement or periodic reviews.)

Feedback Reviewer: The Feedback Reviewer is any person who reviews feedback before it is passed to the Counselee.

Feedback Recipient: The Feedback Recipient is any person who is receiving feedback.

Feedback Requestor: The Feedback Requestor is any person who requests feedback, either for him/herself or for another person.

Competency Management: The Competency Management functionality within EYLeADS enables employees to assess and manage the competencies assigned to their role and help them develop further proficiency in their current role. In addition, they can search other roles to view their associated competencies and thereby have the ability to better understand the different competencies assigned to other roles.*(V. Appendix 3,4)*.

4.2 PMDP Cycle

The key set piece elements of the annual PMDP process are outlined below. The success of the process is dependent on a strong working relationship and dialog between

counselee and counselor, therefore employee should also look for opportunities to supplement these set meetings with updates with his Counselor to discuss progress throughout the year.

Figure 2: PMDP Cycle

4.2.1 Annual Plan

The first part of the performance cycle is setting your goals, and your learning and performance expectations. Annual Plan is the first step of the performance management and development cycle. It is a personalized road map for employee's short-term and long-term career objectives, including associated performance measurements and developmental activities. It serves as the basis for discussions between counselee and Counselor for defining

priorities and specific actions that are appropriate for the employee. It also helps align employee's contributions with EY's wider business *(V. Appendix 5,6).*

.At the beginning of each performance year, counselee and counselor should sit down together to:

- Discuss employee's short and longer-term objectives and agree on his Personal Scorecard and the measures against which his performance and contribution will be assessed for the following year.

- Consider and discuss how best to adress his development needs e.g. through your formal learning or through other development opportunities in his current role such as coaching or on the job" experiences.

- Agree how often, and when, the employee will meet to review progress and explore opportunities. (Note: If the employee has joined the company at another point in the year, he should seek to agree on his Personal Scorecard with his Counselor within the first three months of starting with the firm and begin building his Personal Development Plan).

- If the employee is interested in an international assignment he can indicate that in his Annual Plan along with his Mobility preference and discuss it with his Counselor

4.2.1.2 The Purpose of Annual Plan

The purpose of the Annual Plan is to clarify expectations, agree on annual goals that are set out in employee's Personal Scorecard and to establish his development plan. His achievements regarding the Annual Plan along with his performance on engagements/projects as well as contributions to the wider practice, team initiatives etc. build the foundation for the Year-end Review. Ernst & Young's Performance Management and Development Process is designed to help employee understand what is expected of him and provides timely and specific feedback so that he can determine where to focus his own career development. In addition, it is designed to give employee guidance that will help him enhance his performance and satisfy his development needs.

The phases of the performance management and development process are outlined below.

Figure 3: Phases of Performance Management and Development System

The Annual Plan is comprised of three sections:

- Career Objective and, if applicable, Mobility Preferences
- Personal Scorecard and, if applicable, Performance Standards
- Development Plan

4.2.1.3 Career Objectives

Short-term objectives relate to the current financial year and are stepping stones on employees way to meeting his long-term objectives. Those objectives usually consist of goals regarding education, specialization, as well as projects that give employee valuable work experience. They include such objectives as obtain my exam, specialise in industry xyz, take over the role of an internal instructor for topic xyz, work on a multinational client, work abroad, work life balance issues etc. Long-term objectives consist of plans employee make for the future by envisioning what he wants to be doing and where he wants to be in the long run.

One of the toughest issues in career planning is identifying what employee wants in the short-term and in the long-term, how employee can maximize his career potential and use his qualifications to the full. Even when it seems that employee knows what he wants, he may still has doubts that this is the right choice. Reaching clarity in discussions with his Counselor and defining the appropriate development actions may be the most important things an employee can do in your career planning.

4.2.1.4 Personal Scorecard

The Personal Scorecard is a clear statement of goals of the employee for the financial year. It is a way of ensuring that his objectives are aligned with the strategic perspectives crucial to EY's overall success. It also provides clarity on the measures and targets that will be used to evaluate his performance at year-end.

The Personal Scorecard includes employees performance goals for the year across EY's four Balanced Scorecard perspectives of People, Quality,Market Leadership and Growth and Operational Excellence. The general mapping of these perspectives is outlined below:

People: drive development; maintain professional expertise; delegate effectively; embrace and lead change; motivate others; build rapport; promote teamwork; manage conflicts and negotiations; build and leverage networks

Quality: strive for excellence; focus on the client; understand the business; manage risk and quality; improve and innovate processes; collect and interpret information; speak effectively in your native language; write effectively; speak English as a foreign language; leverage technology resources effectively; service-line specific competencies.

Market Leadership and Growth: contribute knowledge; plan and deliver work; manage time and money; create and implement the Strategy; develop business opportunities; demonstrate industry expertise; provide advice and resolve issues.

Operational Excellence: plan and deliver work; manage time and money

4.2.1.4. Development Plan

The PMDP uses the competencies for development planning as the enterprise-wide and service-line specific competencies have been judged as being critical to attaining the professional standards the company needs in all parts of the business. As such they are a key part of everybody's personal growth. Employees development plan reflects the actions or steps he will take to support his growth and development. Employees development plan should be in alignment with his goals. When filling out development plan, the counselee sets out agreed upon special development requirements and the things he needs to do in order to achieve his goals relevant to his areas of responsibility and client service. A Development Need is quite often expressed in terms of a gap between current and required proficiency level of a competency. The development plan covers all the actions to carry out the counselee to the required proficiency level of competency.

4.2.2. Feedback Center

Feedback consists of the comments or indications someone receives from others about their behaviour, attitudes or performance during the year employee should actively seek and receive performance feedback after the specific engagements and projects he works on from the partners and/or managers heis working with. The purpose of these Feedback Reports is to assess employees performance and contributions specific to the particular engagement and the role and responsibilities he had. To ensure that the Year-end Review properly reflects the contributions the employee made on engagements or projects, he should look to gather feedback from a wide variety of people that he have worked with over the year. PMDP offers the possibility to gather feedback for an engagement/project (Engagement Feedback) or for a period which can cover either longer lasting or several engagements/projects during a given timeframe (Periodic Feedback). If the employee is working in AABS or TAS he should use the Engagement Feedback and if the employee are working in Tax or CBS he should use the Periodic Feedback. Feedback Reports can be initiated by the Counselee, the Counselor or the Feedback Provider. *(V. Appendix 7).*

Although there is no maximum number of Feedback Reports an employee should gather during the year, a good guideline is at least two Engagement Feedbacks per half a year for engagements/projects with client assigned hours > 40 and for Periodic Feedback at least

one per half a year. Feedback should be gathered throughout the year - not only prior to Mid-year/Year-end Reviews. The best time to request an Engagement Feedback is directly after the engagement/project has ended. The self-assessment is highly recommended for the Feedback Report as it encourages self knowledge and highlights possible issues for the Feedback Provider. However, the self-assessment is optional at this stage *(V. Appendix 8)*.

4.2.2.1 Responsibilities

4.2.2.1.2 Responsibilities of Counselee

- Requesting feedback from key people the employee work with throughout the year(ensuring together with counselor that all major engagements and projects are included)
- Providing a brief self assessment
- Reviewing the feedback received
- Providing comments regarding feedback as appropriate
- Reviewing and discussing feedback with Counselor peroidically especially before Mid Year and Year End Reviews

4.2.2.1.3. Responsibilities of Counselor

- Requesting feedbacks about the counselee's performance
- Providing feedback
- Reviewing counselee's engagement or Project feedbacks.

