DEVELOPMENT AND IMPLEMENTATION OF AN INTEGRATED PERSONNEL AND PERFORMANCE MANAGEMENT SYSTEM

M.Sc. Thesis

in

Industrial Engineering

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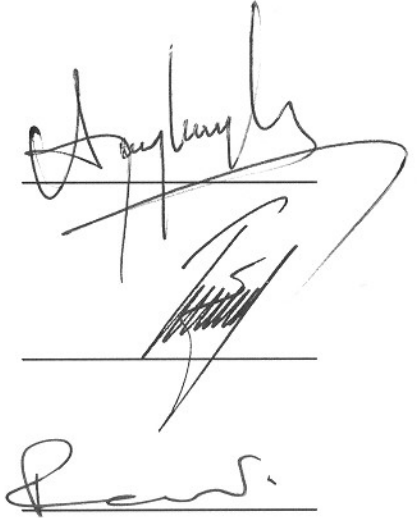
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ABSTRACT

DEVELOPMENT AND IMPLEMENTATION OF AN INTEGRATED PERSONNEL AND PERFORMANCE MANAGEMENT SYSTEM

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In this thesis, an integrated personnel and performance management system has been developed. SMEs are required to implement effective organizational models. The personnel and performance management are known to be the two fundemental issues to be considered to develop an effective work force in the SMEs.To solve this problem, an integrated personnel and performance management system is developed. In the performance management system, "pointing" method is used to appraise the performance of employees. AHP (Analytic Hierarchy Process) method is used to calculate performance criteria weights.

A computer program is prepared in Microsoft Visual Basic.Net and Access to support the proposed system. The system is also integrated with an "personel selection" system which was previously developed in the department. The use of system has been tested in a yarn company located in Gaziantep. The test results are given in the thesis.

Keywords: Personnel Management, Performance Management, Performance Appraisal.

ÖZET

ENTEGRE PERSONEL VE PERFORMANS YÖNETİM SİSTEMİ GELİŞTİRİLMESİ VE UYGULANMASI

TERZİAKIN, Yakup

Yüksek Lisans Tezi, Endüstri Mühendisliği

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Bu tezde, entegre bir "personel ve performans yönetim" sistemi geliştirilmiştir. KOBİ'ler etkin organizasyonel modeller uygulamaya ihtiyaç duymaktadır. Personel ve performans yönetimi KOBİ'lerde etkin işgücü geliştirilmesinde iki temel sorundur. Bu problemi çözmek için, entegre bir personel ve performans yönetim sistemi geliştirilmiştir. Performans yönetim sisteminde, çalışanların performansını değerlendirmek için "puanlama" yöntemi kullanılmıştır. Kriter ağırlıklarının hesaplanması için AHP (Analitik Serim Süreci) metodu kullanılmıştır. Önerilen sistemin gerçekleştirilmesi için Visual Basic.Net ve Access programlama ve veritabanları kullanılarak bir bilgisayar programı hazırlanmıştır. Geliştirilen sistem daha önce Endüstri Mühendisliği Bölümü'nde geliştirilen bir "personel seçimi" sistemi ile entegre edilmiştir. Sistemin kullanımı Gaziantep'te yerleşik bir iplik fabrikasında test edilmiş olup, test sonuçları tezde sunulmuştur.

Anahtar kelimeler: Personel Yönetimi, Performans Yönetimi, Performans Değerlendirme.

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LIST OF ABREVIATIONS

SME	:	Small and Medium sized Enterprise
HR	:	Human Resources
HRM	:	Human Reource Management
PM	:	Performance Management
PRM	:	Personnel Management
PMP	:	Performance Management Process
MB	:	Masterbatch
AHP	:	Analytic Hierarchy Process
CR	:	Consistency ratio
CI	:	Consistency Index
RCI	:	Random Consistency Index

CHAPTER 1

SCOPE OF THE WORK AND OBJECTIVES

1.1. Introduction

In this chapter, the context of the research is introduced and the importance of personnel and performance management system for SMEs is explained. After the introduction of importance of personnel and performance management system for SMEs, objective of the thesis and the methodology used for the solution are explained. Finally, the organization of the thesis is presented.

1.2. Small and Medium Sized Enterprises (SMEs)

Nowadays, customer's needs change rapidly and enterprises' success depends on their productivity and flexibility. Therefore, SMEs which have ability of adaptation to customer needs become a central part of industry. SMEs are important for economy because they contribute to national income, employment, productivity and rivalry (Yücel,2000).

Definition of SME changes according to countries and organisations. Quantitative criteria which are used to define SME are as below (Yücel, 2000).

- Number of employee
- Capital
- Sum of active
- Profit
- Energy expenses and costs
- Endorsement

- Course of machine
- Capacity
- Total payment of salary
- Payment of tasks
- Share of market

There is no general definition of SME in Turkey, so related organisations define it differently. According to definition of DİE and TOBB, small sized organisations have one to forty nine employee and medium sized organisations fifty to ninety nine employee (Yücel, 2000). European Union use number of employee, balance and degree of independency criteria to define SME. Table 1.1 shows the SME definition criteria of European Union.

Table 1.1. SME definition criteria of European Union (Yücel, 2000)

SME	Number of employee	Annual endorsement	Balance value	Independence
Very Small	Less than 10			
Small	Less than 50	Less than 7 billion Euro	Less than 5 billion Euro	Max 33% big organisation capital
Medium	Less than 250	Less than 40 billion Euro	Less than 27 billion Euro	Max 25% big organisation capital

SME have a great importance in economic and social life. Especially, SMEs have become a central part of manufacturing industry in developing countries. (Rahimifard et all, 2002) Therefore, it is important to support SMEs and to solve their problems. The problems of SMEs can be divided into three main group, as below (Uludağ and Serin, 2005).

- Financial
- Managerial and Personnel policy
- Production and marketing.

1.3. Importance of Personnel and Performance Management System for SMEs

SMEs required to implement effective organisational models to solve their problems. Managers of SMEs escape to employee specialist and to empower them so SMEs lose their flexibility and success with wrong personnel policy. They choose cheap employee and they can not monopolize qualified personnel. They can not finance employee training expenditure and they loose their success. Therefore personnel and performance management are two fundamental issues to be considered to develop an effective workforce in the SMEs.

Personnel management assists with the management of people in an organization. It is concerned with establishing, maintaining and developing systems that provide the framework for employment. These systems operate throughout an employee's membership of the company; starting with system for entry (recruitment and selection) through the management of the employment relationship (reward, appraisal, development, industrial relations, grievance and discipline), finishing with the termination of the relationship (retirement, resignation, redundancy or dismissal). It is always important for managers and supervisors to get the best performance from their workforce in terms of levels of production and quality of output. Performance management is a process which is designed to improve organizational, team and individual performance and which is owned driven by line managers (Food and Hook, 2002). Managers are concerned to motivate and encourage their employees to work effectively, in pursuit of the strategic objectives of the organization and one way of trying to achieve this involves managers in designing systems to give employees feedback about their performance.

1.4. Objectives of the Thesis

The main goal of this thesis is to develop and implement an integrated personnel and performance management system for SMEs. With the developed system, it would be possible to develop a work force in SMEs. They can choose new employees from pool of applicants, evaluate of the people in their jobs and make personnel decisions etc. with the implementation of the system.

1.5. Methodology and Materials

In this study, a survey is performed and the current status of the personnel management and performance management is identified. An integrated personnel and performance management system is developed. This system contains personnel information of workforce and applicants. System is available to choose new employees from pool of applicants. To develop performance management system performance criteria and criteria weights are obtained. The personnel management and performance management system is implemented and tested for Merinos Masterbatch factory in Gaziantep. A computer program is written for the system by using visual basic.net and Access. System is tested by making questionnaires.

1.6. Organization of the Thesis

Following this introduction chapter, which explains the frame and the objectives of the conducted work, the literature about the personnel and performance management is given in chapter 2. In chapter 3, personnel management will be explained shortly. In chapter 4, the performance management sytem will be discussed in detail. In chapter 5, the developed personnel and performance management system will be introduced. Application of the system will be presented in chapter 6. Finally, the results obtained from this thesis will be discussed in chapter 7.

CHAPTER 2

LITERATURE SURVEY

2.1. Introduction

There has been a considerable amount of work in the field of personnel management and performance management. In this chapter, a survey compiled from the previous studies related to the personnel management and performance management will be presented. Conclusions drawn from the literature is then discussed at the end of the chapter.

2.2. Literature on Personnel Management

Although personnel management has been recognized formally as a field of functional specilization and practice for about a half century, it's roots are embedded deeply in the past. Until the industrial revolution most goods were manufactured in small shops or in the home by handicraft methods of production. The industrial revolution represented the beginning of many problems which managers continue to face. While significant progress has been made in resolving the problems how to organize, coordinate, motivate and control the activities of personnel and how to provide for their health, safety.

Prior to the middle of the last century workers had very little legal protection. There were no laws to guarantee their rigths until the Common wealth v. Hunt decision of 1842, attempts of employees to organize and to bargain collectively with employers were considered, under the existing common law, to constitute a criminal act of conspriracy (Chruden and Sherman, 1972). By the beginning of this century, rising labor and overhead costs had forced management to devote more effort to achieving greater production efficiency through the improvement of work methods and the development of standards. Such efforts led to the Scientific Management movement

during the early part of this century, which had a definite impact upon personnel management.

Initially the function of personnel management, which generally were limited largely to hiring, firing and time keeping were handled by each supervisor as part of his job. As production methods became more complicated and the work load of the supervisor increased, his responsibility relating to the keeping of time and payroll records was often assigned to the personnel specialists. Although the personnel department existed earlier in the form of an employment or welfare activity it was first accorded recognition and status as a department in 1912 (Chruden and Sherman, 1972). As the benefits of personnel function, scope of the personnel programs expanded. The programs began to envolve from being merely record keeping to one covering all phases of personnel management. Following World War II, management development became one of the first personnel functions to receive special attention as a result of company efforts to rebuild their management staffs which had become depleted and often inefficient during the competition free period of World War II.

Personnnel Management which began with Scientific Management changed to HRM (Human Resource Management). HRM improved the personnel management. HRM appriciates employee and focuses customers and employees. There is factors which accelerate transition from personnel management to HRM as below (Keser, 2005).

- Costs of employees
- Productivity
- Changes in the managerial and production techniques
- Other factors which effect the employee negatively.

Özden (2004) researched differences and relations between Personnel Management (PRM) and Human Resource Management (HRM). PRM and HRM contains same concepts but there is a difference in taking up the concepts. HRM is focused on employee and HRM has a strategic look. Most of the HRM renponsibility are personel affairs (Andersen, 1999). This result exposes that there is no big differences between PRM and HRM.

Segalla et al. (2001) reported the results of a study of the culturel influences on employee recruitment . They reported the conclusions reached during the first phase of a large European study on managerial decisions making. The results of this study indicate that natioanlity is a good determinant of the choice of internal or external promotion system. It also finds that individual self-interest remains an important factor in managerial decision making because lower skilled managers may resist hiring higher skilled recruits. The authors conclude that human resource programs designed to standardise career management policy across Europe may fail because international and unintentional barriers.

Jayaram et al.(1999) proposed a HRM (Human Resource Management) analysis framework. Relationships among underlying dimensions of HRM practices and manufacturing performance are examined. The study found support for the proposed framework, suggesting that HRM practices can be grouped in to five distinct factors, four of which are associated with specific manufacturing competitive dimensions(quality, flexibility, cost and time). The remaining HRM factor is generic. The four priority specific HRM factors are strongly related to their respective manufacturing performance dimensions.

Leung and Kwong (2002) reviewed the major HRM (Human Resource Management) functions in international joint venturein China: recruitment, compensations, performance appraisal, training and development and exit. The sources of disagreement between the Chinese partner and foreign partner in each of these Human Resource practices are analyzed from a justice perspective. This review shows that the Chinese and foreign partners often diverge on what constitutes a legitimate justice rule and criteria upon which these rules are applied.

Cerdan and Stevens (2004) reviewed extant research on managing people within small and emerging vertures and highlights additional questions that have not yet been addressed. Their review suggests that as scholars, their understanding of the Human Resource issues important to small and emerging firms is limited. While they have begun to understand how these firms should hire, reward and perhaps ever motivate their employees, they lack much of the theory and date necessary to understand how small and emerging firms train their employees, manage their performance, promote

or handle organizational change, or respond to potential labor relations and union organization issues.

Wright and Boswell (2002) proposed o typology of HRM research based on two dimensions: level of analysis (individual/group or organization) and number of practices (single or multiple) They used this framework to review the recent research in each of the four subareas. The argued that while significant progress has been made within each area, the potential for greater gains exists by looking across each area. Toward this end they suggested some future research directions based on a more integrative view of HRM. They believed that both areas can contribute significantly to each other resulting in a more profound impact on the field of HRM than each can contribute independently.

Gunderson (2001) researched economics of personnel and human resource management. The new economics of personnel and human resource management is analysed, including its current prominence as well as its historical antecendents. The economic paradigm as applied to personnel and human resource economics is illustrated through a variaty of examples in the personnel area. These involve economic phenomenon (e.g. fixed hiring costs, asymmetric information, option volue) highlighting their implications for personnel issues, as well as personnel phenomenon (e.g. deferred compensation, pensions, mandatory, retirement) highlighting their economic rationale. Other phenomenon that otherwise seem difficult to explain or paradoxiocal are analysed including superstar salaries; long-hours and overtime coexisting with unemployment and under employment ot ten within the same organisation.

2.3. Literature on Performance Management

Performance appraisal is began to use in American public association at the beginning of the 1900s. Then it is used in the organizations as aresult of Taylor's work study. After World War I, some performance appraisal techniques were developed and after the 1950s, appraisal techniques which contained job results were used in American organizations (Mathis and Jackson, 1991). In Turkey, it is firstly used in public

association. Last ten years, private sector uses the performance management (Bingöl, 2003).

Waite and Doe (2000) developed a model that tests employees' reactions to the removal of performance appraisal on a sample of one hundred and twenty three nonmanagerial bank employees. Results indicate that policy changes were positively received by employees. Replacing a traditional performance appraisal with a concerted performance feeback and coaching effort and merit pay with a blanket pay increase enhanced employees' perceptions of pay fairness, pay satisfaction and job satisfaction.

Kılınç and Akkavuk (2004) suggested a method which was used to appraise the team performance. In this study, team performance appraise system is explained step by step. Morever, methods which is needed to use team performance system with other systems is explained.

Özdemir (2004) dealt with performance management with goals. Steps of performance management with goals and characteristics of goals are explained. Also, advanteges and disadvantages of the system are listed.

Atılgan (2003) dealt with performance management and factors which affect the performance in the ready made enterprise. Factors which affect the productivity is explained and studies which are needed to increase the performance are dealt with.

Salt (2002) dealt with performance appraisal and payment. Also advantages and disadvantages of performance appraisal systems are expalined in this study.

Bogt (2002) is concerned with performance evalvation of top professional managers by local politicians. Based on the opinions of a small group of experts, it examines criteria and performance evaluation styles which are used by oldermen of Dutch municipalities. To evaluate performances of professional managers. He examined to what extent the large number of aldermen who participated in the survey displayed characteritics of politicians using the operations conscious performance evaluation style.

Modell (2003) contrasted goal directed and institutional approaches to the development of PM (performance management) in the Swedish university sector, which has been subject to increasing emphasis on management by objectives since the early 1990s. He adopted a macro perspective, focusing on recent changes in PM related to govermental control of universities and colleges and combined an extensive review of archival data with interviews in their empirical analyses. It is concluded that although the goal-directed model carnot be completely rejected as a heuristic informing recent changes in PM, a process-orientated institutional perpective considerably enriches the analysis by making it less static and more contextually informed.

Cavalluzzo and Ittner (2003) examined some of the factors influencing the development, use and perceived benefits of results-oriented performance measures in goverment activities. They found that organizational factors such as top management commitment to the use of performance information, decision-making authority and training in performance measurement techniques have a significant positive influence on measurement system development and use. They also found that technical issues, such as information system problems and difficulties selecting and interpreting appropriate performance metrics in hard to measure activities, play an important role in system implementation and use. The extent of performance measurement and accountability are positively associated with greater use of performance information for various purposes.

