

## **2. Jobs Analysis and Design**

### **2.1 Concept**

Job analysis is the important process of identifying the content of a job in terms of activities involved and attributes needed to perform the work and identifies major job requirements. Job analysis was conceptualized by two of the founders of industrial/organizational psychology, Frederick Taylor and Lillian Moller Gilbreth in the early 20th century. Job analyses provide information to organizations which helps to determine which employees are best fit for specific jobs. Through job analysis, the analyst needs to understand what the important tasks of the job are, how they are carried out, and the necessary human qualities needed to complete the job successfully. The process of job analysis involves the analyst describing the duties of the incumbent, then the nature and conditions of work, and finally some basic qualifications. After this, the job analyst has completed a form called a job psychograph, which displays the mental requirements of the job. The measure of a sound job analysis is a valid task list. This list contains the functional or duty areas of a position, the related tasks, and the basic training recommendations. Subject matter experts (incumbents) and supervisors for the position being analyzed need to validate this final list in order to validate the job analysis. Job analysis is crucial for first, helping individuals develop their careers, and also for helping organizations develop their employees in order to maximize talent. The outcomes of job analysis are key influences in designing learning, developing performance interventions, and improving processes. The application of job analysis techniques makes the implicit assumption that information about a job as it presently exists may be used to develop programs to recruit, select, train, and appraise people for the job as it will exist in the future.

Job analysts are typically industrial/organizational psychologists or human resource officers who have been trained by, and are acting under the supervision of an industrial/organizational psychologist. One of the first industrial-organizational psychologists to introduce job analysis was Morris Viteles. In 1922, he used job analysis in order to select employees for a trolley car company. Viteles' techniques could then be applied to any other area of employment using the same process. Job analysis was also conceptualized by two of the founders of Industrial-Organizational psychology, Frederick Winslow Taylor and Lillian Moller Gilbreth

in the early 20th century. Since then, experts have presented many different systems to accomplish job analysis that have become increasingly detailed over the decades. However, evidence shows that the root purpose of job analysis, understanding the behavioral requirements of work, has not changed in over 85 years.

## **Purpose**

One of the main purposes of conducting job analysis is to prepare job descriptions and job specifications which in turn helps hire the right quality of workforce into an organization. The general purpose of job analysis is to document the requirements of a job and the work performed. Job and task analysis is performed as a basis for later improvements, including: definition of a job domain; description of a job; development of performance appraisals, personnel selection, selection systems, promotion criteria, training needs assessment, legal defense of selection processes, and compensation plans. The human performance improvement industry uses job analysis to make sure training and development activities are focused and effective. In the fields of human resources (HR) and industrial psychology, job analysis is often used to gather information for use in personnel selection, training, classification, and/or compensation.

Industrial Psychologists use job analysis to determine the physical requirements of a job to determine whether an individual who has suffered some diminished capacity is capable of performing the job with, or without, some accommodation. Edwin Flieshman, Ph.D. is credited with determining the underlying factors of human physical fitness. Professionals developing certification exams use job analysis (often called something slightly different, such as "task analysis" or "work analysis") to determine the elements of the domain which must be sampled in order to create a content valid exam. When a job analysis is conducted for the purpose of valuing the job (i.e., determining the appropriate compensation for incumbents) this is called "job evaluation."

Job analysis aims to answer questions such as:

Why does the job exist?

What physical and mental activities does the worker undertake?

When is the job to be performed?

Where is the job to be performed?

How does the worker do the job?

What qualifications are needed to perform the job?

## **Procedures**

As stated before, the purpose of job analysis is to combine the task demands of a job with our knowledge of human attributes and produce a theory of behavior for the job in question. There are two ways to approach building that theory, meaning there are two different approaches to job analysis.

### **Task-oriented**

Task-oriented procedures focus on the actual activities involved in performing work. This procedure takes into consideration work duties, responsibilities, and functions. The job analyst then develops task statements which clearly state the tasks that are performed with great detail. After creating task statements, job analysts rate the tasks on scales indicating importance, difficulty, frequency, and consequences of error. Based on these ratings, a greater sense of understanding of a job can be attained. Task analysis, such as cognitively oriented task analysis (COTA), are techniques used to describe job expertise. For example, the job analysts may tour the job site and observe workers performing their jobs. During the tour the analyst may collect materials that directly or indirectly indicate required skills (duty statements, instructions, safety manuals, quality charts, etc.).

Functional job analysis (FJA) is a classic example of a task-oriented technique. Developed by Fine and Cronshaw in 1944, work elements are scored in terms of relatedness to data (0–6), people (0–8), and things (0–6), with lower scores representing greater complexity. Incumbents, considered subject matter experts (SMEs), are relied upon, usually in a panel, to report elements of their work to the job analyst. Using incumbent reports, the analyst uses Fine's terminology to compile statements reflecting the work being performed in terms of data, people, and things. The Dictionary of Occupational Titles uses elements of the FJA in defining jobs.