4.2.3 Mid Year Review

The mid year review process provides an opportunity for counselee and counselor to review and discuss the first six months of the year. The purpose of the Mid-year Review is to gauge employee's progress to date against his Annual Plan. The focus is on ensuring employee's personal development and performance is on track. The Mid-year Review is also an opportunity to update Annual Plan should specific circumstances make this necessary or to agree remedial action to assist the employee in achieving his targets.There is no specific

documentation requirement for mid year review but updates to annual plan will be recorded in mid year review *(V.Appendix 9,10)*.

During mid year review, the counselee and the counselor will discuss:

- Performance goals
- Development Needs
- Challenges and Accomplishments
- Feedbacks

Counselors and /or Counselees may wish to generate a feedback summary report before a Mid Year Review discussion. This is a consolidated report of feedback received for the current performance year.

4.2.4 Year End Review

Before year end review, counselee makes sure all feedback reports for the fiscal year are completed; completes annual self-assessment. The self-assessment allows employee to provide counselor with valuable information on employee's performance and achievements while reviewing all relevant information, e.g. self-assessment, goals, feedback summary report, mid-year review and other inputs. This will enable counselor to provide the roundtable with a complete and transparent picture of employee's performance and achievements. Counselor reviews counselee`s feedback reports and self-assessment and discusses w/ feedback providers where necessary; gets prepared for the year-end discussion After that year end counseling meeting is conducted. Counselor completes counselee`s annual assessment, recommends and advises on promotion. HR gathers counselees`info and counselors`recommendations and roundtables are organised. The Roundtable ensures that all assessments are based on a full and fair consideration of the performance and contribution over the financial year and reaches agreement on the annual performance rating. As already mentioned, depending on the country policy, the rating confirmed by the Roundtable is final or just a strong guideline. Roundtable results are communicated to Counselors individually, who then communicate to Counselees. Following the Roundtable the counselee and Counselor meet to discuss the Roundtable results and the counselee's annual performance rating. And finally promotions are announced to all personel *(V. Appendix 11,12)*.

When coming to a decision about the employee's current year performance, a number of different factors are taken into account. These include:

- How well has the employee performed for someone of his rank and experience on engagements/projects?

- How has the employee performed against his Scorecard goals? To what extent has the employee met your scorecard goals? How challenging stretched were to his goals?

- What progress did the employee make regarding his Development Plan?

- How well has he lived the firm's values?

- How has the employee contributed to the wider practice, team initiatives etc.?

- How does employee's performance compare to his peers?

4.2.4.1 Performance Rating Definitions

There are 5 different ratings that can be awarded to a Counselee:

4.2.4.1.1 Significantly Exceeded Expectations

The employee consistently sets standards followed by others and significantly exceedd expectations and the level of performance demonstrated by people of his grade and experience. The employee sets challenging stretched goals (as compared to his peers) and consistently met or exceeded them. The employee consistently exceeded expectations on his engagement and projects. The employee made exceptional contributions to business performance including non-client performance areas. This rating requires significant examples supporting the highest level of performance.

4.2.4.1.2. Exceeded Expectations

The employee's performance consistently met all of the practice's high performance standards. The employee frequently exceeded expectations and the level of performance demonstrated by people of his grade and experience. The employee set stretched goals (as compared to his peers) and met or exceeded most of them. The employee received ratings on

his engagements and projects on the higher end of the rating scale and frequently contributed at the top-most level in non-client serving performance areas. This rating requires significant examples supporting a high level of performance.

4.2.4.1.3. Fully Met Expectations

The employee's performance fully met the practice's high performance expectations. In comparison with relevant peer group the employee generally met or exceeded goals. The employee typically received ratings in the middle of the rating scale on engagements and projects he worked on; sometimes may have received ratings in the high or low end of the scale.

4.2.4.1.4 Partially Met Expectations Required

The employee performance met expectations in some areas but in a number of areas improvements are required. In comparison with relevant peer group the employee met fewer goals than expected. Improvement is needed in one or more performance areas to fully meet expectations. Those areas should be the focus of immediate attention and development.

4.2.4.1.5. Did Not Meet Expectations - Significant and Immediate Improvement is Required

The employee did not meet the requirements. In comparison with relevant peer group his oveall performance requires. immediate and significant improvement.

4.2.4.1.6. Not Rated

New joiner; unable to provide performance rating.

CONCLUSION

Human resources information system can be defined as "information system that provides collection of individual data related to human resources of the enterprise and organizational data about all the human resources activities, then updates and transforms

them into information that will make contribution to take strategic and executive decisions, in order to help to operate human resources function effectively".

Developing and maintaining a performance management information system that yields solid returns-productive employees who enjoy their responsibilities and seek opportunities to continuously improve their jobs; is critical to the success of every organization.

Businesses' using advanced human resources information systems provides them some advantages such as increase of data correctness, operating speed and obtaining more practical and high quality results.Global competion is putting increasing pressure on human resource managers to make faster and better decisions on manpower planning.By using human resource information system,the application can be used to provide all necessary informations and these informations can be used internally by the HR department for performance reviews.Nowadays HR managers viewed this information as necessary and valuable from a strategic viewpoint.By looking at a brief evaluation of the HRIS process and current capabilities,it is easier to see how a successfully implemented HRIS is moving away from data input and storage device toward a fully operative decision-analysis tool. Through the case study section,how to use an information system related to performance is explained.

During developing human resources information system in the business, system planning, design and application stages must be succeeded. Activated system's covering all the human resources activities is the desirable situation. But, high costs cause enterprises to give importance to the application areas such as payroll. Supporting more developed applications such as manpower planning, performance management and career management is of secondary importance.