Deleney and Godard (2001) applied and industrial relations perspective to the high performance paradigm to extend the insights of HRM studies. They argue HRM researchers, to devote more attention to underlying conflicts at work, focus more explicitly on the implications of new forms of work for workers, and pay greater attention to the role that cultural forces, unions and goverments play in shaping the workplace.

Otley (1999) proposed a framework for analysing the operation of management control systems structured around five central issues. These issues relate to objectives, strategies and plans for their attainment, target setting, incentive and reward structures end information feedback loops. Their central focus is on the management of

organizational performance. Because the framework has been inductively developed, its application is tested against three major systems of organizational control, nemely budgeting, economic value added and tha balanced scorecard.

An attempt was made to highlight the key generic criteria of a quality driven HR (Human Resorce) performance evaluation system through a questionnaire survey of Scottish-based qulity driven organisations by Soltani, Var der Meer, Gennard and Williams (Soltani et al., 2003). They map the most important issues in HR performance evaluation in a quality management context. In addition, the study analyses the degree of effectiveness of currently conducted HR performance evaluation in identifying training, needs, employee motivation, improvement in future performance and overall performance of the organization.

Lohmen at al (2003) carried out ot the European Operations department of Nike, a company producing and selling sportswear worldwide. The study resulted in a prototype system that basically is a balanced scorecard tailored to the needs of the company. Its scope is limited to Nike Europe and Operations function, including warehosing, transportation and customer service-point of departure is a set of design guidelines that are tailored to Nike's characteristics. Application of these guidelines produces a set of performance metrics, and a scorecard for displaying the corresponding information. (Figure 2.1)
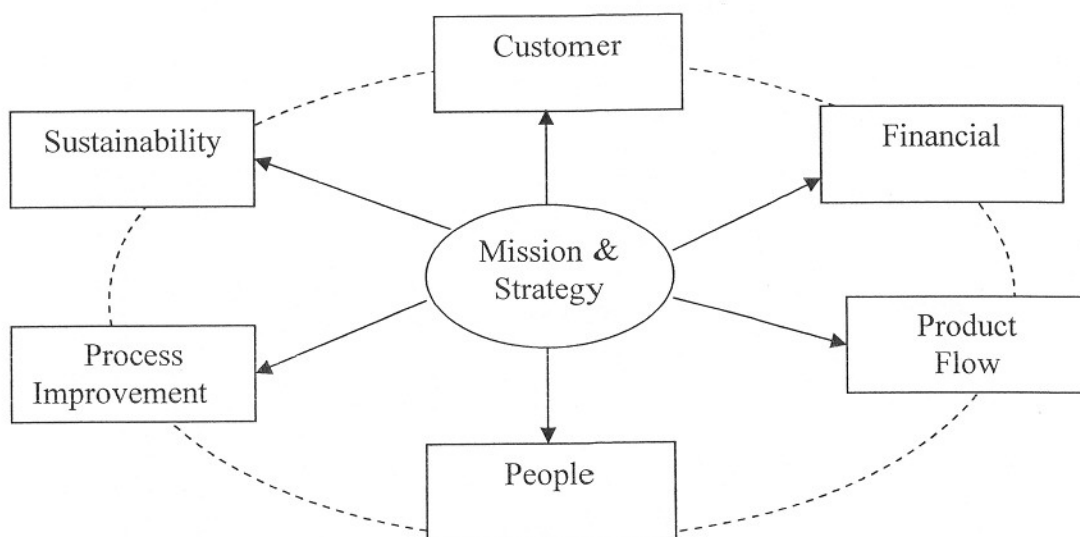
Figure 2.1. Performance metrics for Nike Operations. (Lohmen at al., 2003)

2.4. Conclusion

As seen from the previous studies, personnel and performance management system has many aspects. Therefore, there are many studies dealing with the different aspects of the topic.

In this thesis, an integrated personnel and performance management system is developed. The developed system that will be presented in Chapter 5 is generic and therefore will be utilized in SMEs of different sectors.

CHAPTER 3

PERSONNEL MANAGEMENT

3.1. Introduction

In this section a brief introduction about personnel management is given. Personnel management, activities of Personnel Management, goals of Personnel Management and organisation of Personnel Management is explained.

3.2. Personnel Management

Nowadays, organisations want to have ability of rivalry. Because organisation's market share and life depend on their ability of rivalry. So, they must attach importance to human resources. Technology and products can be imitated but nobody can imitate human resource. If organisations productively use human resources, they can compete. Personnel management is one of the most important things to use human resources.

Personnel Management (PRM) is the art of acquiring, improving and protecting of labour power which realise activities and goals of organisation (Bingöl, 2003). PRM contains recruiting labour power, showing way of effective working, appraising and protecting-etc. PRM contains activities of motivating of labour power, and removing problems about work too.

Personnel Management has a critical importance to realize goals of organisation. Personnel management creates a positive culture and directs the employee to

organisational goals. Guest determined that integrated strategy, high dependency, high quality and flexibility increase the performance of the organisation (Torrington and Hall, 1998).

3.3 The Properties of Personnel Management

Economic and politic conditions and industrial relations determine the properties of personnel management. So, cultur, traditions, organisitional structure technology , products and markets affect the personnel management (Canman, 2000). The properties of personnel management as below (Uzanan,1999);

- It is related with practical tools which focuse application and direction of politics
- It looks the change management as work application.
- It adapts work laws, managerial decisions, labor union and environmental conditions.
- It attach importance to aplication of organisational rules.
- It is related with short term application.

3.4. Personnel Management Activities

Goals of personnel managers are same with goals of organisation. In the big organisations, duty of personnel managers include more than fifty different activities (Bingöl,1990). So, activities of personnel Managers depend on size of organisation, location, labour union activities and characteristics of labour power. Activities of personnel management can be divided into two which are managerial and functional.

3.4.1. Managerial Activities

By simple definition management involves accomplishing results with and through other people (Chruden and Sherman, 1972). Only through effective management can realistic objectives and the structure required to accomplish them be developed by an organisation. Management, furthermore, provides the organisation with the programs

and direction needed for it to progress toward these objectives. Among the components or processes into which a management system is commonly divided are planning, organising, staffing, directing and controlling.

1. Planning: This is the process of forecasting and anticipating and of preparing to meet those conditions that may effect the enterprise and its operations. Planning involves determining the objectives that are to be achieved and processes that must be performed to insure their achievment. Personnel planning provides the foundation for organising, staffing, directing and controlling those activities of employees that must be performed in order for established objectives to be achieved. Personnel plans that are formulated carefully and understood fully can serve as a foundation for organising and coordinating the activities of employees and for clarifying their inter-personnel relationships. Such plans can also make employees more aware of what to expect from management and what management expects of them.

2. Organising: Organising is the process of identifying and grouping the work to be performed, defining and delegating responsibility and authority and establishing relationships for the purpose of enabling people to work most effectively together in accomplishing objectives (Chruden and Sherman, 1972). It entails the building of a structure within which the functions to be performed may be divided and assigned to the appropriate departments, divisions, jobs and positions. Organising also involves defining the duties, authority, responsibilities, and relationships of each of the units.

3. Staffing: This process is concerned with the manpower requirements of organisation. It must insure not only that personnel are available to perform each job but also that they are fully qualified for the job. Staffing is closely interrelated with the planning process because it requires manpower needs to be anticipated sufficiently in advance so that qualified personnel will be available when job openings occur.

4. Directing: This process is consist of overseeing and supervising the activities and personnel within the enterprise it provides the guidance for translating organisational plans into action and for insuring that established organisational relation ships are observed. Directing includes training, motivating, counseling and disciplining employees for the purpose of going their maximum contributions.

5. Controlling: Controlling is the process of reviewing and measuring performance in order to determine the extent to which organisational plans and objectives are being achieved. Controls provide managers with a basis for detecting and correcting deviations from these plans, for correcting errors in the plans, and for improving the plans. Control, within an enterprise provide a source of valuable information to aid means of stimulating and evaluating performance. In the management of personnel, controls are essential for the delegation of authority.

3.4.2. Functional Activities

Personnel management has six main functional activities. These are job analysis, personnel planning and recruiting, employees testing and selection, training and developing employees, appraising and managing performance, and employee safety and health.

1. Job Analysis: Organisations consist of positions that have to be staffed. Job analysis is the procedure through which you determine the duties of these positions and the characteristics of the people to hire for them (Dessler, 2003). Job analysis produces information used for writing job descriptions and job specifications. The supervisor of PRM specialist normally collects one or more of the following types of information via the job analysis ;

- Work activities
- Human behaviours
- Machines, tools, equipment and work aids
- Performance standards
- Job context
- Human requirements

As summarized in figure 3.1, job analysis information is the basis for several interrelated personnel management activities.

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                    │ Job Description │
                    │    And Job      │
                    │  Specification  │
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Recruiting and Selection Decisions	Performance Appraisal	Job Evaluation Wage and Salary	Training Requirements
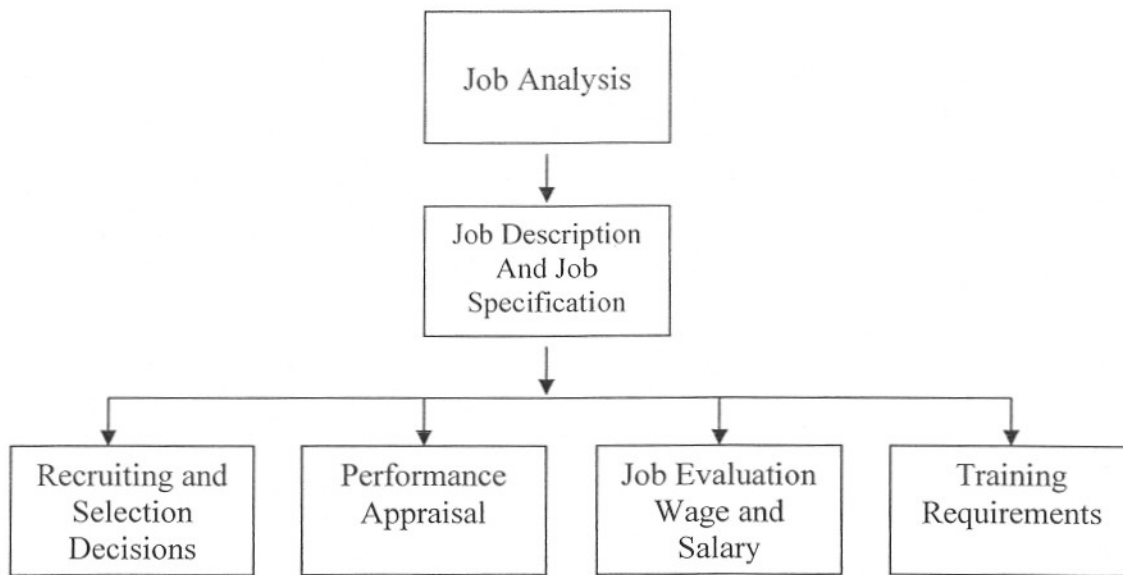
Figure 3.1. Uses of job Analysis Information (Dessler, 2003).

2. <u>Personnel Planning and Recruting</u>: Personnel planning is the process of deciding what positions of the firm will have to fill and how to fill them (Dessler, 2003). Personnel planning covers all the firm's future positions. Personnel planning is an integral part of firm's strategic and personnel management planning processes. If you're planning for employment requirements, you'll usually need to forecast three things; personnel needs, the supply of inside candidates, and the supply of outside candidates. Assuming the company authorizes you to fill, a position the next step is to develop an applicant pool, using one or more of the recruitment sources. Recruitment begins by specifying personnel requirements. Which are typical result of job analysis and personnel planning activities (Cascio, 1992).

3. <u>Employee Testing and Selection</u>: With a pool of applicants, the next step is to select the best candidates for the job. Selecting the right employees is important for three main reasons as below (Dessler, 2003).

- your own performance always depends on your subordinates.

- it is important because it's castly to recruit and hire employees.

- it is important because of the legal implications of incompetent hiring.

Effective selection is therefore important and depends on the basic testing concepts of validity and reliability. Testing is usually just part of an employer's selection process. Other tools may include background investigations and reference checks, employment information services, honesty testing, graphology and substance abuse screening. An interview is a procedure to obtain information from a person through oral response to oral inquiries. Interview is by for the most widely used personnel selection procedure.

4. <u>Training and Developing Employees</u>: Recruiting and selecting high potential employees doesn't guarantee they will perform effectively. Next step is therefore to ensure that your employees know what to do and how do it. You have to orient and train them.

Employee orientation provides new employees with the basic background information required to perform their jobs satisfactorily, such as information about company rules. Training refers to the methods used to give new or present employees the skills they need to perform their jobs (Dessler, 2003). Training used to focus mostly on teaching technical skill. Today employers have to adopt to technological change, improve product and service quality and boost productivity to stay competitive. Training programs consist of five steps. The first or needs analysis step, identifies the specific job performance skills needed, analyses the skills and needs of the prospective trains and develops specific measurable knowledge and performance objectives. In the second step, instructional design, you decide on, compile and produce the training program content. There may be a third validation step, in which the bugs are worked out of the training program by presenting it to a small representative audience. The fourth step is to implement the program, by actually training the targeted employee group. Fifth is an evaluation and follow up step, in which management assesses the program's successes or failures.

5. <u>Appraising and Managing Performance</u>: Performance appraisal means evaluating an employee's current or past performance relative to the person's performance standards (Dessler, 2003). Appraisal involves :

- Setting work standards
- Assessing the employee's actual performance relative to these standards.
- Providing feedback to the employee with the aim of motivating that person to eliminate deficiencies or to continue to perform above par.

Appraising performance is both a difficult and essential supervisory skill. Supervisors must be familier with basic appraisal techniques, understand and avoid problems that can cripple appraisals, and know how to conduct appraisals fairly.

Performance management refers to managing all how well employees perform (Dessler, 2003). The performance management (PM) process may thus encompass goal setting, worker selection, training and development and career management. PM thinking should produce an integrated performance management oriented system. With this system, management designs all the firm's personnel management function.

6. <u>Employee Safety and Health</u>: Safety and accident preventation concern managers for several reasons one of which is the staggering number of work-related accidents. We define safety as absence from danger and avoidance of injury (Food and Hook, 2002). According to this definition, we should expect employers to do everything in their power to keep employees away from danger and free of injury while at work. We define good health as being physically and mentally well with body and mind in excellent working order.

According to a study which explains the structure and applications of personnel management, most of the responsibilities of personnel management contains personnel affairs (Özden, 2004). Table 3.1 shows the area of personnel responsibilities and their ratios.

3.5. Goals of Personnel Management

Goals of the PRM (Personnel Management) are supplying qualified human resources, wing the skill of man power, motivating the personnel and developing the working conditions (Argon and Eren, 2004). All of the PRM applications have four main goals as below.

- Social goals

- Organisational goals

- Functional goals

- Personal goals.

Table 3.2 shows the relations between goals and activities of PRM. All manager in the organisation should share responsibility of the activities.

Table 3.1. The area of personnel responsibities and their ratios (Andersen, 1999).

Responsibities	Application ratio (%)
Recruiting and selection	95
Personnel affairs	91
Payment	84
Training	83
Health	81
Performance appraisal	79
Payroll	76
Transfer and appointment	74
Meal	72
Transport	69
Security of work	67
Career planning	63

3.6. Organization of Personnel Management

Size of the PRM department depends on the size of the organisation. When PRM department is being established first mission of the PRM department should be determined. Then lower units can be decided. Activity of department is closely related with organisational structure. So, needs of the organisation should be taken in to consideration. You should consider attitude of manager, size of the organisation, level of employee, environmental condition and characteristics of sector. After determination of mission, target and policy of department should be determined.

Table 3.2.Relations between goals and activities of personnel management (Argon and Eren, 2004).

Goals of PRM	Activities
Social Goals	1-Legal adaptation 2-Sacial payment 3-Relations with labour union
Organisational Goals	1-Personal planning 2-Relations with labour 3-Election 4-Training and development 5-Evaluating 6-Locationing 7-Appreciating
Functional Goals	1-Evaluating 2-Locating 3-Appreciating
Personal Goals	1-Training and development 2-Evalvating 3-Locating 4-Price 5-Appreciating

3.7. Principles of Personnel Management

As it changes according to political, society and organizational values, there is some principles in the personnel management. They help managers to decide (Yüksel, 1998). Main of the principles are as below:

- Carreer
- Adequatelity
- Equality
- Guarantee
- Impartiality
- Classification

3.8. Conclusion

Personnel management is the art of acquiring, improving and protecting of labour power which realise activities and goals of organisation (Bingöl, 1990). Activities of personnel management department can be divided as; managerial activities and functional activities.

Goals of the personnel management are supplying qualified human resources, using the skill of manpower, motivating the personnel, and developing the working conditions. Size of the personnel management department depends on the size of the organisation.

CHAPTER 4

PERFORMANCE MANAGEMENT

4.1. Introduction

In this chapter, definition of performance management is given. Goals of performance management, benefits of performance management, and performance management process is explained. Following this part, performance appraise methods and other parts of performance management will be introduced. Finally, usage area of performance management information will be discussed.

4.2. Performance Management

It is always important for managers to get the best performance from their workforce in terms of levels of production and quality of output. They are concerned to motivate and encourage their employees to work effectively in pursuit of the strategic objectives of the organization and one way of trying to achieve this involves managers in designing systems to give employees feedback about their performance. PM (Performance management) is a relatively new term for a sphere of management activity that began to take shape in the 1980s and steadily increased in popularity during the 1990s. PM is a process for sharing an understanding about what needs to be achieved and then managing and developing people in a way that enables such shared objectives to be achieved.

It is very hard to define the performance. Its meaning changes by different proces. *Performance* can be defined as the level of realization of work according to

determined condition or shape of behaviour of employee (Bingöl, 2003). Table 4.1 shows the factors which determine the performance of employees.

Table 4.1.Factors which determine the performance of employees (Grote, 2002).

- Skills about job
- Interest about job
- Possibility of developing
- Obviously defined targets
- Obviously defined expectations from employee
- Feedback about employee's performance
- Reward to high performance
- Punish to low performance
- Ownership of source to work

Lack of performance depends on internal and external reasons. Internal reasons are lack of motivation, lack of skill etc. External reasons are lack of direction, absence of award mechanism etc.

Performance appraisal is one way of giving employees feedback about their performance at work. Appraisals regularly record an assessment of an employee's performance, potential and development needs (Food and Hook, 2002). The appraisal is an opportunity to take an overall view of work content, loads volume, to look back on what has been achieved. During the reporting period and agree objectives for the next. This definition clearly shows that the employee does get feedback about his or her past performance, but indicates that in performance appraisal there is the opportunity to assess or judge various aspects of an employee's work performance by looking back at how they have performed in the past and then by looking forward in the past and then forward to agree future objectives or workload.

Performance management is a process which is designed to improve organisational, team and individual performance which is owned and driven by line managers (Food and Hook, 2002). Performance management is a much broader concept then performance appraisal. Performance management is concerned with improving not only the performance of the individual, but also the performance of team and

organisation. Performance management forms part of the human resource management approach to managing people and performance is basically a shared process between managers, individuals and teams in which objectives are agreed and jointly reviewed and which aims to integrate corporate, individual and tea objectives.

4.3. Goals of The Performance Management

Main goal of the PM (Performance management) is to create a culture which develope skills and activities of employee (Çalık, 2003). Applied performance management systems present an objective method to appraise the performance. At the end of the performance appraise, a system should be constituted to motivate employee (Costello, 994). Goals of the PM are as below (Grote, 2002).

- Providing feedback to employees about their performance
- Determining who gets promoted
- Facilitating lay off or downsizing decisions
- Encouraging performance improvement
- Motivating superior performance
- Setting and measuring goals
- Counseling poor performers
- Determining compensation changes
- Encouraging coaching and mentoring
- Supporting manpower planning or succession planning
- Determining individual training and succession planning
- Determining organizational training and development needs
- Confirming that good hiring decisions are being made
- Providing legal defensibility for personnel decisions
- Improving overall organizational performance

4.4. Benefits of The Performance Management

Performance management benefite employee, managers and company in the applied organisations. Generally, benefits of the performance management are as below (Bayar, 2004).

- Benefits about employees :

   * Knowing that manager's thought about their performance

   * Encouraging to be responsible about performance

   * Feedback about direct their performance

   * Helping to direct their power toward right direction

   * Helping to improve their career

- Benefits about managers :

   * Strengthening communication with subordinate

   * Determining high performance employee

   * Determining low performance employee

   * Increasing personal activity

   * Strengthening team working

   * Helping to appraise their performance

- Benefits about company :

   * Getting to announce company's goals

   * Constituting source to management information system

   * Helping to set strength relation in company

   * Increase effectivity of organization

   * Helping to follow performance of team, department, etc.

   * Setting to constitue information about decisions

   * Obtaining educational needs

   * Helping to control human resource systems

4.5. Performance Management Process

Performance management is a formal system that provides for the evaluation of the an individual's performance in an organization. The procedure typically requires the supervisor to fill out a standardized assessment form that evaluates the individual on several different dimensions and then discuss the results of the evaluation with employee. Performance management has four phase (Figure 4.1).

Phase I :

Performance Planning

What ;
Objectives
Standars
Goals
Results

How ;
Competencies
Behaviors
Skills
Performance
Factors

Manager's responsibilities :
- Create conditions that motivate
- Eleminate performance problems
- Provide development opportunities
- Reinforce effective behavior

Phase IV

Performance Review

Phase II

Performance Execution

Individual's responsibilities ;
- Achieve objectives
- Solicit feedback and coaching
- Communicate openly
- Collect and share data
- Prepare for reviews

Judging
Strengths
Weaknesses
Compensation
Potential

Phase III

Performance Assessment

Coaching
Training
Development
Immediate
Prospects
Career Planning

Figure 4.1: Performance Management Process (Grote, 2002).

4.5.1. Performance Planning

Performance planning is a discussion. It's the first step of an effective performance management process. Performance planning typically involves a meeting of about an hour or so between an appraiser and an appraise. The agenda for this meeting includes four major activities (Grote, 2002).

1-Coming to agreement on the individual's key job responsibilities.

2-Developing a common understanding of the goals and objectives that need to be

achieved.

3-Identifiying the most important competencies that the individual must display in doing the job.

4-Creating an appropriate individual development plan.

The performance planning discussion gives the manager the chance to talk about her expectation and what she sees as genuinely important in the individual's job. It gives the individual a clear operating charter so that he can go about doing his job with the full certainty that he's working or the highest priority responsibilities and operating in a way that the organisation expects.

The primary tool to use in the performance planning meeting is performance appraisal form. Since the form will be used months later to assess how well the individual did the job, it should be used from the start to plan the job expectations. The ideal time for the performance planning meeting is a week or two after the previous year's performance appraisal discussion.

Job performance is a function of two different things; what the person accomplishes (behaviours) and how the person goes about doing the job(results). Results include actual job outputs, countable products, measurable outcomes and accomplishments, and objectives achieved. Results deal with what the person achieved. Behaviours include competencies, skills, expertise and proficiency, the individual's adherence to organisational values and the person's personal style, manner and approach. Behaviours deal with how the person want about doing the job. Table 4.2. will explain the difference between results and behaviours.

It is not enough to have skills and motivation to work (Benedian, 1986). Employee must know job definition and responsibilities. The best way to determine the key responsibilities of a job is to start by identifying the major responsibilities of the job. Day tasks and chores, duties and assignments are activities of job. There is no connection among the various major responsibilities. The list includes only responsibilities, no competencies. It focuses on the outcomes of the job. The standards of performance will be developed later.

Table 4.2.Differences between results and behaviours (Grote, 2002).

Element	Focus
Results	What the individual achieved Actual job outputs Countable results Measurable outcomes and accomplishments Objectives achieved QQCT (Quantity/Quality/Cost/Timeliness)
Behaviours	How the individual performed Adherence to organisational values Competencies/performance factors Traits/attributes/characteristics/proficiency Personal style, manner and approach KASH (Knowledge/Attitudes/Skills/Habits

In addition to identification of the responsibilities, the manager and the individual need to discuss how the person's performance will be measured and evaluated. There are four general measures of output ;

1-Quality

2-Quantity

3-Cost

4-Timeliness

Goal setting is one of the key elements of performance planning. In addition to identifying the key responsibilities of the individual's job and the competencies or behaviours that the organisation expects everyone to display, another critical element is setting appropriate goals for the upcoming year. Setting goals produces several important results (Grote, 2002).

-It forces the identification of critical success factors in the job.

-It mobilizes individual and organisational energy.

-It forces concentration on highest priority activities.

-It increases probability of success.

-It generates increases in productivity.

There are several areas that generates ideas for possible goals (Grote, 2002).

-The organisation's vision and values statement
-Objectives from previous review period
-Critical job responsibilities
-Boss's objectives
-Division/department plans and strategies
-Discussion with colleagues/customers/internal clients
-Organisational problems and opportunities

Good goal statements begin with verbs : reduce, expand, write, eliminate, increase, arrange, create etc. SMART is an acronym for the five components of an effective goal. An effective goal should be ;

-**Specific**
-**Measurable**
-**Attainable**
-**Result** focused
-**Time** oriented

Performance planning is completed when the manager and the individual have come to an understanding on the individual's key job responsibilities, the goals that the person will achieve over the next year, the competencies that the organisation expects of its members, and the development plans the individual will pursue.

4.5.2. Performance Execution

Performance execution is the second phase of performance management process. For the employee, the critical responsibility is achieving the objectives in phase II. Essentially, performance execution consists of two major responsibilities for the manager. The first is to create the conditions that motivate employee to perform at an excellent level. The other is to remove performance problems when they arise. The

manager also has some other responsibilities in the performance execution phase of the process (Grote, 2002). In the performance execution, responsibilities of the manager are as follow ;

1-Creating Conditions for Motivation and Performance Problems: The first responsibility of a manager in the performance execution phase is to create the conditions that motivate. Manager can only create the conditions that result in internal motivation. There are two different variables at work and if you want a motivated workforce you have to attack on both fronts : providing satisfiers and eliminating dissatisfiers simultaneously. Figure 4.2. illustrates the difference.

Six techniques have a predictable effect on increasing an individual's motivation ;

1-Create opportunities for achievment and accomplishment.
2-Allow people freedom, discretion and autonomy in doing the job.
3-Provide opportunities for learning and growth.
4-Increase the amount of challenge.
5-Make sure that the work itself is inherently capable of motivation.
6-Provide recognition.

2-Maintaining Performance Records: Every manager has to keep track of how well the people in the time for performance appraisal rolls around the discover that they can only remember last weeks. Performance records should include examples of both results and behaviours.

3-Updating Objectives as Conditions Changes:It's important for the manager to regularly check on the projects, goals and objectives that agreed on the performance planning meeting. If a goal needs to be revised, manager should get together with the employee and explain the new requirement.

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┌─────────────────────────────────────────────┐
│              Job Satisfaction                │
│          ←──────────────────→                │
│                                              │
│   Recognition                                │
│   Achievment                                 │
│   Freedom/Dsicretion/Autonomy                │
│   Learning and Growth                        │
│   Challenge                                  │
│   The work itself                            │
├─────────────────────────────────────────────┤
│              Job Dissatisfaction             │
│          ←──────────────────→                │
│                                              │
│   Job security                               │
│   Benefits                                   │
│   Working conditions                         │
│   Pay                                        │
│   Supervision                                │
│   Company policies and Procedures            │
└─────────────────────────────────────────────┘
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Figure 4.2-Job Satisfiers and job dissatisfiers (Grote, 2002).

4-Providing Feedback and Coaching for Success: Providing routine and ongoing feedback is one of the characteristics of an effective manager. Unless someone tells them differently, most people believe that they are doing a good job and are meeting the organization's expectations. Ideally, people should be able to track their performance independently of their manager's feedback.

5-Providing Developmental Experiences and Opportunites: People develop when they are presented with challenging situations; when they successfully complete the demands posed by these challenging situations, and when they reflect on what they did well and what they would do differently the next time a similar situation arises. Managers can accelarate the development of their people by making sure that they are intentionally presented with situations tthat will force them to learn and to grow.

6-Reinforcing Effective Behavior: Building on strengths always provides better performance that trying to shore up weaknesses. Employee's problems have to identified and resolved. But managers usually get a higher pay off from reinforcing those things that people are doing particularly weel then by continually harping on their deficiencies.

7-Conducting a Midterm Review: While ongoing, informal feedback is essential for effective job performance, a more formal midcycle review is a powerful technique for ensuring that people's performance stays on track.

4.5.3. Performance Assessment

Performance assessment is the third phase of a performance management system. Basically, performance assessment involves evaluating performance and filling out the appraisal form. The manager has eight primary responsibilities in the performance assessment phase;

1-Review the original list of competencies, goals, objectives and key position responsibilities.

2-Prepare a preliminary assessment of the employee's performance over the entire year.

3-Review the individual's list of accomplishments and the self-appraisal

4-Prepare your final assessment of the employee's performance.

5-Write the official performance appraisal using the appraisal form.

6-Review the appraisal with your manager and obtain concurrence.

7-Determine any revisions needed to the employee's key position responsibilities, goals, objectives, competencies, and development plans for the next appraisal period.

8-Prepare for the performance review meeting.

4.5.4. Performance Review

Performance review is the final phase of a performance management system. It involves the discussion between employee and appraiser about the performance appraisal document. PMP (Performance management process) both ends and begins with the performance review meeting. At the beginning of the meeting, the employee's past year's performance is reviewed and the success of the development plan is evaluated. At the end of the meeting, the appraiser and the employee set a date to create the plan for next year's goals, objectives and development. The appraiser has seven primary responsibilities in the performance review phase as below (Grote, 2002).

1-Review the agenda and time frame for meeting.

2-Review and discuss the performance appraisal you wrote and the individual's achievments list.

3-Listen and respond appropriately to the individual's perception and feedback.

4-Discuss your assessment of the individual's performance against objectives over the entire cycle, especially;

-Strengths/achievments

-Weaknesses/deficiencies

-Development needs.

5-Ensure full understanding of your message.

6-Conclude the performance review discussion by scheduling the performance planning meeting to plan next year's performance.

7-Handle all administrative requirements.

4.6. Performance Appraisal Form

Performance appraisal form is a document which is used to appraise the performance. While design and construction of the form varies from one organization to another. Figure 4.3 shows the elements of an ideal performance appraisal form. Contents of appraisal form are as below;

-Organizational care competencies

-Job family competencies

-Key job responsibilities

-Goals and projects

-Major achievments

-Demographic data

-Instructions for completion

-Attendance record

-Development plans and goals

-Approvals

-Appraise summary

-Employee comments

-Signatures

Focus	Behaviours	Organizational Care/ Culturel competencies - Limited in number - Apply to all	Job family Competencies - Managerial/supervisory - Professional/technical - Sales etc.
	Results	Key job responsibilities - Source - Focus excellence in execution	Goals/major projects - required discretionary time - Not appropriate for all jobs - Focus position transformation

Figure 4.3. The elements of an ideal performance appraisal form (Grote, 2002).

In most cases, there should be one form for each job family in the organisation. The organisational care competencies is the same on every form, since everyone in the company is held accountable for meeting them. The job family competencies vary with each of the different job families; managerial/ supervisory, clinical, operations , sales etc. The section on key job responsibilities and goals and projects are the same on every form, since these are essentially blank where the actual information about the person's responsibilities and goals is written.

4.7. Appraisal Methods

Some methods are developed to appraise the performance of employee. These methods can be divided two which are classical and modern methods. Classical methods are initial methods. Modern methods are developed to solve the problems of classical methods and to appraise objectively (Bayar, 2004). Performance appraisal methods are as below.

- Graphic rating scale method

- Alternating ranking method

- Paired comparison method

- Forced distribution method
- Critical incident method
- Behaviourly anchored rating scales
- Management by objectives
- Point method

Some organisations developed their appraisal methods according to their necessity. These applications cause subjectivity so organisations need to use scientific methods (Dicle,1982).