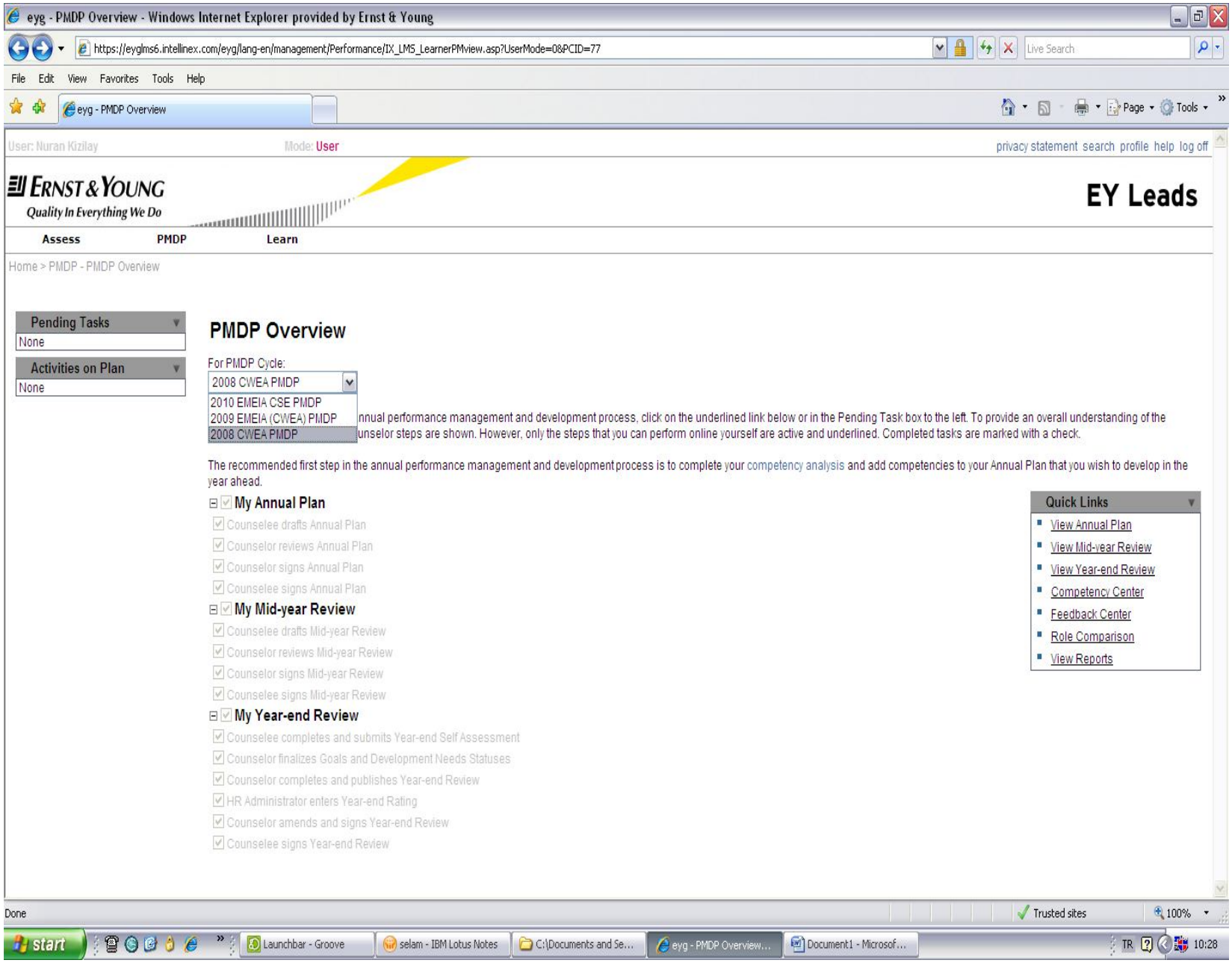
Results derived from the case study conducted at Ernst &Young, show that human resource management system in a multi national company can be very leading during promotions and salary increases. According to the case study, human resources information systems should be user friendly and generally accepted by company employees not only human resource specialists in order to be effective.

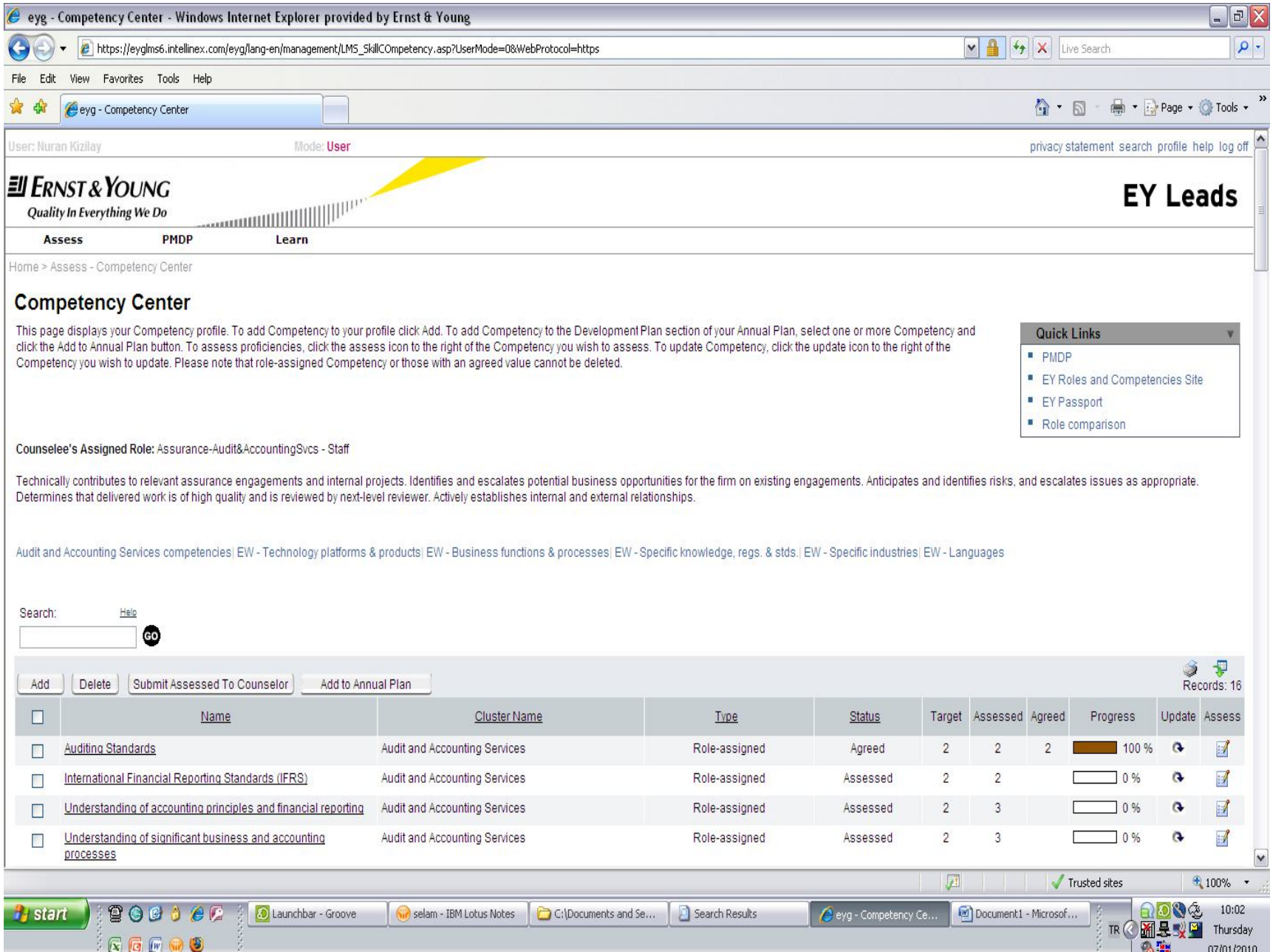
Gradually increase of Turkish firms' international activities, having open minded managers, their migrating from personnel administration to human resources administration

and giving way to information systems in their other activities increase usage of advanced human resources information system rapidly. At the system generation stage, assistance taken from information systems department, human resources department employees are given education and system is activated after testing.