4.8. Appraisal Errors

The use of rating assumes that the appraiser is reasonably objective and accurate. Appraiser's memories are quite fallible and appraisers subscribe to their own sets of expectations about people These biases produce rating errors, or deviations between the true rating an employee deserves and actual rating assigned.

Most common types of rating errors are;

- Unclear standards: There are several ways to fix this problem. The way is to develop and include descriptive phases that define each traits.

- Halo effect: Hallo effect is the influence of a appraiser's general impression on ratings of specific rate qualities. Being aware of this problem is a major step toward avoiding it. Appraiser training can also alleviate the problem.

- Central tendency: Some appraisers stick to the middle when filling in rating scales. If you use a graphic rating scale, this central tendency could mean that appraiser rate all employees average. That may distort the evaluations, making them less useful for promotion, salary or counceiling purposes. Ranking employees instead of using graphic rating scales can reduce this problem since ranking means appraiser can't rate them all average.

- Leniency or Strictness: Other appraisers tend to rate all their subordinates consistently high(or low). This problem is especially severe with graphic rating scales, when firms don't tell their appraisers to avoid giving all their employees high (or low) ratings. Therefore, if a graphic rating scale must be used, it may be a good idea to impose a distribution.

- Bias: Appraisers' personnel characteristics can affect their ratings, often quite apart from each employee's actual performance.

4.9. Performance Appraiser

One of the most important contents of the performance management system is to obtain the appraiser. Appraisers should know job and organisation and they should be objective (Aşkın, 1992). The most fundamental requirement for appraiser is to have an adequate opportunity to observe the employee's job performance over a reasonable period of time. This suggests several possible appraiser as below (Cascio, 1992).

- The immediate supervisors
- Peers
- Subordinates
- Self appraisal
- 360 degree appraisal
- Clients served

The immediate supervisors is generally selected to appraise the performance. Because they know a lot about job and they are close to employee.

4.10. The Appraisal Interview

Main goals of the performance management are to develop the performance of employees and to solve the problems. Therefore, performance results must inform employee and evaluate. Here appraiser and employee review the appraiser and make plans remedy deficiencies and reinforce strengths. Appraiser and employee discuss

the reason of lack of performance in the interview. There are three type of interview (Table 4.3).

Table 4.3.Types of interviews and objectives(Dreher and Douherty, 2002).

	TYPE	OBJECTİVE
1	Performance is satisfactory- promotable	Make development plans
2	Satisfactory- Not promotable	Maintain performance
3	Unsatisfactory- correctable	Plan correction

1- Satisfactory- promotable is the easiest of the three appraisal interview. The person's performance is satisfactory and there is a promotion ahead. Your objective is discuss the person's career plans and to develop a specific action plan for the educational and professional development the person needs to move to the next job

2- Satisfactory – not promotable is for employee is for employees whose performance is satisfactory but for whom promotion is not possible. Your objective here is to maintain satisfactory performance.

3- If the employee is unsatisfactory and the situation is uncorrectable, you can usually skip the interview. You either tolerate the person's poor performance for now, or dismiss the person.

When the person's performance is unsatisfactory but correctable the interview objective is to lay out an action plan for correcting the unsatisfactory performance.

4.11. Usage of The Performance Results

Generally performance management produce information for personnel management decisions (Deadrick and Gardner, 1999). The usage areas of the performance results as below (Bingöl, 1990).

1- Personnel planning

2- Personnel recruiting and selection

3- Training and developing

4- Carrier planning

5- Salary management

6- Relations between employees

7- Appraisal of employee potential

8- Dismiss

4.12.Conclusion

PM (Performance management) is a process for sharing an understanding about what needs to be achieved and then managing and developing people in a way that enables such shared objectives to be achieved. PM is one of the most important activities of the personnel management department. PM deals with dimensions of the person's performance. There are a lot of benefits for employees, managers and company in the PM. There are a lot of appraisal methods for performance appraisal. Some firms create their own appraisal forms and tools.

CHAPTER 5

AN INTEGRATED PERSONNEL AND
PERFORMANCE MANAGEMENT SYSTEM

5.1. Introduction

In this chapter, development and implementation of an integrated personnel and performance management system is explained. Also parts of the performance management is explained.

5.2. Integrated Personnel and Performance Management System

Integrated personnel and performance management system consist of two main system. These are personnel management system and performance management system. Personnel management system contains main activities which are needed by SMEs. One of the problems of the SMEs is monopolization of the human resources so this personnel management system will help to monopolize. Second part of the integrated system is the performance management system. Performance management system contains the activities which are appraising the performance and developing the employee. System integrate the personnel and performance management and allow to share data.

5.3. Personnel Management System

Functions and organisation of the personnel management changes according to size of the organisation, economic conditions and laws. In the integrated system, personnel Management System contains seven functions. These functions are main functions to manage the personnel in the SMEs. These are;

1-Personnel planning

2-Employee selection

3-Training and developing employees

4-Performance Management and payment

5-Employee safety and Health

6-Personnel Register

7-Managerial Activities

Personnel planning helps to decide what position of the firm will have fill and how to fill them. Personnel planning covers all the firm's future positions. Personnel selection is the election of the best candidate for the job. Jobs need changes while scientific and technological innovations are increasing, then employee skills have to be updated. Therefore organisations have to train employees to improve their technical, interpersonal and problem solving skills. Performance management is the another part of the system and it appraises the performance of the employee. Employee safety and health prevent the employee from accidents and provide an environment which is safe to work. In the personnel register, organisations keeps the registration of the employee. Managerial activities contains other related activities such as transportation, meal etc.

5.4. Performance Management System

Another part of the integrated system is performance management. Performance Management is a system that provides for the evaluation of an individual's performance in an organisation. Performance management process diagram is shown in Figure 5.1.

At the beginning of the Performance Management Process, appraisal information is determined. These are period, criteria, training, weights and increment ratios. Then performance pointing list is structured. It contains performance criteria and it's pointing list. (see Appendix 1) Appraiser uses it for pointing the criteria. Then, performance appraisers are determined. After the determination steps, performance appraisal questionnaire is sent to appraisers. (see Appendix 2). Appraisers evaluate the appraisal performance according to Performance Criteria Pointing List. Then, results of the questionnaire is used for the calculation of performance points with the weights of criteria. Performance points are controlled because either performance appraisal errors can be made. Results of the performance points are used for the determination of training needs and Salary increment ratio. If the points of the criteria is below five points, training is appointed to the appraisal. Each criteria has it's own training. Salary increment ratio is appointed with determined ratios. At the end of Performance Management Process, an interview is made with the appraisal. Here, managers of the department and the appraiser discuss the performance results. For the next performance period, expected results and goals are determined with the appraisal. With the performance management system, performance reports is printed and hidden for the next period.

5.4.1. Goals of The Performance Management System

PM (Performance management) is used to get a lot of goals. Main goal of the PM is to get employee to work direction toward company's goal. PM System has two main goals. These are to determine individual training needs and salary of employees.

Data which are obtained by Performance Appraisal determined training needs of employees. Each of performance criteria has a training need. If employee has low point of criteria then this training is appointed to employee. So, annual training needs are reached. By making training, employee removes their lack and they increase their performance. Employee expect salary which is equivalence of their performance. High performance is high salary and low performance is low salary. Employers use performance appraisal results to obtain salary. Employer make higher ratio of increase if the employee's performance is better.