APPENDIX 1

eyg - Learner Home Page - Windows Internet Explorer provided by Ernst & Young
https://eyglms6.intellinex.com/eyg/lang-en/management/LMS_LearnerHome.asp?FromLogin=1
File Edit View Favorites Tools Help
eyg - Learner Home Page
Live Search
Page Tools
User: Nuran Kizilay
Mode: User
privacy statement search profile help log off
ERNST & YOUNG
Quality In Everything We Do
EY Leads
Assess
PMDP
Learn
Home >
Catalog Search
Search:
Help
Go
Advanced Search
PMDP
My Favorites
Welcome Nuran Kizilay
EYU
My PMDP and competencies
My feedback
My learning
My experiences
EYU stands for Ernst & Young and You, and consists of:
A planned curriculum to ensure that your formal learning helps you acquire the skills and knowledge you need. A focus on the right experiences, for you to put your knowledge into practice and develop new skills. An environment that encourages coaching - those meaningful conversations that help transform your learning and experiences into practice. This coaching can be both informal (e.g. mentoring discussions) and formal (e.g. performance management and development).
EYU Homepage
EY Leads enables EYU by helping you plan and record your learning and development activity. Click on the PMDP, feedback and learning tabs to read more about those subjects or click on the links below for guidance on how to use EY Leads.
EY Leads PMDP and competency WBL
EY Leads Learning QRG

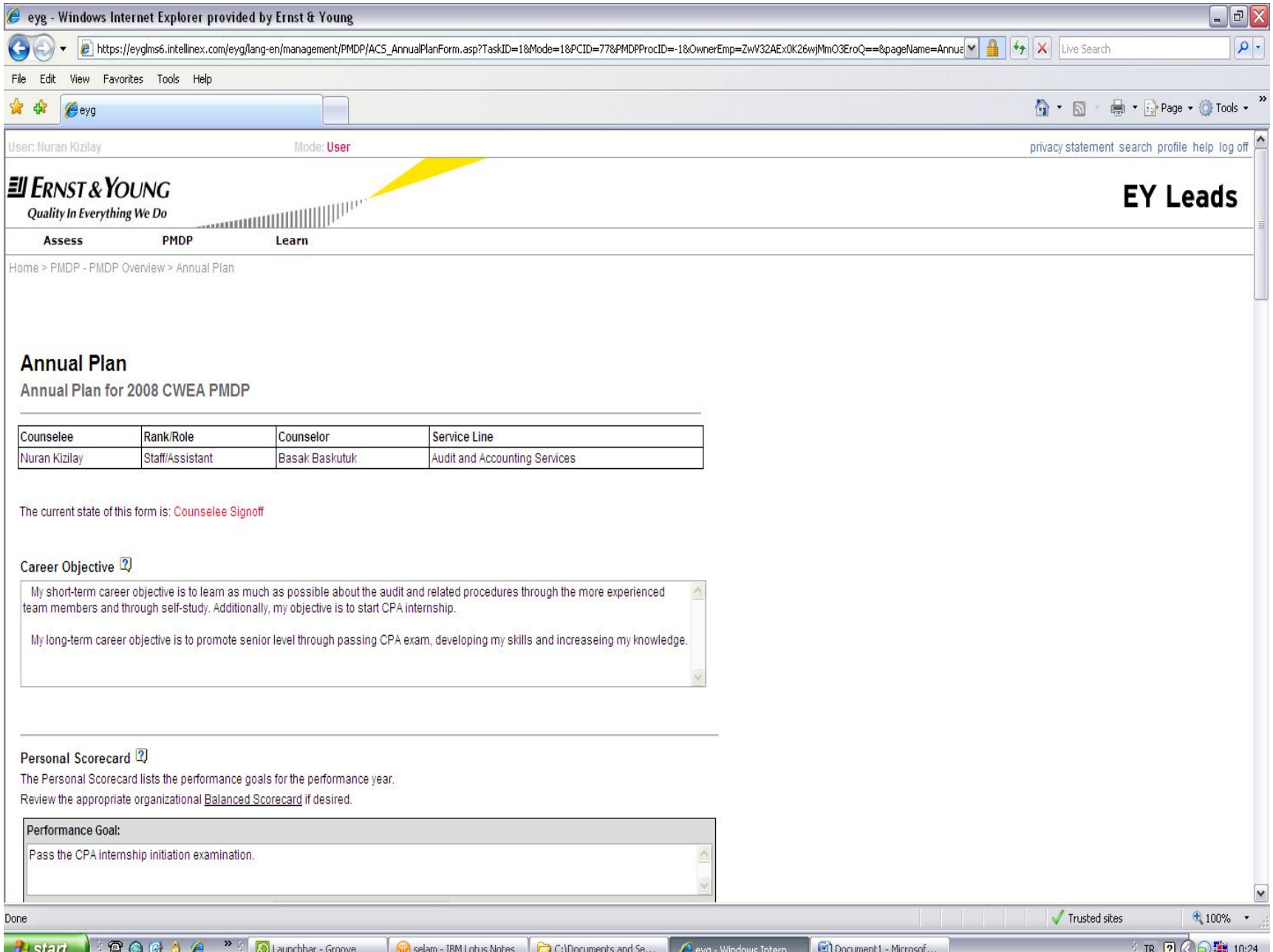

eyg - PMDP Overview - Windows Internet Explorer provided by Ernst & Young
https://eyglms6.intellinex.com/eyg/lang-en/management/Performance/IX_LMS_LearnerPMview.asp?UserMode=0&PCID=77
File Edit View Favorites Tools Help
eyg - PMDP Overview
User: Nuran Kizilay
Mode: User
privacy statement search profile help log off
ERNST & YOUNG
Quality In Everything We Do
EY Leads
Assess PMDP Learn
Home > PMDP - PMDP Overview
Pending Tasks
None
Activities on Plan
None
PMDP Overview
For PMDP Cycle:
2008 CWEA PMDP
2010 EMEIA CSE PMDP
2009 EMEIA (CWEA) PMDP
2008 CWEA PMDP
nnual performance management and development process, click on the underlined link below or in the Pending Task box to the left. To provide an overall understanding of the
unselor steps are shown. However, only the steps that you can perform online yourself are active and underlined. Completed tasks are marked with a check.
The recommended first step in the annual performance management and development process is to complete your competency analysis and add competencies to your Annual Plan that you wish to develop in the year ahead.
My Annual Plan
Counselee drafts Annual Plan
Counselor reviews Annual Plan
Counselor signs Annual Plan
Counselee signs Annual Plan
My Mid-year Review
Counselee drafts Mid-year Review
Counselor reviews Mid-year Review
Counselor signs Mid-year Review
Counselee signs Mid-year Review
My Year-end Review
Counselee completes and submits Year-end Self Assessment
Counselor finalizes Goals and Development Needs Statuses
Counselor completes and publishes Year-end Review
HR Administrator enters Year-end Rating
Counselor amends and signs Year-end Review
Counselee signs Year-end Review
Quick Links
View Annual Plan
View Mid-year Review
View Year-end Review
Competency Center
Feedback Center
Role Comparison
View Reports
Done
Trusted sites
100%
start
Launchbar - Groove
selam - IBM Lotus Notes
C:\Documents and Se...
eyg - PMDP Overview...
Document1 - Microsof...
TR
10:28