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┌──────────────┐ ┌──────────────┐ ┌──────────────┐ ┌──────────────┐┌──────────────┐
│ Determination│ │ Determination│ │ Determination│ │ Determination││ Determination│
│      of      │ │      of      │ │      of      │ │      of      ││      of      │
│    Period    │ │   Criteria   │ │   Training   │ │   Weights    ││Increment ratio│
└──────────────┘ └──────────────┘ └──────────────┘ └──────────────┘└──────────────┘
```
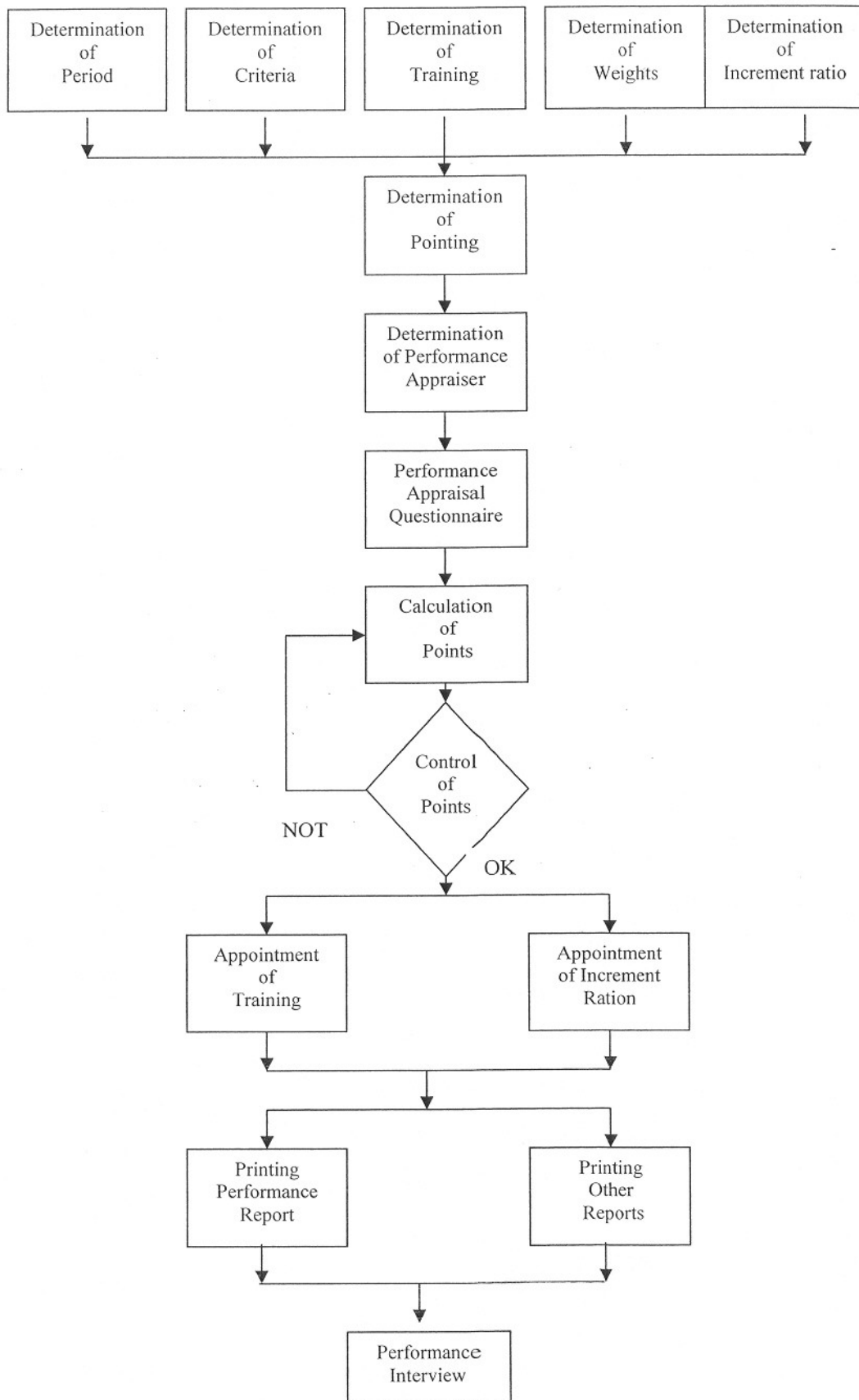

Figure 5.1.Performance Management Process Diagram.

5.4.2. Period of The Performance Appraisal

Period of the performance appraisal is the another important topic in performance management. It is common application to appraise performance once a year period. Performance appraisal can be made before salary increment, promotion or transfer. In the performance management system, the period of the performance appraisal is twice a year. Because salary increment is made in six months.

5.4.3. Performance Criteria

Performance criteria is another important things in the performance management system. Because performance criteria are used to appraise the performance and they must contain related things about job and organisational rules. There are three main criteria and each main criteria has seven sub criteria. Main and sub criteria are shown in Table 5.1.

Organisational criteria are related with organisational rules and expectations from employee in general. Organisations want employee to obey the organisational rules, to develop themself and to pleasure of employee. Also employee should be honest , dependence to organisation and good image. So, organisational criteria meet these expectations.

Criteria of department are related with department goals and relations between employee. Organisations expect employee to know about job and use related tools. And also, employee must meet department goals such as time, quality, quantity and adapt team working. Criteria of department contains these expectations.

Managerial criteria contain ability to manage job. Organisations expect all employee to manage their job from first level to top manager. Managerial criteria are related with deciding, reporting, planning, controlling leadership etc.

Table 5.1.Main and sub criteria

Main Criteria	No	Sub Criteria
Organisational Criteria	K1	Obeying organisational rules
	K2	Effort of development
	K3	Dependence on organisation
	K4	Honesty
	K5	Effective communication
	K6	Pleasure of customer
	K7	Image of employee
Criteria of Department	B1	Level of information about job
	B2	Working with procedures
	B3	Effort to achieve goals of department
	B4	Adaptation of team working
	B5	Timing
	B6	Skills of tool usage
	B7	Quality of job
Managerial Criteria	Y1	Ability of deciding
	Y2	Skills of reporting
	Y3	Planning and organising
	Y4	Effort to achieve organisational goals
	Y5	Controlling
	Y6	Leadership
	Y7	Empowerment

5.4.4. Performance Appraiser

Determination of the performance appraiser is the one of the most important things in the performance management. Generally, immediate supervisor is selected to appraise the performance. Because immediate supervisor knows more about employee's job and they can watch employee better. Also it is more convenient for SMEs. Because other appraisers should not be objective and they are not suitable according to psychological reasons. So, in our performance management system, the immediate supervisor is selected for the performance appraiser.

5.4.5. Performance Appraisal Method

Point method is used to appraise performance. Because this method is most common method and it is very simple for application (Ataay, 1997). Point method is a numerical method. In this method, performance criteria, criteria weight and pointing

scale are obtained. When pointing scale is changed or new job is existed pointing method has a flexibility to use (Ataay, 1997). The steps of pointing method are as below:

1. Choice of criteria: Criteria are obtained according to quality of job and specification of organisation. Directly related criteria should be chosen. Factors which are applied in related organisations or industrial arm can be used. Number of criteria must be enough to appraise the job. If it's number is no enough ,sensitivity should be lost. Criteria are separated as main and sub. Main criteria are separated to sub criteria to get more sensitive results.

2. Definition of criteria: After choosing of criteria, criteria should be defined. Criteria must be defined openly.

3. Determination of criteria weight: Importance of criteria changes according to job's necessity. Criteria are weighted to appraise the different jobs in the organisation. Generally five methods are used to weight (Ataay, 1997). These are;

- Factor comparison method
- Making use of related organisations or industrial arm
- Statistical methods
- Linear programming

In this thesis, Analytical Hierarchy Process (AHP) is used for calculating the criteria weight. AHP method will be explained in the next stage. Appendix 1 shows the numerical values of performance criteria. Appraiser gives points to each criteria according to ten. Then each criteria is weighted and performance point is calculated. After giving points of criteria and obtaining the weights of the criteria, Performance points of each employee is calculated. Performance point shows the employee's level of performance. There is algorithms to calculate performance points in below.

Step 1: Evaluate organisational criteria points using questionnaire points and sub criteria weights.

$$K = (\Sigma KAn*KPn)/100 \qquad (5.1)$$

$$K = \text{Organisational criteria point}$$
$$KAn = \text{nth organisational sub criteria weight}$$
$$KPn = \text{nth organisational sub criteria point}$$

Step 2: Evaluate criteria of department points using questionnaire points and sub criteria weights.

$$B = (\Sigma\ BAn*BPn)/100 \qquad (5.2)$$

$$B = \text{criteria of department point}$$
$$BAn = \text{nth department sub criteria weight}$$
$$BPn = \text{nth department sub criteria point}$$

Step 3: Evaluate managerial criteria points using questionnaire points and sub criteria weights.

$$Y = (\Sigma\ YAn*YPn)/100 \qquad (5.3)$$

$$Y = \text{managerial criteria point}$$
$$YAn = \text{nth managerial sub criteria weight}$$
$$YPn = \text{nth managerial sub criteria point}$$

Step 4: Evaluate performance point using main criteria points and weights.

$$PP = [(K*KA)+(B*BA)+(Y*YA)]/100 \qquad (5.4)$$

$$KA = \text{Organisational criteria weight}$$
$$BA = \text{Criteria of department weight}$$
$$YA = \text{Managerial criteria weigh}$$

5.4.6. Performance Appraisal Method

Analytic Hierarchy Process (AHP) is used to obtain the weight of the criteria. AHP is a multi-criteria decision making approach (Mann and Triantahyllov,1995). AHP was introduced by Thomas L. Saaty in 1977 to solve complex decision making problems involving multiple criteria. In such problems, there are both objective and subjective evaluations. AHP contains multi level hierarchical structure: objective (goal), criteria (and sub-criteria) and alternatives. Decision maker provides judgements about relative importance of each criteria and then state a preference on each criteria for each decision alternative. Output of the process is ranked alternatives according to the preferences.

The AHP divides the decision problem into the following main steps (Saaty, 1980):

1. Problem structuring.
2. Assessment of the local priorities.
3. Calculation of global priorities.

Decision problem is structured by defining the overall goal, decision criteria and sub criteria, all possible alternatives, and putting them into the different levels of hierarchy (Figure 5.2)

The weights of the criteria and scores of the alternatives, which are called local priorities, are considered as decision elements in the second step of the decision process. The last step of the AHP aggregates all local priorities to obtain the global priorities used for ranking of the alternatives and selection of the best one (Mikhailov, 2002).

AHP, like other decision making methods, needs to quantify qualitative data and it uses pairwise comparison matrix for that purpose. AHP takes pairwise comparisons as inputs and converts them into relative weights as outputs. Pairwise comparisons are qualified by using a scale, with values from 1 to 9 to rate relative preferences, proposed by Saaty. Table 5.2 shows the Pairwise Comparison Scale for AHP.
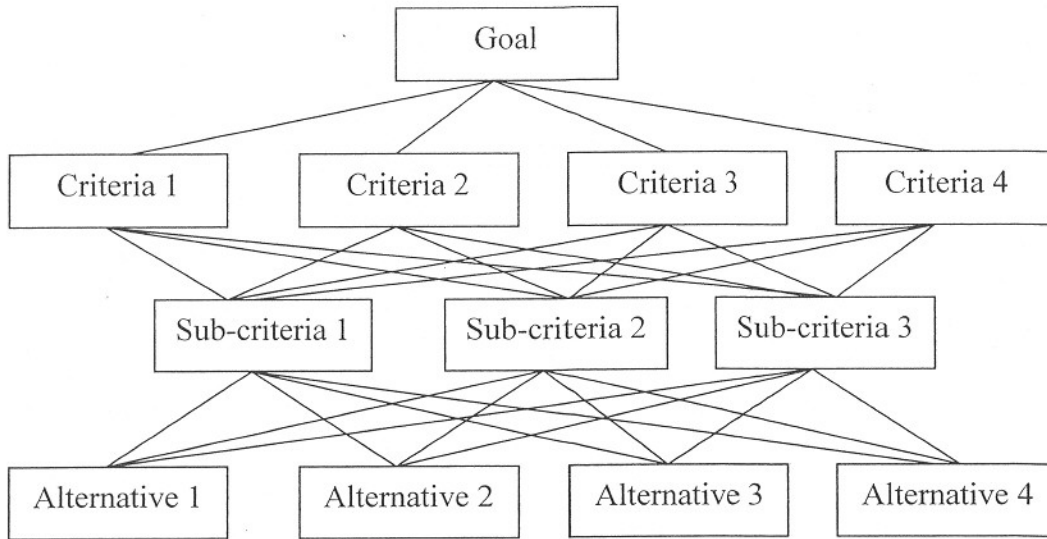
Figure 5.2. Hierarchical structure of AHP.

Table 5.2. Pairwise comparison scale for AHP.

Intensity of Importance	Definition
1	Equal importance
3	Weak importance of one over another
5	Essential or strong importance
7	Demonstrated importance
9	Absolute importance
2,4,6,8	Intermediate values between the two adjacent judgments
Reciprocals of above nonzero	If activity i has one of the above nonzero numbers assigned to it when compared with activity j, then j has the reciprocal value when compared with i.

After constitution of the pairwise comparison matrixes for criteria and alternatives in terms of each criteria, decision maker has to extract the relative importance of criteria and scores of the alternatives from those judgment matrixes. The next step is to estimate the right principal eigenvector of the judgment matrix. Corresponding maximum left eigenvector is approximated by using the geometric mean of each row. That is, the elements in each row are multiplied each other and then the n-th root is taken. Next the numbers are normalized by dividing them with their sum. Hence

priority vector for a judgment matrix is obtained (Mann and Triantahyllov, 1995). Priority vector consists of weighting coefficients of for all elements at the same level of hierarchy.

Consistency of comparison in judgment matrix can be controlled by consistency ratio (CR) and comparison is considered to be sufficiently consistent if corresponding CR is less then %10 (Saaty, 1980). Consistency ratio (CR) is calculated by dividing consistency index (CI) by random consistency index (RCI).

$$CR = CI / RCI \qquad\qquad (5.5)$$

To solve the above equation consistency index (CI) should be obtained first by using the formula :

$$CI = (\lambda max - N) / (N-1) \qquad\qquad (5.6)$$

λmax and N represent the maximum eigenvalue and number of elements compared respectively. The maximum eigenvalue λmax is calculated by multiplying the original judgment matrix by priority vector and then summing these values over the rows. The next step is done by dividing the weighted sum vector by elements of the priority vector. The average value of this resultant vector is λmax (Zaim et al.) Random consistency index (RCI) values given in Table 5.3.

Table 5.3. RCI values for different values of N.

N	1	2	3	4	5	6	7	8	9
RCI	0	0	0,58	0,90	1,12	1,24	1,32	1,41	1,45

After the pairwise comparisons of criteria and alternatives in terms of each decision criterion, decision maker obtains relative importances if criteria (weight vector) and scores of the alternatives (priority vectors). Then the final step is the calculation of the overall scores (global priorities) of the alternatives to be used for ranking them. Final priority for alternative i can be calculated with the formula:

$$\Sigma XijWij, \text{ for } i = 1,2,3,...m \quad j = 1,2,3,...n \tag{5.7}$$

This formula is used for each alternative at the third level of the hierarchy. Another representation of calculation of final priorities is possible with matrixes:

$$(Xij)mxn \text{ X } (Wi)1xn \tag{5.8}$$

First matrix is combined with priority vectors; each column shows priority of alternatives for criterion j. Second matrix is weight vector of criteria. Multiplication these two matrixes yields a decision matrix containing final priorities of all alternatives. Decision maker uses these priorities for a final selection or combining with another decision making method for further applications.

There is algorithms to calculate criteria weights with AHP in below.

Step 1: Construct the comparison matrix with criteria.(7x7 matrix)

Step 2: Compare the criteria using comparison scale.

Step 3: Calculate the geometric mean of each row.
Vi = ith row geometric mean

$$Vi = 7\sqrt{JI \text{ aij}} \qquad i=1,...,7 \tag{5.9}$$

Step 4: Normalise the vi values to get wi
Wi = 7 dimensional vector

$$Wi = Vi/\Sigma \text{ Vi} \qquad i=1,...,7 \tag{5.10}$$

Step 5: Construct the normalized pairwise comparison matrix A (nxn).

Step 6: Finally, values in the matrix are multiplied by hundred and the weight of criteria are calculated.

5.4.7. Training Needs for Criteria

Each sub criteria has a training needs. If the criteria point below five point, employee needs a training about this criteria. Table 5.4 shows training need of each criteria. With the performance management system, annual training plan will be structured.

Table 5.4.Training need of each criteria.

Criteria	Training
K1	Culture of Enterprise
K2	Techniques of personal development
K3	Culture of enterprise
K4	Culture of enterprise
K5	Communication techniques
K6	Customer pleasure
K7	Imaging
B1	Professional training
B2	Procedures usage
B3	Managing with goals
B4	Team working
B5	Time management
B6	Technique training
B7	Total quality management
Y1	Decision making techniques
Y2	Reporting techniques
Y3	Planning
Y4	Managing with goals
Y5	Control techniques
Y6	Leadership
Y7	Empowerment

5.5. Conclusion

In this section integrated personnel and performance management system is presented. First part of the system is personnel management and it has seven functions about personnel. They meet the main needs of SMEs. Also contents of performance management system is explained. Pointing method is used to appraise the performance because it is very useful and simple method and it can be used by SMEs easily. AHP method is used to obtain criteria weights. Appraiser, training needs,

criteria, goals of the system are also explained. The integrated system is generic and it can be used any SMEs because contents of the system are generic.

CHAPTER 6

APPLICATION OF
THE INTEGRATED SYSTEM

6.1. Introduction

In this chapter, application of the system is presented. System is applied to the Merinos MB Department and a computer program is used to evaluate the questionnaires. There are three application to test the system and results are given which are annual training plan and salary increment ratios. Also computer program is represented in this chapter.

6.2. Merinos Carpet Company

Merinos Carpet Company is established in 1970. It was a lowly sale proprietorship which has one rug weaving loom in 1983, production eas started with two looms. First acrylic mechnine was bought in 1992 and thus merinos has started to produce its own yarn 1993.Entegrated production plant was located in Başpınar which is manufacturing polyprophylene, masterbatch and carpet. Table 6.1 shows the capacities of manufacturing.

Table 6.1. Capacities of Manufacturing In Merinos.

Manufactured	Capacity per year
Cerpet weaving (m2)	18.000.000
PP yarn (kg)	26.000.000
Acrylic yarn (kg)	14.400.000
Masterbatch (kg)	1.600.000

In 2003 operates Merinos is the 226[th] in the ranking of Turkey's first 500 industrial company. It's exportation is 43.854.000$ and it's domestic endorsement is 63.898.778 YTL in 2004. And by the end of 2004 year, Merinos is dealing out by 2035 employees. Merinos MB

Department was started to production in 2003 year. Materbatch is used in BCF, CF and Non woven. In the Merinos MB department, 16 personnel is emloyed. Figure 6.1 shows the organization chart of Merinos MB Department.
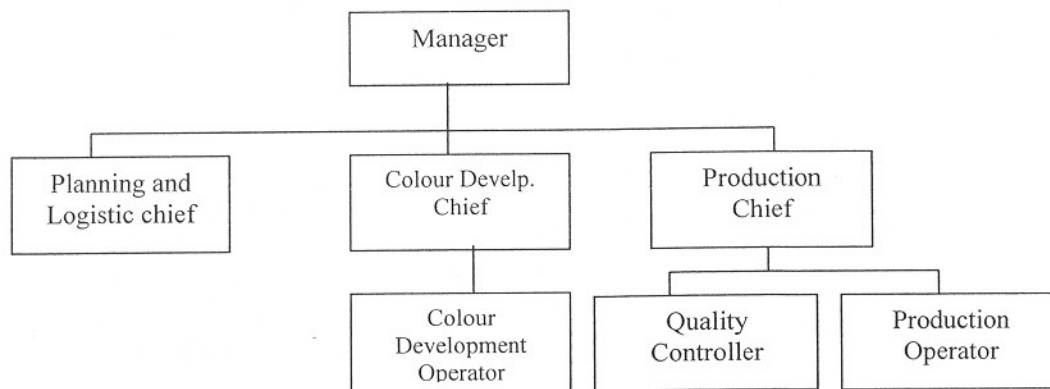

Figure 6.1.Organization chart of Merinos MB Department

6.3. Computer Program

For the personnel and Performance Management System, a computer program is written in visual basic.net programming language and Access database language (İnan and Demirli, 2004). Figure 6.2 shows the main menu of program 6.3 shows the structured chart of the computer program.Program contains four main menu. Personnel management menu consist of personnel activities and performance management menu contains performance management activities. Reporting menu produces reports which are related personnel and performance management. It produces performance points, training plan, performance and salary increament reports. Help menu explains the program structure nad gives information about program.

Figure 6.4 shows personnel management data flow diagram. There are three main processes and five databases which store information about employee. Figure 6.5 explains the performance management data flow diagram. There are seven main processes and they take

information from appraiser and they produce criteria, performance, questionnaire, salary increment and criteria weights reports. There are nine databases which store information performance management system. Figure 6.6 shows the reporting data flow diagram. There are five processes and four databases.
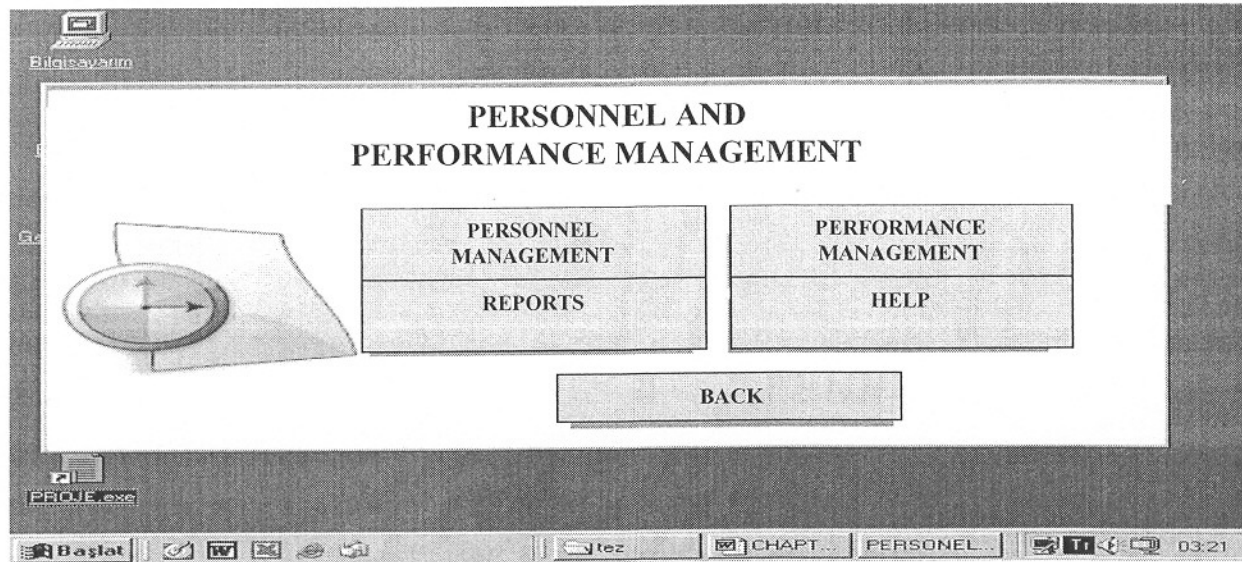

Figure 6.2-Main menu screen of the program.

6.4. Usage of program

In this section, usage of the program and entering data and reports are presented. These application are supplied to show how the program and the system work. Firstly program is set up according to Appenidx 10. Then next steps are followed.

Step 1: Enter ıdentity information about personnal to program. Figure 6.7 shows the personnal identity information screen. In this screen, personnel ıdentity ınformation report can be printed. (Appendix 3).
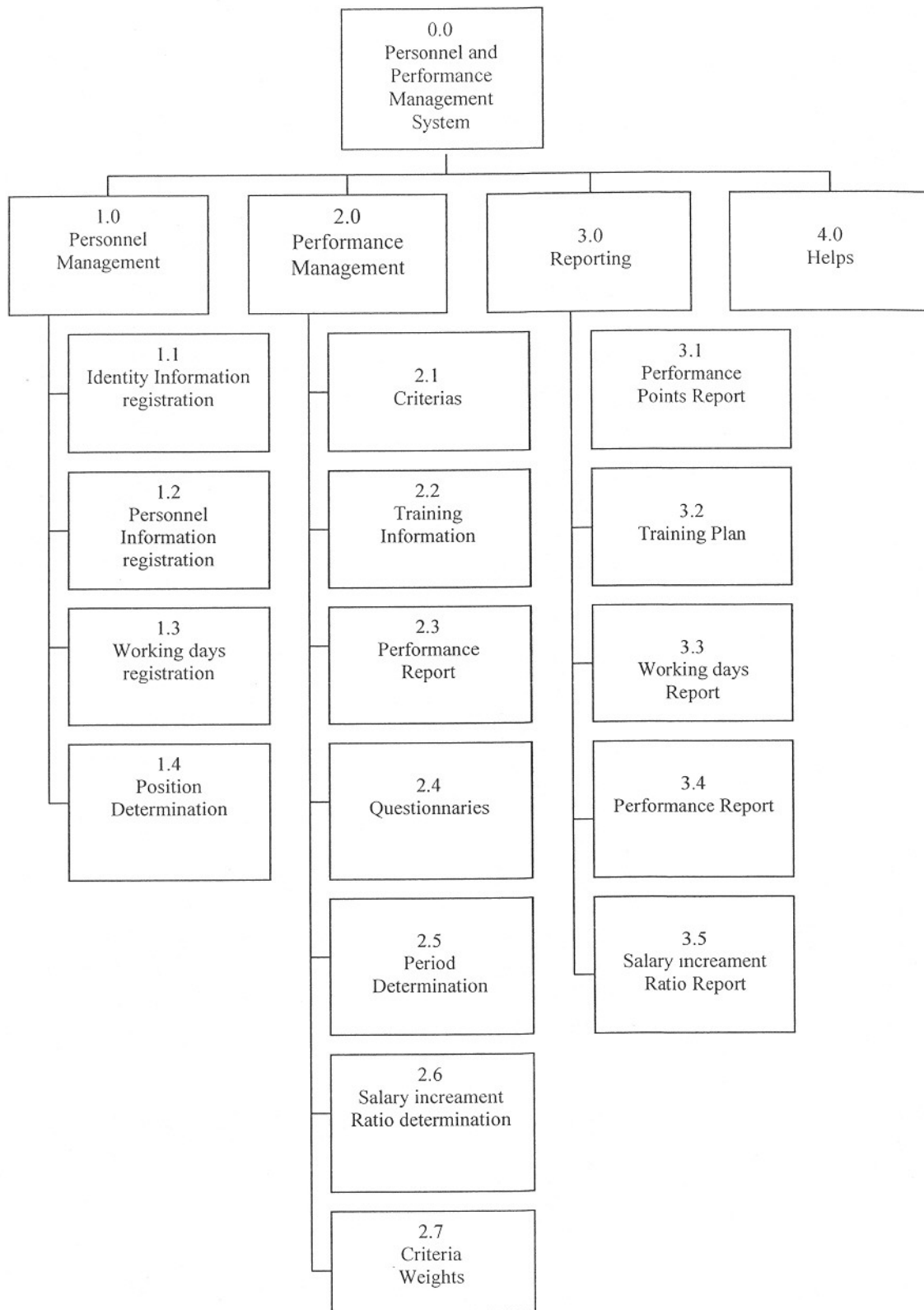
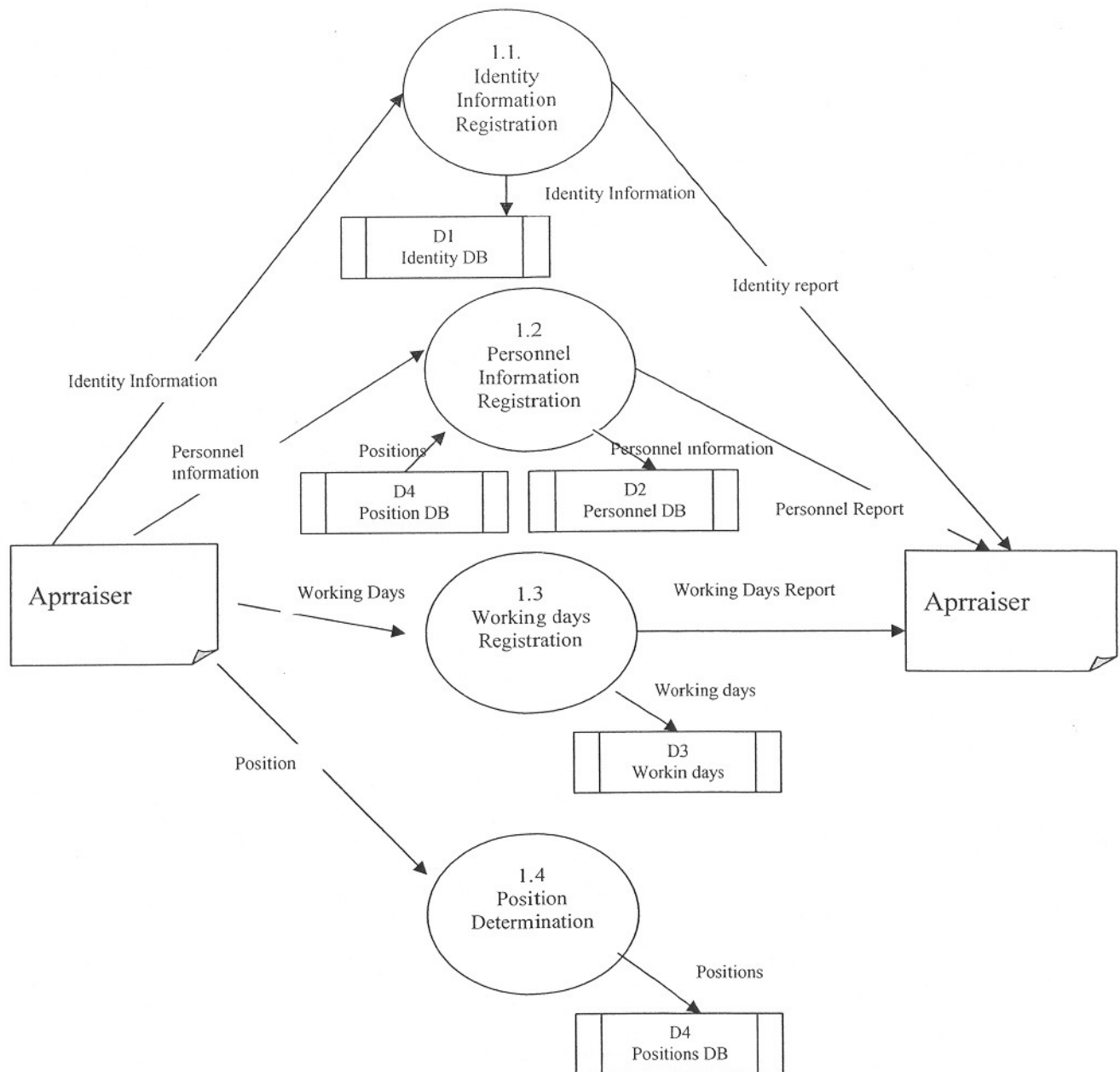Figure 6.3-Structured chart of computer program.

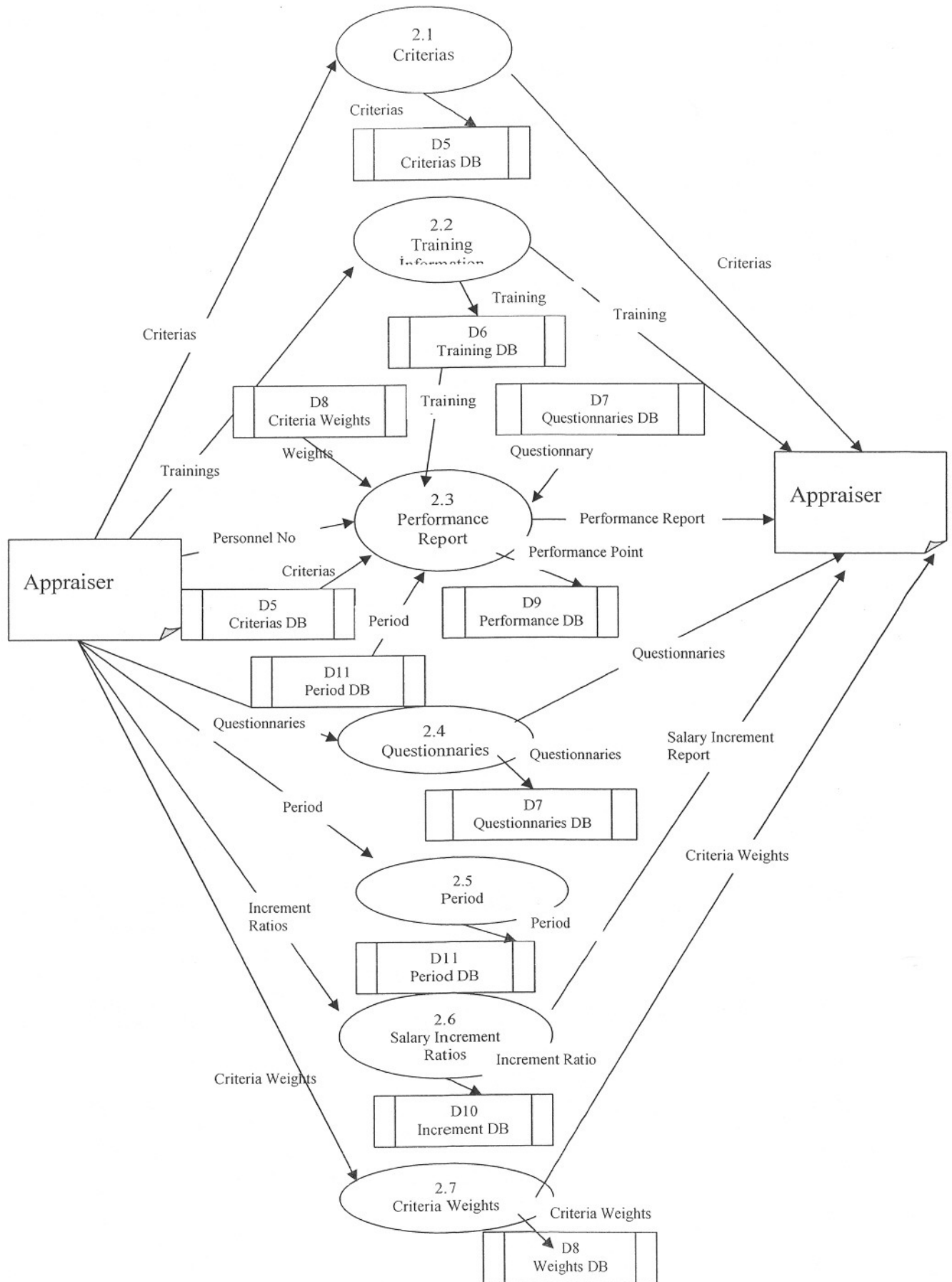Figure 6.4- Personnel Management Data Flow Diagram

Figure 6.5- Performance Management Data Flow Diagram

Figure 6.6-Reporting Data Flow Diagram
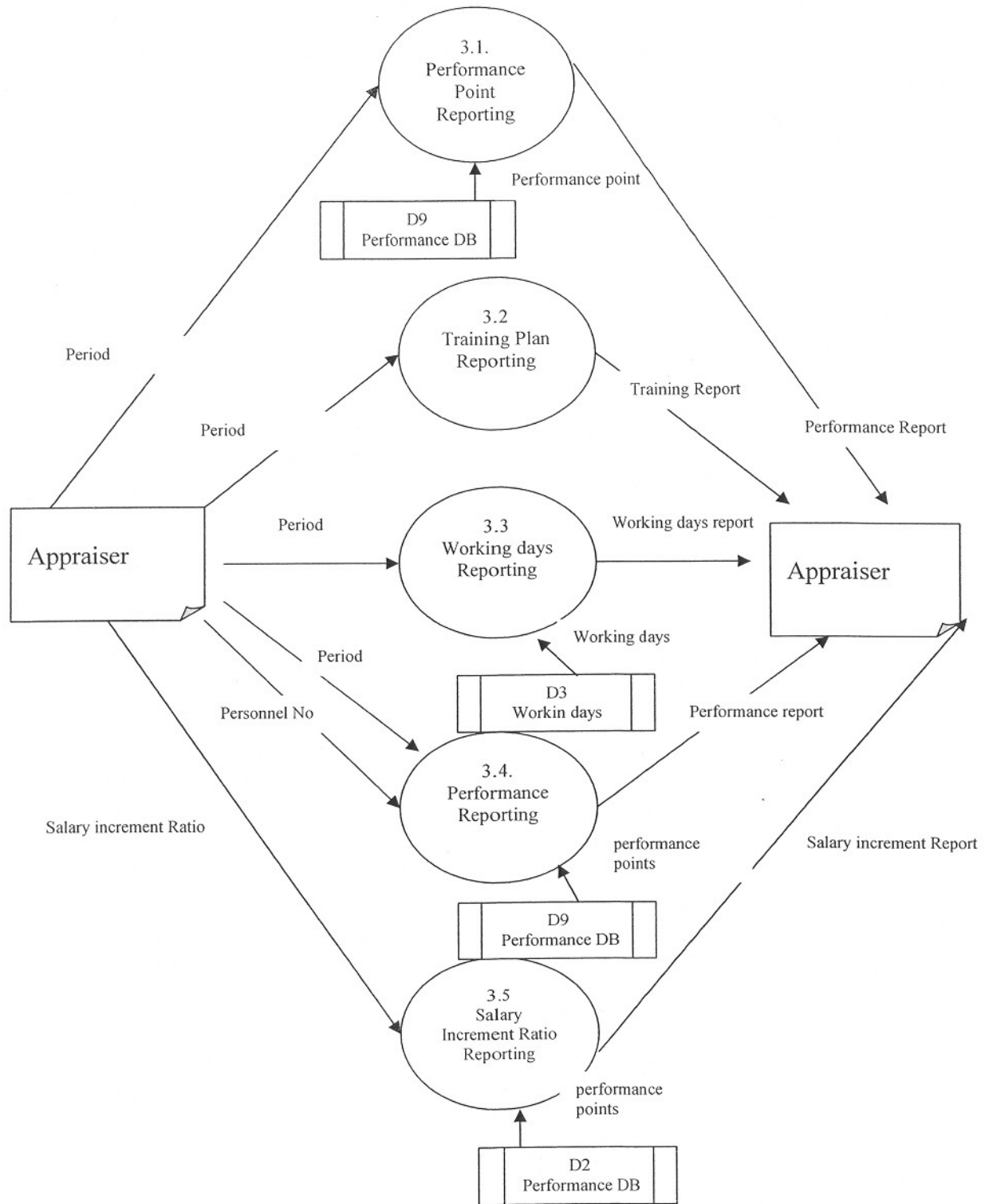
Figure 6.7-Personnal Identity Information Screen.

Step 2: Enter personnal information to program. Figure 6.8 illustrates this screen, personnel information report can be reported. (Appendix 4).

Figure 6.8-Personnal Information Screen

Step 3: Determine position of jobs by using position screen

Step 4: Enter working days monthly. by using working days screen. (see Figure 6.9) working days information can be reported in this screen (Appendix 5).

Figure 6.9. Working Days Screen

Step 5: Enter criterias of performance management by using criterias screen (see Figure 6.10) In this screen, 10 sub criteria is available and performance criterias can be reported. (Appendix 6)

Figure 6.10. Performance Criteria Screen

Step 6: Determine training information. Figure 6.11 shows training screen. Trainings can be reported by this screen. (Appendix 7)

Figure 6.11. Training Screen

Step 7: Enter criteria weights which are calculated with AHP method. by using Performance Criteria Weights screen (see Figure 6.12) Criteria weights can be reported. (Appendix 8).

Figure 6.12. Performance Criteria Weights Screen.

Step 8: Determine the performance Appraisal period. by using period determination screen. Performance is appraised with active period.

Figure 6.13. Questionnarie Entering Screen.

Step 9: Enter questionnaire results by Questionnaire Entering screen.(see Figure 6.13). Questionnaire informations can be printed. (Appendix 9)

Step 10: Calculate the performance points and prepare Performance Report by using Performance Report screen. (see Figure 6.14) For the calculation, enter personnal number and press tab button.

Figure 6.14. Performance Report Screen

Step 11: Determine salary increment ratios and calculate new salaries according to performance points.

Step 12: Constitute annual training report by using reports menu. Other reports can be constituted by using this menü.

6.5. Calculation of Criteria Weights

In this section, calculation of criteria weights is presented. AHP (Analytical Hierarchy Process) is used to calculate the criteria weights. Performance criteria are compared to obtain the weights for each position. For example, organisational criteria weights are calculated for planning and logistic chief. To calculate the weights, comparison matrix is constructed by using criteria and compared pairwisely by using 1-9 scale: {9,8,7,6,5,4,3,2,1,1/2,1/3,1/4,1/5,1/6,1/7,1/,8,1/9}. (Table.6.2) Comparisons are made according to position's requirements.

Table.6.2. Criteria pairwise comparison matrix.

Criteria	C1	C2	C3	C4	C5	C6	C7
C1	1	2	2	1/5	1/4	1/7	2
C2	1/2	1	1	1/4	1/5	1/7	3
C3	1/2	1	1	1/2	1/5	1/5	3
C4	5	4	2	1	1/4	1/4	3
C5	4	5	5	4	1	1/3	4
C6	7	7	5	4	3	1	5
C7	1/2	1/3	1/3	1/3	1/4	1/5	1

Scores in ecah row are multiplied with each other, and 7th root is taken according to the equation 5.9.

$$V_1 = 7\sqrt{(1)(2)(2)(1/5)(1/4)(1/7)(2)} \quad = 0{,}6642$$

$$V_2 = 7\sqrt{(1/2)(1)(1)(1/4)(1/5)(1/7)(3)} \quad = 0{,}5231$$

$$V_3 = 7\sqrt{(1/2)(1)(1)(1/2)(1/5)(1/5)(3)} \quad = 0{,}6060$$

$$V_4 = 7\sqrt{(5)(4)(2)(1)(1/4)(1/4)(3)} \quad = 1{,}3333$$

$$V_5 = 7\sqrt{(4)(5)(5)(4)(1)(1/3)(4)} \quad = 2{,}4514$$

$$V_6 = 7\sqrt{(7)(7)(5)(4)(3)(1)(5)} \quad = 3{,}9363$$

$$V_7 = 7\sqrt{(1/2)(1/3)(1/3)(1/3)(1/4)(1/5)(1)} \quad = 0{,}3673$$

Next number are normalized by dividing them with their sum, by equation 5.10.

$$W_1 = \frac{0{,}6642}{0{,}6642+0{,}5231+0{,}6060+1{,}3333+2{,}4514+3{,}9363+0{,}3673} = 0{,}06$$

$$W_2 = \frac{0{,}5231}{0{,}6642+0{,}5231+0{,}6060+1{,}3333+2{,}4514+3{,}9363+0{,}3673} = 0{,}05$$

$$W_3 = \frac{0{,}6060}{0{,}6642+0{,}5231+0{,}6060+1{,}3333+2{,}4514+3{,}9363+0{,}3673} = 0{,}06$$

$$W_4 = \frac{1{,}3333}{0{,}6642+0{,}5231+0{,}6060+1{,}3333+2{,}4514+3{,}9363+0{,}3673} = 0{,}13$$

$$W_5 = \frac{2{,}4514}{0{,}6642+0{,}5231+0{,}6060+1{,}3333+2{,}4514+3{,}9363+0{,}3673} = 0{,}24$$

$$W6 = \frac{3,9363}{0,6642+0,5231+0,6060+1,3333+2,4514+3,9363+0,3673} = 0,40$$

$$W7 = \frac{0,3673}{0,6642+0,5231+0,6060+1,3333+2,4514+3,9363+0,3673} = 0,04$$

W1,W2,W3,W4,W5,W6,W7 are weighting cofficients of criteria C1,C2,C3,C4,C5,C6,C7. (Table 6.3) Before using these cofficients in computation of weight for each criteria, CR of comparisons is checked.

$\lambda max = 7,71$ (Maximum eigenvalue)

$$CI = \frac{(7,71 - 7)}{(7 - 1)} = 0,118 \qquad \text{(Consistency index, Equation 5.6)}$$

$$CR = \frac{0,118}{1,32} = 0,089 \qquad \text{(Consistency ratio, 1,32 from Table 5.3)}$$

Table 6.3. Organisational criteria weights for Planning and Logistic Chief.

Criterion	Weights
Obeying organisational rules	6
Effort of development	5
Dependence on organisation	6
Honesty	13
Effective communication	24
Pleasure of customer	40
Image of employee	4