eyg - Competency Center - Windows Internet Explorer provided by Ernst & Young
https://eyglms6.intellinex.com/eyg/lang-en/management/LMS_SkillCompetency.asp?UserMode=0&WebProtocol=https
File Edit View Favorites Tools Help
eyg - Competency Center
User: Nuran Kizilay
Mode: User
privacy statement search profile help log off
ERNST & YOUNG
Quality In Everything We Do
EY Leads
Assess
PMDP
Learn
Home > Assess - Competency Center
Competency Center
This page displays your Competency profile. To add Competency to your profile click Add. To add Competency to the Development Plan section of your Annual Plan, select one or more Competency and click the Add to Annual Plan button. To assess proficiencies, click the assess icon to the right of the Competency you wish to assess. To update Competency, click the update icon to the right of the Competency you wish to update. Please note that role-assigned Competency or those with an agreed value cannot be deleted.
Quick Links
PMDP
EY Roles and Competencies Site
EY Passport
Role comparison
Counselee's Assigned Role: Assurance-Audit&AccountingSvcs - Staff
Technically contributes to relevant assurance engagements and internal projects. Identifies and escalates potential business opportunities for the firm on existing engagements. Anticipates and identifies risks, and escalates issues as appropriate. Determines that delivered work is of high quality and is reviewed by next-level reviewer. Actively establishes internal and external relationships.
Audit and Accounting Services competencies| EW - Technology platforms & products| EW - Business functions & processes| EW - Specific knowledge, regs. & stds.| EW - Specific industries| EW - Languages
Search:
Help
GO
Add
Delete
Submit Assessed To Counselor
Add to Annual Plan
Records: 16
Name
Cluster Name
Type
Status
Target
Assessed
Agreed
Progress
Update
Assess
Auditing Standards
Audit and Accounting Services
Role-assigned
Agreed
2
2
2
100 %
International Financial Reporting Standards (IFRS)
Audit and Accounting Services
Role-assigned
Assessed
2
2
0 %
Understanding of accounting principles and financial reporting
Audit and Accounting Services
Role-assigned
Assessed
2
3
0 %
Understanding of significant business and accounting processes
Audit and Accounting Services
Role-assigned
Assessed
2
3
0 %
Trusted sites
100%
start
Launchbar - Groove
selam - IBM Lotus Notes
C:\Documents and Se...
Search Results
eyg - Competency Ce...
Document1 - Microsof...
TR
10:02
Thursday
07/01/2010

APPENDIX 4

Competency Center

Name	Cluster Name	Type	Status	Target	Assessed	Agreed	Progress	Update	Assess
Auditing Standards	Audit and Accounting Services	Role-assigned	Agreed	2	2	2	100		
International Financial Reporting Standards (IFRS)	Audit and Accounting Services	Role-assigned	Assessed	2	2		0		
Understanding of accounting principles and financial reporting	Audit and Accounting Services	Role-assigned	Assessed	2	3		0		
Understanding of significant business and accounting processes	Audit and Accounting Services	Role-assigned	Assessed	2	3		0		
Understanding of significant financial performance and measurement concepts	Audit and Accounting Services	Role-assigned	Assessed	2	2		0		
Language: English	Enterprise-wide core competencies	Role-assigned	Agreed	2	3	3	150		
Analysis and insight	Enterprise-wide core competencies	Self-assigned	Assessed	2	3		0		
Business acumen	Enterprise-wide core competencies	Self-assigned	Assessed	2	2		0		
Business development	Enterprise-wide core competencies	Self-assigned	Assessed	2	3		0		
Coaching and developing others	Enterprise-wide core competencies	Self-assigned	Assessed	2	2		0		
Communication and influence	Enterprise-wide core competencies	Self-assigned	Assessed	2	3		0		
Leadership	Enterprise-wide core competencies	Self-assigned	Assessed	2	2		0		
Project management	Enterprise-wide core competencies	Self-assigned	Assessed	2	2		0		
Quality service delivery	Enterprise-wide core competencies	Self-assigned	Assessed	2	3		0		
Relationship management	Enterprise-wide core competencies	Self-assigned	Assessed	2	3		0		
Teamwork	Enterprise-wide core competencies	Self-assigned	Assessed	2	3		0		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ERNST & YOUNG
Quality In Everything We Do
EY Leads
Assess
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Learn
Home > PMDP - PMDP Overview > Annual Plan
Annual Plan
Annual Plan for 2008 CWEA PMDP
Counselee
Rank/Role
Counselor
Service Line
Nuran Kizilay
Staff/Assistant
Basak Baskutuk
Audit and Accounting Services
The current state of this form is: Counselee Signoff
Career Objective
My short-term career objective is to learn as much as possible about the audit and related procedures through the more experienced team members and through self-study. Additionally, my objective is to start CPA internship.
My long-term career objective is to promote senior level through passing CPA exam, developing my skills and increaseing my knowledge.
Personal Scorecard
The Personal Scorecard lists the performance goals for the performance year.
Review the appropriate organizational Balanced Scorecard if desired.
Performance Goal:
Pass the CPA internship initiation examination.
Done
Trusted sites
100%

APPENDIX 6

Annual Plan

Annual Plan for 2008 CWEA PMDP

Counselee	Rank/Role	Counselor	Service Line
Nuran K	Staff/Assistant	Basak B	Audit and Accounting Services

The current state of this form is: Counselee Signoff

Career Objective

My short-term career objective is to learn as much as possible about the audit and related procedures through the more experienced team members and through self-study. Additionally, my objective is to start CPA internship.

My long-term career objective is to promote senior level through passing CPA exam, developing my skills and increaseing my knowledge.

Personal Scorecard

The Personal Scorecard lists the performance goals for the performance year.

Review the appropriate organizational Balanced Scorecard if desired.

Performance Goal:	
Pass the CPA internship initiation examination. 1833160	
Scorecard Perspective:	Quality
Indicators of Success:	MEASURE: Pass the exam. | TARGET: 3
Final Status:	Not Met

Performance Goal:	
Enhancing professional and personal growth by taking charge of our careers. 2122860	
Scorecard Perspective:	People
Indicators of Success:	MEASURE: Participation in scheduled trainings. | TARGET: 2
Final Status:	Met

Performance Goal:	
Delivering high-quality services to external and internal clients. 2123386	
Scorecard Perspective:	Quality
Indicators of Success:	MEASURE: To hear possitive explanations from clients. | TARGET: 3
Final Status:	Met

Performance Goal:	
Using necessary auditing and accounting skills on the work done and improve these skills. 2123388	
Scorecard Perspective:	Operational Excellence
Indicators of Success:	MEASURE: To demostrate knowledge in primary accounting and auditing framework. | TARGET: 2
Final Status:	Met

Performance Goal:	
Establishing good relations with my teammates and clients. 2123432	
Scorecard Perspective:	People
Indicators of Success:	To get possitive feedbacks.
Final Status:	Exceeded

Performance Goal:	
To understand the EY Global Audit Methodology. 2123874	
Scorecard Perspective:	Operational Excellence
Indicators of Success:	MEASURE: To use the EY Global Audit Methodology efficiently and effectively. | TARGET: 2
Final Status:	Met

Development Plan

The development plan lists the development needs for the performance year. Please note, development needs may be made available outside the HR Community, to EY professionals responsible for staffing Projects/Engagements.

Development Need:

Pass the CPA internship initiation examination. 2123390

Indicators of Success:	To improve my accounting and auditing knowledge than pass the exam.
Status:	Not Met

Action Plan: The activities planned to meet this need.

Development Need:

To enhance professional and personal growth by taking charge of our careers. 2123392

Indicators of Success:	Participation in scheduled trainings.
Status:	Met

Action Plan: The activities planned to meet this need.

Development Need:

To deliver high-quality services to external and internal clients. 2123394

Indicators of Success:	Seek key relationships, serve as key contact for client, provide quality service and ensure client satisfaction.
Status:	Met

Action Plan: The activities planned to meet this need.

Development Need:

Using necessary auditing and accounting skills on the work done and improve these skills. 2123876

Indicators of Success:	To investigate and read documantances about accounting and auditing procedures (IFRS, US GAAP, etc.) .
Status:	Met

Action Plan: The activities planned to meet this need.

Development Need:

To understand the EY Global Audit

Methodology.	2124116		

Indicators ofSuccess:	To provide my colleaques to help me increasing audit methodology.
Status:	Met

Action Plan: The activities planned to meet this need.

Mobility Preferences

Selections only indicate interest and do not guarantee placement. Other mobility preferences such as industry can be selected in the development plan.

Location:

Up to 3 location preferences can be provided. A priority must be selected for each preference.

Priority	Location Preference	Type
1	Istanbul	City
2	United Kingdom	Country

Service Line/Sub-service Line:

Up to 3 service line/sub-service line preferences can be provided. A priority must be selected for each preference.

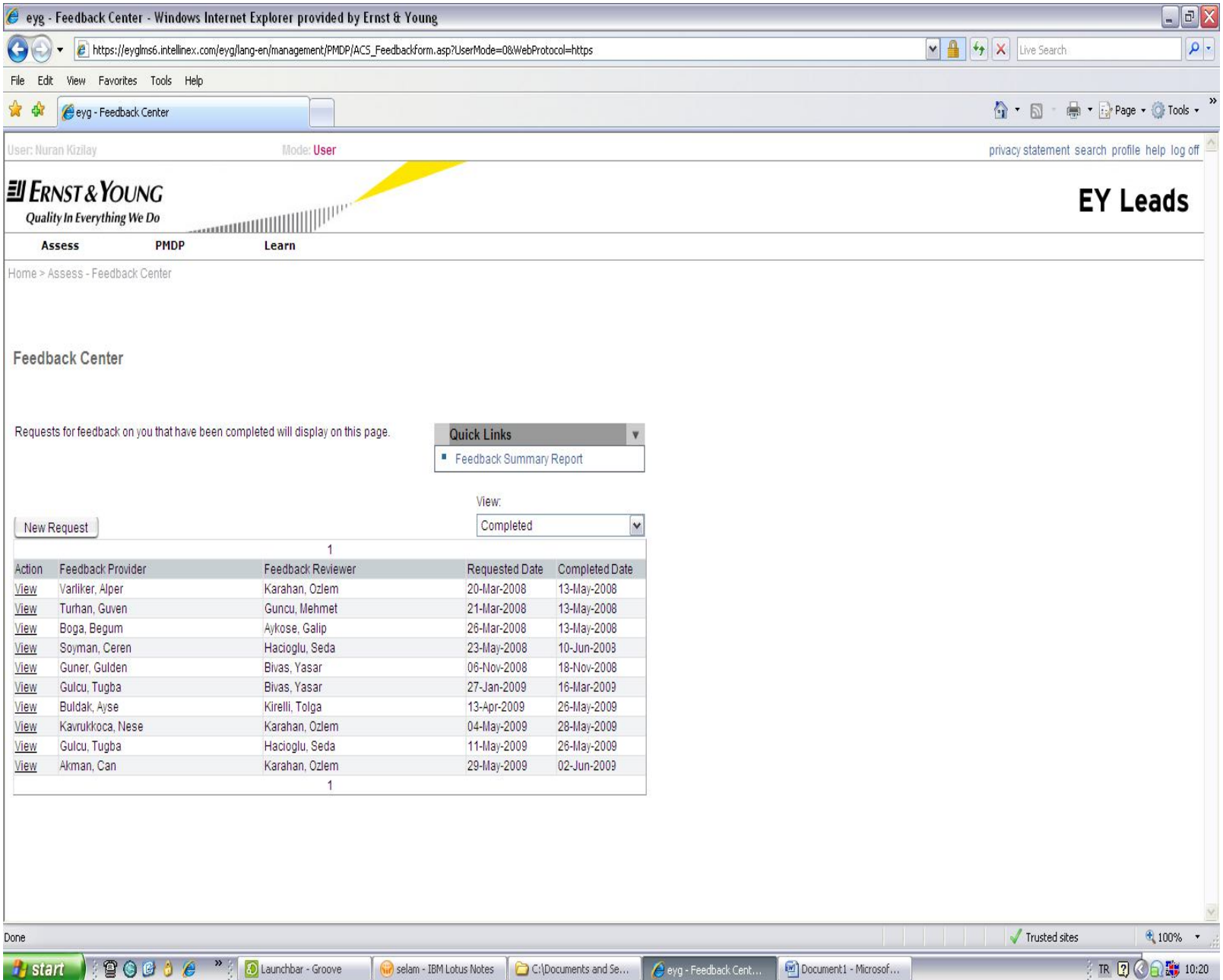
Priority	Service Line/Sub-service Line	Type
1	Assurance	Service Line

Signatures:

Counselee: Nuran K Date: 23-Oct-2007

Counselor: Yasar B Date: 23-Oct-2007

APPENDIX 7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Requests for feedback on you that have been completed will display on this page.
Quick Links
Feedback Summary Report
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1
Action Feedback Provider Feedback Reviewer Requested Date Completed Date
View Varliker, Alper Karahan, Ozlem 20-Mar-2008 13-May-2008
View Turhan, Guven Guncu, Mehmet 21-Mar-2008 13-May-2008
View Boga, Begum Aykose, Galip 26-Mar-2008 13-May-2008
View Soyman, Ceren Hacioglu, Seda 23-May-2008 10-Jun-2008
View Guner, Gulden Bivas, Yasar 06-Nov-2008 18-Nov-2008
View Gulcu, Tugba Bivas, Yasar 27-Jan-2009 16-Mar-2009
View Buldak, Ayse Kirelli, Tolga 13-Apr-2009 26-May-2009
View Kavrukkoca, Nese Karahan, Ozlem 04-May-2009 28-May-2009
View Gulcu, Tugba Hacioglu, Seda 11-May-2009 26-May-2009
View Akman, Can Karahan, Ozlem 29-May-2009 02-Jun-2009
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Done
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Engagement/Project Feedback Form

Recipient	Rank/Role	Service Line	Engagement /Project	Engagement /Project Code	Engagement /Project Hours	Engagement /Project Dates
Nuran K.	Staff/Assistant	Audit and Accounting Services	X Insaat ve Sanayi A.S.	17764797	350.00	04.02.2008 – 19.03.2008

Feedback Reviewer: Özlem K.

Feedback Requestor: Nuran K.

Instructions: Please provide your feedback on this individual with respect to their performance, key successes and opportunities for development, clicking on 'Save' periodically. Once completed, select 'Submit'.

Self Assessment (if the Recipient has requested feedback, information entered will be displayed here)

During the audit process I tried improve auditing my knowledge. It was a long periodical engagement, so I have taken advantage of a lot of opportunities. My main responsibilities were tested the processes cash transaction flow, cash cut-off , unrecorded liabilities, recognitions, and help to my exponents as far as possible. An other positive event for me was that, I have been informed about constraction sector.