Because CR is lower than 0,10, comparisons are not renovated. For position of Planning and Logistic Chief, pleasure of customer is the most important criteria nad effort of development is the lowest. The criteria weights of other positions are calculated samely and Table 6.4 shows the criteria weights of all positions.

Table 6.4. Weights of criteria

Criteria	Planning and Log. Chief	Colour development chief	Colour development operator	Production chief	Production operator	Quality controller operator
K	30	30	30	30	30	30
K1	21	88	30	35	28	14
K2	4	25	4	22	15	10
K3	12	4	24	5	15	8
K4	22	20	19	10	25	24
K5	6	7	10	13	9	19
K6	30	30	7	12	6	22
K7	5	6	6	3	2	3
B	40	50	60	40	60	60
B1	36	16	19	19	19	25
B2	6	4	5	5	7	5
B3	6	20	4	20	4	6
B4	8	4	4	10	7	5
B5	16	30	22	17	21	16
B6	8	7	12	4	20	12
B7	18	19	34	25	22	31
Y	30	20	10	30	10	10
Y1	20	18	30	29	33	27
Y2	3	3	10	4	10	12
Y3	16	27	15	23	15	10
Y4	8	8	20	13	13	7
Y5	27	18	15	16	18	33
Y6	22	22	5	11	8	6
Y7	4	4	5	4	3	5

6.6. Applications

In this section, applications of developed system are presented. Also, performance which before the integrated system is applied to organisation is compared with the performance which after the sytem is integrated.

6.6.1. Application 1

In this application, performance is appraised before the integrated system is implemented to organisation. To appraise the performance, a questionnaire is made in period 2004-2. Computer program is used for evaluation than annual plan and salary increment ratios are obtained. Computation of performance point is explained for Planning and Logistic chief as below. For the calculation, questionnaire point and criteria weights are used. (Table 6.5)

Main criteria points are calculated according to equatition 5.1, 5.2 ,5.3,5.4. The calculation as below.

$$K= \left[\frac{(8x6)+(8x5)+(9x6)+(8x13)+(6x24)+(7x40)+(6x6)}{100} \right] = 7,06 \qquad \text{(Organisational point)}$$

$$B= \left[\frac{(7x36)+(9x6)+(8x8)+(6x16)+(5x8)+(8x8)+(7x18)}{100} \right] = 6,96 \qquad \text{(Depatment point)}$$

$$Y= \left[\frac{(7x20)+(8x3)+(6x16)+(8x8)+(7x27)+(5x22)+(7x4)}{100} \right] = 6,51 \qquad \text{(Managerial point)}$$

$$PP= \left[\frac{(7,06x30)+(6,96x40)+(6,51x30)}{100} \right] = 6,85 \qquad \text{(Performance point)}$$

Table 6.5. Questionnaire point and criteria weights for planning and Logistic chief.

Criteria	Criteria Weights	Questionnaire Points
K	30	---
K1	6	8
K2	5	8
K3	6	9
K4	13	8
K5	24	6
K6	40	7
K7	6	6
B	40	--
B1	36	7
B2	6	9
B3	8	8
B4	16	6
B5	8	5
B6	8	8
B7	18	7
Y	30	--
Y1	20	7
Y2	3	8
Y3	16	6
Y4	8	8
Y5	27	7
Y6	22	5
Y7	4	7

Same data are entered the computer program and same results are obtained. Table 6.6 shows other employees performance points. According to salary increament ratios in table 6.7, new salaries of employee are found.(Table 6.8)

Table 6.7-Salary increment ratios according to performance points.

Performance Point (PP)	Increment Ratios
O<=PP<5	5
5<=PP<6	7
6<=PP<8	10
8<=PP<=10	15

Table 6.6 Performance Points.

Name-Surname	Position	POINTS			
		Organizational	Departmental	Management	Performance
Employee 1	PI&Log. Chief	7,06	6,96	6,51	6,85
Employee 2	Col. Dev. Chief	7,96	7,18	7,05	7,40
Employee 3	Col. Dev. Operator	7,54	7,04	6,37	7,06
Employee 4	Col. Dev. Operator	7,47	7,19	7,25	7,28
Employee 5	Col. Dev. Operator	7,61	5,53	6,55	6,26
Employee 6	Col. Dev. Operator	8,19	7,60	6,90	7,71
Employee 7	Col. Dev. Operator	7,47	7,35	7,65	7,42
Employee 8	Prod. Chief	7,90	7,18	7,82	7,59
Employee 9	QQ Operator	7,38	7,37	7,13	7,35
Employee 10	QQ Operator	7,96	7,13	7,16	7,38
Employee 11	QQ Operator	7,57	7,58	7,40	7,56
Employee 12	Prod. Operator	7,41	7,55	6,82	7,44
Employee 13	Prod. Operator	7,07	6,54	6,82	6,73
Employee 14	Prod. Operator	7,82	6,59	7,13	7,01
Employee 15	Prod. Operator	6,89	6,49	6,52	6,61

Table 6.8.New salaries according to performance

Name-Surname	Position	Salaries(YTL)	New Salaries(YTL)
Employee 1	PI&Log. Chief	1.500,00	1.650,00
Employee 2	Col. Dev. Chief	1.400,00	1.540,00
Employee 3	Col. Dev. Operator	650,00	715,00
Employee 4	Col. Dev. Operator	650,00	715,00
Employee 5	Col. Dev. Operator	650,00	715,00
Employee 6	Col. Dev. Operator	650,00	715,00
Employee 7	Col. Dev. Operator	550,00	605,00
Employee 8	Prod. Chief	1.700,00	1.870,00
Employee 9	QQ Operator	650,00	715,00
Employee 10	QQ Operator	650,00	715,00
Employee 11	QQ Operator	650,00	715,00
Employee 12	Prod. Operator	650,00	715,00
Employee 13	Prod. Operator	650,00	715,00
Employee 14	Prod. Operator	550,00	605,00
Employee 15	Prod. Operator	650,00	715,00

According to questionnaire points of 2004-2 period, trainning plan are obtained in table 6.9.

Table 6.9.Annual Training Report Results.

| Name-Surname | TRAINING NEEDS | |
	1	2
Employee 1		
Employee 2	Team working	Control techniques
Employee 3	Tec of pers. Devlp	
Employee 4		
Employee 5	Tec of pers. Devlp	
Employee 6		
Employee 7		
Employee 8		
Employee 9	Tec of pers. Devlp	
Employee 10	TQM	
Employee 11		
Employee 12		
Employee 13		
Employee 14		
Employee 15	TQM	

6.6.2. Application 2

In application 2, also a questionnaire is made to all employee and data are entered computer program and performance points are found in table 6.10. Table 6.11 and table 6.12 shows the trainning plan and new salaries.

Table 6.11. 2005-1 Period trainning plan

| Name-Surname | TRAINING NEEDS | |
	1	2
Employee 1		
Employee 2		
Employee 3	Tech. of communication	
Employee 4	Team working	
Employee 5	Working with procedures	
Employee 6	Technique trainning	
Employee 7	TQM	
Employee 8		
Employee 9	Tech. of communication	
Employee 10		
Employee 11	Imaging	
Employee 12	Culture of enterprise	
Employee 13	Culture of enterprise	
Employee 14	Working with procedures	
Employee 15		

Table 6.10. 2005-1 period performance points.

Name-Surname	Position	POINTS			
		Organizational	Departmental	Management	Performance
Employee 1	Pl&Log. Chief	8,19	7,46	6,92	7,51
Employee 2	Col. Dev. Chief	7,46	7,35	6,65	7,24
Employee 3	Col. Dev. Operator	7,42	7,76	7,60	7,64
Employee 4	Col. Dev. Operator	8,44	8,23	7,40	8,21
Employee 5	Col. Dev. Operator	7,95	7,63	6,70	7,63
Employee 6	Col. Dev. Operator	8,30	7,71	7,20	7,83
Employee 7	Col. Dev. Operator	8,24	5,80	7,75	6,72
Employee 8	Prod. Chief	8,61	7,78	7,89	8,06
Employee 9	QQ Operator	7,75	7,94	7,46	7,83
Employee 10	QQ Operator	8,14	7,63	7,43	7,76
Employee 11	QQ Operator	7,97	8,21	7,97	8,11
Employee 12	Prod. Operator	7,52	8,00	6,83	7,73
Employee 13	Prod. Operator	6,70	8,29	7,89	7,77
Employee 14	Prod. Operator	8,11	7,47	7,29	7,64
Employee 15	Prod. Operator	7,95	7,23	7,05	7,42

Table 6.12. New salaries of period 2005-1.

Name-Surname	Position	Salaries(YTL)	New Salaries(YTL)
Employee 1	Pl&Log. Chief	1.650,00	1.815,00
Employee 2	Col. Dev. Chief	1.540,00	1.694,00
Employee 3	Col. Dev. Operator	715,00	786,50
Employee 4	Col. Dev. Operator	715,00	822,25
Employee 5	Col. Dev. Operator	715,00	786,50
Employee 6	Col. Dev. Operator	715,00	786,50
Employee 7	Col. Dev. Operator	605,00	665,50
Employee 8	Prod. Chief	1.870,00	2.150,50
Employee 9	QQ Operator	715,00	786,50
Employee 10	QQ Operator	715,00	786,50
Employee 11	QQ Operator	715,00	822,25
Employee 12	Prod. Operator	715,00	786,50
Employee 13	Prod. Operator	715,00	786,50
Employee 14	Prod. Operator	605,00	665,50
Employee 15	Prod. Operator	715,00	786,50

6.6.3. Application 3

In application 3, 2005-2 period questionnaire is made to all employee and data are entered computer program and performance points are found in table 6.13. Table 6.11 and table 6.12 shows the trainning plan and new salaries.

Table 6.14. 2005-2 Period trainning plan

| Name-Surname | TRAINING NEEDS | |
	1	2
Employee 1		
Employee 2		
Employee 3	Team working	
Employee 4		
Employee 5	Tech. of communication	
Employee 6		
Employee 7	TQM	
Employee 8	Tech. of communication	
Employee 9		
Employee 10	TQM	
Employee 11		
Employee 12		
Employee 13		
Employee 14		
Employee 15		

Table 6.13. 2005-2 period performance points.

| Name-Surname | Position | POINTS | | | |
		Organizational	Departmental	Management	Performance
Employee 1	Pl&Log. Chief	8,29	8,16	7,50	8,00
Employee 2	Col. Dev. Chief	8,36	7,73	7,23	7,81
Employee 3	Col. Dev. Operator	8,15	7,80	7,50	7,87
Employee 4	Col. Dev. Operator	8,54	8,40	7,90	8,39
Employee 5	Col. Dev. Operator	8,11	8,12	7,60	8,06
Employee 6	Col. Dev. Operator	8,45	8,06	7,55	8,12
Employee 7	Col. Dev. Operator	8,99	6,59	7,90	7,44
Employee 8	Prod. Chief	8,32	8,21	8,33	8,27
Employee 9	QQ Operator	8,10	8,43	6,95	8,18
Employee 10	QQ Operator	8,79	7,80	7,62	8,07
Employee 11	QQ Operator	8,34	8,09	8,33	8,18
Employee 12	Prod. Operator	8,20	8,16	7,52	8,10
Employee 13	Prod. Operator	7,65	8,24	8,24	8,06
Employee 14	Prod. Operator	8,34	7,71	6,44	7,77
Employee 15	Prod. Operator	8,31	7,89	7,72	7,99

Table 6.15. New salaries of period 2005-2.

Name-Surname	Position	Salaries(YTL)	New Salaries(YTL)
Employee 1	Pl&Log. Chief	1.815,00	2087,25
Employee 2	Col. Dev. Chief	1.694,00	1863,4
Employee 3	Col. Dev. Operator	786,50	865,15
Employee 4	Col. Dev. Operator	822,25	945,58
Employee 5	Col. Dev. Operator	786,50	904,47
Employee 6	Col. Dev. Operator	786,50	904,47
Employee 7	Col. Dev. Operator	665,50	732,05
Employee 8	Prod. Chief	2.150,50	2473,07
Employee 9	QQ Operator	786,50	904,47
Employee 10	QQ Operator	786,50	904,47
Employee 11	QQ Operator	822,25	945,58
Employee 12	Prod. Operator	786,50	904,47
Employee 13	Prod. Operator	786,50	904,47
Employee 14	Prod. Operator	665,50	732,05
Employee 15	Prod. Operator	786,50	865,15
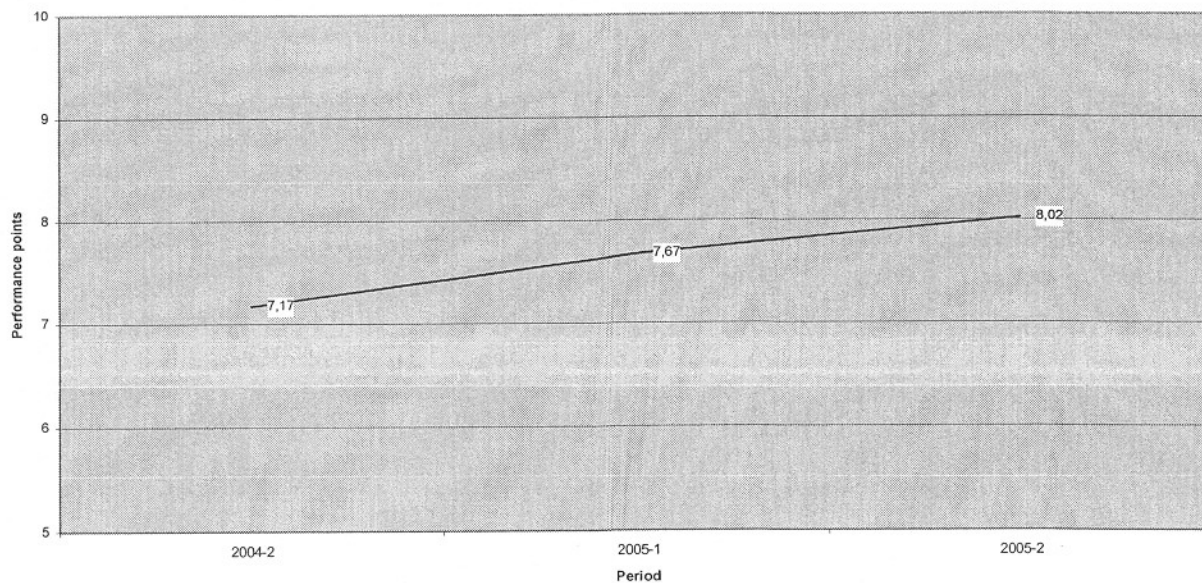
Figure 6.15. Average performance points of periods.

Accordingto average performance points Figure 6.15 shows that performance of employee increased with the integrated system. With the needed trainings, employee develop and the annual training plan focuses need of employee. With the integrated system, salary increament is obtained so motivation of employee is increased.

6.7. Conclusion

In this section, Merinos MB Department, computer program, data flow diagrams of program and usage of program are presented. Data which is obtained by the questionnary in Merinos MB Department is entered the program. Then program is run and results of performance appraisal are presented. There three application about the system and results show that integarated system increase the performance of employee. With the program, annual training plan and offered salaries are constructed.

CHAPTER 7

DISCUSSION AND CONCLUSION

7.1. Introduction

In this thesis, an integrated personnel and performance management system is proposed. Discussion and conclusions related to this study will be presented in this chapter. A future work for the researchers is also included.

7.2. Discussion

7.2.1. The Need for The Present Work

SMEs are the center of the development for the many countries. But SMEs have a lot of problems and one of them is effective organisational models to develop their employees. Performance and personnel management one of the effective models for the SMEs. There are many studies about personnel and performance management in the literature. Almost all works in the literature approach to the problem from just one side and none of them is subjected to SMEs.

The scope of this work was to provide a generic system for the personnel and performance management about SMEs.

7.2.2. The Structure of The Present Work

SMEs are required to implement effective organisational models. The personnel and performance management are known to be the two fundamental issues to be considered to develop an effective work force in the SMEs.