Feedback Provider Assessment

Overall Difficulty of Engagement/Project(s):*

Low	Moderate	High
☐	☐	☐

Description of Engagement/Project(s):

Enka Insaat is such a big engagement where over 40 entities are consolidated. There are 5 different audit teams other than the primary consolidation team and some subsidiaries are audited by other international audit firms. Primary consolidation team comprise from 7 to 9 people. Seniors and semi-seniors have significant responsibilities in X Insaat assignment and they are in-charge in each construction project, which are treated as seperate audit assignment. First year assistants deal with too much confirmations, follow up of these confirmations. Because there are lost of projects and confirmations, hardcopy documentation is too much on X Insaat.With is strict deadlines and tough client relations, X Team should work hard and improve themselves in order to satisfy client expectations. Majority of IFRSs are applicable to X Insaat consolidated financial statements, where team members are challenged to comment on such IFRS issues.

Performance Review:

Please comment on the Recipient's performance with respect to our Balanced Scorecard perspectives.

1. Market Leadership and Growth*

Did not meet		Met		Exceeded
☐	☐	☐	☐	☐

2. People*

Did not meet		Met		Exceeded
☐	☐	☐	☐	☐

3. Quality*

Did not meet		Met		Exceeded
☐	☐	☐	☐	☐

4. Operational Excellence*

Did not meet		Met		Exceeded
☐	☐	☐	☐	☐

Competency Review: Provide feedback regarding the competencies that were relevant to this engagement/project (discuss technical and non-technical under the market leadership and growth, people, quality, operational excellence headings).

Leverage Technology Resources Effectively: She has effectively utilized and also developed his skills on MS Office and Gamx Tool. She has a good understanding and efficient utilization on MS Excel tools which has a significant importance in audit business.

Maintain Professional Expertise and promote teamwork: She has established good relations with the client personnel and his collagues in the framework of professionalism. He was eager and willing to learn about the developments and new areas throughout the field work.

Strive for Excellence: She is willing to complete his work efficiently and take reponsibilities of the next level in order to prepare for the following years and assignments.

Collect and Interpret Information: She has properly guided client and personnel and assistants to obtain suitable audit evidence and effectively utilized such resources to complete tasks assigned to him.

Focus on the Client: She has established strong understanding of construction sector and client's position in the market. She was aware of the special conditions applicable to the client.

Language: English: She has adequte written English to complete tasks assigned to her.

Written Communication: She has the ability to create written materials that meet readers' needs.

Performance Review: Provide feedback on the individual's accomplishments and performance (on the assignment or within specific period for this feedback report). Use specific examples to describe individuals's strengths and opportunities for improvement.

She was always open to learn additional accounting applications. She was easily adapted to the construction accounting and Russian accounting system, and easily learned to interprete the Russian documents. She also tried to understand the consolidation adjustments and reclasses and used her time effectively and efficiently in the field period. I think she should be a permanent staff of the Enka Insaat team and will be benefial for the future audits of the Company.

Developmental Review: Provide feedback regarding the individual's future development needs. Please be as specific as possible.

Periodic review of E&Y GAM, IFRSs and their updates will be very beneficial for his following assignments.

Feedback Reviewer Comments:

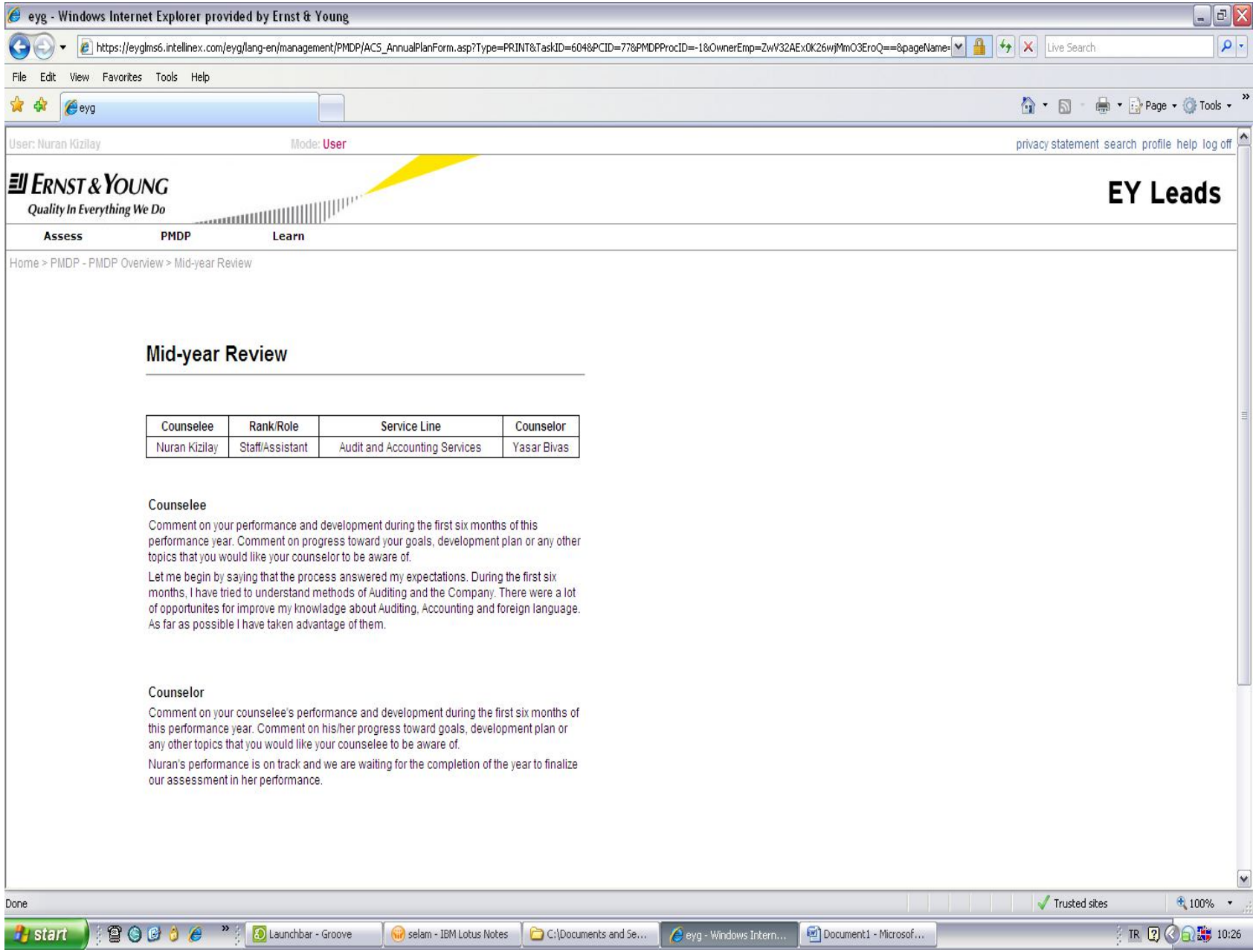
I agree with the comments of Alper. Nuran is a dedicated, patient and hard working person. I would like to work her again in X engagement. Thank you very much Nuran..

As a development need, in addition to the above comment of Alper, I can advise her to give more emphasis to her English writing skills. She can read the IFRS reports, SRMs, ASMs more, so as to increase the quality of her audit workpapers.

Recipient's Response: Once the Feedback Provider has submitted this form, the Recipient will be able to respond. Those comments are entered here.

Signatures:

Feedback Provider:	A.A	Date:	23-Mar-2008
Feedback Reviewer:	B.B	Date:	12-May-2008
Recipient:	Nuran K.	Date:	13-May-2008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Learn
Home > PMDP - PMDP Overview > Mid-year Review
Mid-year Review
Counselee
Rank/Role
Service Line
Counselor
Nuran Kizilay
Staff/Assistant
Audit and Accounting Services
Yasar Bivas
Counselee
Comment on your performance and development during the first six months of this performance year. Comment on progress toward your goals, development plan or any other topics that you would like your counselor to be aware of.
Let me begin by saying that the process answered my expectations. During the first six months, I have tried to understand methods of Auditing and the Company. There were a lot of opportunites for improve my knowladge about Auditing, Accounting and foreign language. As far as possible I have taken advantage of them.
Counselor
Comment on your counselee's performance and development during the first six months of this performance year. Comment on his/her progress toward goals, development plan or any other topics that you would like your counselee to be aware of.
Nuran's performance is on track and we are waiting for the completion of the year to finalize our assessment in her performance.
Done
Trusted sites
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APPENDIX 10

Mid-year Review

Counselee	Rank/Role	Service Line	Counselor
Nuran K.	Staff/Assistant	Audit and Accounting Services	Yasar Bivas

Counselee

Comment on your performance and development during the first six months of this performance year. Comment on progress toward your goals, development plan or any other topics that you would like your counselor to be aware of.

Let me begin by saying that the process answered my expectations. During the first six months, I have tried to understand methods of Auditing and the Company. There were a lot of opportunites for improve my knowladge about Auditing, Accounting and foreign language. As far as possible I have taken advantage of them.

Counselor

Comment on your counselee's performance and development during the first six months of this performance year. Comment on his/her progress toward goals, development plan or any other topics that you would like your counselee to be aware of.

Nuran's performance is on track and we are waiting for the completion of the year to finalize our assessment in her performance.

Signatures:

Counselee: Nuran K. Date: 28-May-2008

Counselor: Yasar B. Date: 27-May-2008

APPENDIX 11

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ERNST & YOUNG
Quality In Everything We Do
EY Leads
Assess PMDP Learn
Home > PMDP - PMDP Overview > Year-end Review
Year-end Annual Performance Review
Counselee
Nuran Kizilay
Rank/Role
Staff/Assistant
Counselor
Yasar Bivas
Service Line
Audit and Accounting Services
Key Engagements, Projects and Roles
The counselee's Key Engagements and Projects during the performance year.
Engagement / Project:
Engagement / Project: Enka Insaat ve Sanayi A.S.
Role / Responsibilities: Assistant
Hours: 432.0
Code:
Engagement / Project:
Engagement / Project: Memsan Mauser Metal Mamulleri San. Ve Tic. A.S.
Role / Responsibilities: Assistant
Hours: 30.0
Code:
Engagement / Project:
Engagement / Project: Istanbul Park Organizations A.S.
Role / Responsibilities: Assistant
Hours: 69.0
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APPENDIX 12

Year-end Annual Performance Review

Counselee	Rank/Role	Counselor	Service Line
Nuran K	Staff/Assistant	Yasar Bivas	Audit and Accounting Services

Key Engagements, Projects and Roles

The counselee's Key Engagements and Projects during the performance year.

Engagement / Project:	
Engagement / Project:	X Insaat ve Sanayi A.S.
Role / Responsibilities:	Assistant
Hours:	432.0
Code:	

Engagement / Project:	
Engagement / Project:	Y Metal Mamulleri San. Ve Tic. A.S.
Role / Responsibilities:	Assistant
Hours:	30.0
Code:	

Engagement / Project:	
Engagement / Project:	Z Park Organizations A.S.
Role / Responsibilities:	Assistant
Hours:	69.0
Code:	

Engagement / Project:	
Engagement / Project:	Q Emeklilik ve Hayat A.Ş.
Role / Responsibilities:	Assistant
Hours:	139.5

Code:	

Engagement / Project:	
Engagement / Project:	B Portfoy Yönetimi A.S.
Role / Responsibilities:	Assistant
Hours:	50.0
Code:	

Engagement / Project:	
Engagement / Project:	N Isıtma ve Soğutma Sistemleri A.S.
Role / Responsibilities:	Assistant
Hours:	41.0
Code:	

Engagement / Project:	
Engagement / Project:	H Baskı Murekkepleri San. Ve Tic. A.S.
Role / Responsibilities:	Assistant
Hours:	56.0
Code:	

Performance Against Scorecard Goals

Counselee's comments on performance and achievements against scorecard goals established at the beginning of the year and updated at mid-year. You may review the Annual Plan if desired.

I have learn as much as possible about the audit and related procedures through the more experienced team members and through self-study. Also I have developed my skills and increased my knowledge. Relation with people is important for me so I tried to make good relation with my colleagues and clients and I think I have gotten ahead.

Counselor's comments on the Counselee's achievement against annual goals. You may review the Annual Plan if desired.

I believe that Nuran performed successfully in her first year of the audit career.

Additional Contributions

Counselee's additional contributions which may include recruiting, leading or participating in internal initiatives, involvement in community organizations, participation in sales efforts, etc.

The Company gives a lot of opportunity for improve ours. I have taken anvantage of the opportunities and count myself fortunate. Because I have gotten around to overseas journey on my first year. I went to Moscow for an auditing process with my team. It was a difference experience for me. I have learnt about another accounting system and country. This event have added new facts on my life.

Development Needs/Plan

Counselee's achievements against development needs and plan. You may review the Annual Plan if desired.

I have planned on pass the CPA exam and start CPA internship, develope my skills and increase my knowledge more as more.

Counselor's comments on the counselee's achievements against development needs and plan. You may review the Annual Plan if desired.

Nuran will need additional trainings to increase his accounting and auditing skills. Additionally, we agreed that she needs to pass from the following SMMM exam. This is a crutial fact for being a senior, based on our office policies.

Overall Rating

("Marked as private" until after the Roundtables)

Not Applicable	Did not meet (1)	Partially met (2)	Fully met (3)	Exceeded (4)	Significantly exceeded (5)
☐	☐	☐	☐	☐	☐

Counselor's comments supporting Annual Rating ('Marked as private' until after Roundtables).

We agreed the rating of Nuran for FY 2008. We will start to draft the PMDP process FY 2009 in September 2008 and the main objective will be to improve the competencies in all cornerstones.

Additional Comments

Counselor's comments on priorities for future development.

We agreed the rating of Nuran for FY 2008. We will start to draft the PMDP process FY 2009 in September 2008 and the main objective will be to improve the competencies in all cornerstones.

Counselee comments:

During my first year I tried to do my possible. I modified my inadequate informations about the job, and tried to complement them. Also, I passed the CPA exam.

Signatures:

Counselee:	Nuran K.	Date:	15-Sep-2008
Counselor:	Yasar B.	Date:	02-Sep-2008

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