In the performance management system, there are constructed criteria which are generic and flexible. For the criteria weights, AHP method is used. Point method is used for appraising the performance which is common in the organisations. SMEs do not a lot about management systems so point method is very easy to use. Immediate supervisor is selected to appraise the performance because it is more convenient for the SMEs.

System is supported by a computer program which is prepared by using Micresoft Visual Basic.Net and Microsoft Access. By this way system is made useful and generic.

7.3. Contributions and Concluding Remarks

When compared to another systems in the literature, integrated personnel and performance management system is a generic and flexible model. The user can determine number of criteria, criteria weights, training needs and period easily. Also pointing method which is used for performance appraise is very useful to calculate the performance points. The integrated system forms annual training plan and salaries according to performance of employee. The system is offered to Merinos Carpet for performance management system.

7.4. Future Works

The current personnel and performance management system is generic and useful system which meets the needs of SMEs. However, the system can be improved. Performance criterias of the system is generic but they can arranged to user needs and some numerical criterias can be used. Also computer program employed for the system can be improved. User name and user code can be added to program. Then questionnaries are be filled by using computer.

PERFORMANCE CRITERIA POINTING LIST

ORGANIZATIONAL CRITERIAS	
K1	Obeying organisational rules
9-10	He/she obeys the rules completely
7-8	He/she obeys the rules %70-80 level
5-6	He/she obeys the rules %50-60 level
3-4	He/she obeys the rules %30-40 level and instabilized
1-2	He/she doesn't obey the rules
K2	Effort to development
9-10	He/she always develop himself/herself
7-8	He/she takes pains to develop himself/herself
5-6	He/she tries to develop himself/herself
3-4	He/she doesn' take pains to develop himself/herself
1-2	He/she doesn' develop himself/herself
K3	Dependence on organisation
9-10	He/she depends on organisation completely. He/she loves job.
7-8	He/she depends on organisation.
5-6	He/she depends on organisation a little
3-4	He/she depends on organisation a little and he/she needs to motivate.
1-2	He/she doesn't depends on organisation
K4	Honesty
9-10	He/she is honest and he/she doesn't lie
7-8	He/she is honest generally
5-6	He/she is honest sometimes
3-4	She/she is have to follow
1-2	He/she isn't honest
K5	Effective communication
9-10	He/she communicates effectivly and he/she is sample about communication
7-8	He/she doesn't have problem about communication
5-6	Sometimes he/she have problem about communication
3-4	Sometimes he/she isn't understand
1-2	He/she doesn't communicate effectively
K6	Pleasure of customer
9-10	He/she pleasure the customer completely
7-8	He/she pleasure the customer %70-80
5-6	He/she pleasure the customer %50-60
3-4	He/she pleasure the customer %30-40
1-2	He/she doesn't pleasure the customer
K7	Image of employee
9-10	He/she is sample about image
7-8	He/she is careful about image
5-6	He/she wants to be good about image
3-4	He/she is careless about image
1-2	He/she is carefull about image

CRITERIAS OF DEPARTMENT	
B1	Level of information about job
9-10	Level of information is perfect
7-8	Level of information is good
5-6	Level of information is expected he/she needs to help
3-4	Level of information isn't enough
1-2	He/she doesn't know about job
B2	Working with procedures
9-10	He/she obeys the procedures carefully
7-8	He/she obeys the procedures
5-6	He/she obeys the procedures but he/she needs to be controlled
3-4	He/she doesn't obey the procedures generally
1-2	He/she doesn't obey the procedures
B3	Effort to achieve goals of department
9-10	He/she efforts to achieve goals too much
7-8	He/she efforts to achieve goals much
5-6	He/she doesn't effort to achieve goals generally
3-4	He/she isn't enough to achieve goals
1-2	He/she doesn't have goals.
B4	Adaptation of team working
9-10	He/she obeys the team working carefully
7-8	He/she obeys the team working generally
5-6	He/she effort to obey team working
3-4	He/she needs to help about team working
1-2	He/she doesn't like team working
B5	Timing
9-10	He/she use time perfectly
7-8	He/she doesn't have problem about timing
5-6	Sometimes he/she have problem about timing
3-4	Generally he/she have problem about timing
1-2	he/she isn't enough about timing
B6	Skills of tools usage
9-10	He/she use tools perfectly
7-8	He/she use tools good
5-6	He/she is enough to use tools
3-4	He/she needs to help
1-2	He/she doesn't know about tool usage
B7	Quality of job
9-10	It is perfect
7-8	It is good
5-6	It is enough
3-4	He/she have problem about job quality
1-2	It isn'tenough

MANAGERIAL CRITERIAS	
Y1	Ability of deciding
9-10	He/she is perfect about deciding
7-8	Sometimes he/she has problem about deciding
5-6	He/she isn't stabil to decide
3-4	He/she needs to decide
1-2	He/she doesn't decide wright
Y2	Skills of reporting
9-10	He/she prepares reports perfectly
7-8	He/she prepares reports expected level
5-6	Sometimes he/she has problem about reporting
3-4	He/she isn' enough about reporting
1-2	He/she doesn't have ability of reporting
Y3	Planning and organising
9-10	He/she plans job perfectly
7-8	He/she plans job expected level
5-6	Sometimes he/she has problem about planning
3-4	He/she needs to help
1-2	He/she can't plan job
Y4	Effort to achieve goals of organisation
9-10	He/she effort to achieve goals perfectly
7-8	He/she effort to achieve goals good
5-6	He/sheis enough to achieve goals
3-4	He/she needs to help
1-2	He/she doesn't effort to achieve
Y5	Conrtolling
9-10	He/she controls job carefully
7-8	He/she controls job good
5-6	Sometimes He/she has problem about controlling
3-4	He/she needs to help
1-2	he/she doesn't control
Y6	Leadership
9-10	He/she is ideal leader
7-8	He/she is good leader
5-6	He/she sometimes have problem about leadership
3-4	He/she needs to help
1-2	He/she doesn't have ability of leadership
Y7	Empowerment
9-10	He/she knows his/her personel and he/she empower them
7-8	He/she tries to empower
5-6	He/she doesn't have courage to empower
3-4	He/she has problem about empowerment
1-2	He/she doesn't empower his/her personnel

APPENDIX 2: Performance Appraise Form

PERFORMANCE APPRAISER FORM

I-   APPRAISER

Name/Surname:

Position:

II-   PERIOD

Period

III-   PERFORMANCE CRITERIA

Please give points to each criteria according to 1-10

A)	ORGANIZATIONAL CRITERIA	POINT
K1	Obeying organisational rules	
K2	Effort to development	
K3	Dependence on organisation	
K4	Honesty	
K5	Effective communication	
K6	Pleasure of customer	
K7	Image of employee	
B)	CRITERIA OF DEPARTMENT	
B1	Level of information about job	
B2	Working with procedures	
B3	Effort to achieve goals of department	
B4	Adaptation of team working	
B5	Timing	
B6	Skills of tools usage	
B7	Quality of job	
C)	MANAGERIAL CRITERIAS	
Y1	Ability of deciding	
Y2	Skills of reporting	
Y3	Planning and organizing	
Y4	Effort to achieve goals of organisation	
Y5	Controlling	
Y6	Leadership	
Y7	Empowerment	

IV   NOTES

V   APPRAISER

Name/Surname:

Position :

Signature:

Date:

PERSONNEL IDENTITY INFORMATION REPORT

Personnel No	1201	**Blood type**	A rh +
Name/surname	Employee01	**City**	Osmaniye
Father name	Hüsamettin	**Country**	Kadirli
Mother name	Ayşegül	**District**	Güngören
Exsurname		**Binding no**	2
Born place	Osmaniye	**Turn no**	3
Born date	12.11.1975	**Place**	Kadirli
Identity number	17775513511	**Reason**	Yenileme
Marriage	Evli	**Save no**	114530
Religion	İslam	**Citizen no**	17775513511

PERSONNEL INFORMATION REPORT

Personnel No   1201

SSK no   270016349631852

Duty no   8347568933

Start date   01.10.2003

Position   Planning and logistic chief

Salary   1.500,00

Graduated school   Çukurova Univercity

Division   Chemistry Engineering

Ex job

Address   3. Organized Industrial Area GAZİANTEP

Telephone no   (342)(3379666)

GSM no   (533)(4578211)

WORKING DAYS REPORT

Per. No	Name/surname	Position	Worked	Weekend	Legal	vacation	Total
1201	Employee 1	Planning & log.	26	4	0	0	30
1202	Employee 2	Col. Dev. Chief	26	4	0	0	30
1203	Employee 3	Col. Dev. Opr	26	4	0	0	30
1204	Employee 4	Col. Dev. Opr	26	4	0	0	30
1205	Employee 5	Col. Dev. Opr	25	4	0	1	30
1206	Employee 6	Col. Dev. Opr	26	4	0	0	30
1207	Employee 7	Col. Dev. Opr	26	4	0	0	30
1208	Employee 8	Prod. Chief	26	4	0	0	30
1209	Employee 9	QQ Opr	26	4	0	0	30
1210	Employee 10	QQ Opr	26	4	0	0	30
1211	Employee 11	QQ Opr	25	4	1	1	31
1212	Employee 12	Prod. Opr.	26	4	0	0	30
1213	Employee 13	Prod. Opr.	26	4	0	0	30
1214	Employee 14	Prod. Opr.	26	4	0	0	30
1215	Employee 15	Prod. Opr.	26	4	0	0	30
1216	Employee 16	Prod. Opr.	26	4	0	0	30

PERFORMANCE CRITERIAS REPORT

Organizational Criterias		**Criterias of Department**		**Managerial Criterias**	
K1	Obeying organizational rules	B1	Level of information about job	Y1	Ability of deciding
K2	Effort of development	B2	Working with procedures	Y2	Skills of reporting
K3	Dependence on organization	B3	Effort to achieve goals of department	Y3	Planning and organizing
K4	Honesty	B4	Adapatation of team working	Y4	Effort to achieve organisational goals
K5	Effctive communication	B5	Timing	Y5	Controlling
K6	Pleasure of customer	B6	Skills of tool usage	Y6	Leadership
K7	Image of employee	B7	Quality of job	Y7	Empowerment

PERFORMANCE TRAINING REPORT

Organizational Criterias	Criterias of Department	Managerial Criterias
K1 Culture of enterprise	B1 Professional training	Y1 Decision making techniques
K2 Tech. of personnel development	B2 Procedures usage	Y2 reporting techniques
K3 Culture of enterprise	B3 Managing with goals	Y3 Planning
K4 Culture of enterprise	B4 Team working	Y4 Managing with goals
K5 Communication techniques	B5 Time management	Y5 control techniques
K6 Customer pleasure	B6 Technique training	Y6 Leadership
K7 Imaging	B7 Total quality management	Y7 Empowerment

CRITERIA WEIGHTS REPORT

Position Planning and logistic chief

KKA	30	BFA	40	YYA	30
KA1	6	BA1	36	YA1	20
KA2	5	BA2	6	YA2	3
KA3	6	BA3	8	YA3	16
KA4	13	BA4	16	YA4	8
KA5	24	BA5	8	YA5	27
KA6	40	BA6	8	YA6	22
KA7	6	BA7	18	YA7	4

APPENDIX 9.Questionnarie Report

QUESTIONNARIE REPORT

Per. No	Name surname	Position	Appraiser	Period
1201	Employee01	Plan.and Log. Chief	Manager	2004/2

Organizational Criterias		Criterias of Department		Managerial Criterias	
KA1	8	BA1	7	YA1	7
KA2	8	BA2	9	YA2	8
KA3	9	BA3	8	YA3	6
KA4	8	BA4	6	YA4	8
KA5	6	BA5	5	YA5	7
KA6	7	BA6	8	YA6	5
KA7	6	BA7	7	YA7	7

APPENDIX 10. Installation Manuel of the Computer Program

A. Install the "Microsoft.NET Framework"

1- Double click the "dotnetfx" file.

2- Click "Yes" in open screen.

3- Click "I agree" in License Agreement.

4- Click "Install" to start the installation.

5- Click "OK" to finish the installation.

B. Install the Developed Computer Program

1- Open the "setup" folder.

2- Double click the "setup" file.

3- Click "Next".

4- Choose folder in which the program will be installed.

5- Click "Next".

6- Confirm installation by clicking "Next".

7- Click "Close" to finish installation.

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