## **Worker-oriented**

Worker-oriented procedures aim to examine the human attributes needed to perform the job successfully. These human attributes have been commonly classified into four categories: knowledge, skills, abilities, and other characteristics (KSAO). Knowledge is the information people need in order to perform the job. Skills are the proficiencies needed to perform each task. Abilities are the attributes that are relatively stable over time. Other characteristics are all other attributes, usually personality factors. The KSAOs required for a job are inferred from the most frequently-occurring, important tasks. In a worker-oriented job analysis, the skills are inferred from tasks and the skills are rated directly in terms of importance of frequency. This often results in data that immediately imply the important KSAOs. However, it can be hard for SMEs to rate skills directly.

The Fleishman Job Analysis System (F-JAS) developed by Edwin A. Fleishman represents a worker-oriented approach. Fleishman factor-analyzed large data sets to discover a common, minimum set of KSAOs across different jobs. His system of 73 specific scales measure three broad areas: Cognitive (Verbal Abilities; Idea Generation & Reasoning Abilities; Quantitative Abilities; Memory; Perceptual Abilities; Spatial Abilities; and Attentiveness), Psychomotor (Fine Manipulative Abilities; Control Movement Abilities; and Reaction Time and Speed Abilities), and Physical (Physical Strength Abilities; Endurance; Flexibility, Balance, and Coordination; Visual Abilities; and Auditory and Speech Abilities).

JobScan is a measurement instrument which defines the personality dynamics within a specific type of job. By collecting PDP ProScan Survey results of actual performers and results of job dynamics analysis surveys completed by knowledgeable people related to a specific job, JobScan provides a suggested ideal job model for that position. Although it does not evaluate the intellect or experience necessary to accomplish a task, it does deal with the personality of the type of work itself.

## **Example**

For the job of a snow-cat operator at a ski slope, a work or task-oriented job analysis might include this statement: Operates Bombardier Sno-cat, usually at night, to smooth out snow rutted by skiers and snowboard riders and new snow that has fallen. On the other hand, a worker-oriented job analysis might include this statement: Evaluates terrain, snow depth, and snow condition and chooses the correct setting for the depth of the snow cat, as well as the number of passes necessary on a given ski slope.

Job analysis methods have evolved using both task-oriented and worker-oriented approaches. Since the end result of both approaches is a statement of KSAOs, neither can be considered the "correct" way to conduct job analysis. Because worker-oriented job analyses tend to provide more generalized human behavior and behavior patterns and are less tied to the technological parts of a job, they produce data more useful for developing training programs and giving feed back to employees in the form of performance appraisal information. Also, the volatility that exists in the typical workplace of today can make specific task statements less valuable in isolation. For these reasons, employers are significantly more likely to use worker-oriented approaches to job analysis today than they were in the past.

## **KSAOs**

Regardless of which approach to job analysis is taken, the next step in the process is to identify the attributes—the KSAOs that an incumbent needs for either performing the tasks at hand or executing the human behaviors described in the job analysis.

Knowledge: "A collection of discrete but related facts and information about a particular domain...acquired through formal education or training, or accumulated through specific experiences."

Skill: "A practiced act"

Ability: "The stable capacity to engage in a specific behavior"

Other characteristics: "Personality variables, interests, training, and experiences"

## Methods

Finally, once the appropriate KSAOs are identified, tests and other assessment techniques can be chosen to measure those KSAOs. Over the years, experts have presented several different systems and methods to accomplish job analysis. Many forms of systems are no longer in use, but those systems that still exist have become increasingly detailed over the decades with a greater concentration on tasks and less concentration on human attributes. That trend, however, has reversed in recent years for the better. Newer methods and systems have brought industrial-organizational psychology back to an examination of the behavioral aspects of work.

There are several ways to conduct a job analysis, including: interviews with incumbents and supervisors, work sampling, the repertory grid technique, questionnaires (structured, open-ended, or both), observation, critical incident investigations, hierarchical task analysis, and gathering background information such as duty statements or classification specifications. In job analyses conducted by HR professionals, it is common to use more than one of these methods. Traditional job analysis methods of analysis can be laborious and time consuming, and there is always a tendency on the part of management to over analyze some jobs and under analyze some others. These traditional job analysis methods include: one-on-one interviewing; behavioral event interviews; phone interviews; surveys; work assessments; Developing a Curriculum (DACUM); job analysis worksheets; observations and procedural review. Job analysis at the speed of reality. Amherst, Mass.: HRD Press. All of these methods can be used to gather information for job analysis. The DACUM process developed in the late 1960s has been viewed as the fastest method used, but it still can take two or three days to obtain a validated task list.

**1. Observation:** This was the first method of job analysis used by industrial-organizational psychologists. The process involves simply watching incumbents perform their jobs and taking notes. Sometimes they ask questions while watching, and commonly they even perform job tasks themselves. Near the end of World War II, Morris Viteles studied the job of navigator on a submarine. He attempted to steer the submarine toward Bermuda. After multiple misses by over 100 miles in one direction or another, one officer suggested that Viteles raise the periscope,

look for clouds, and steer toward them since clouds tend to form above or near land masses. The vessel reached Bermuda shortly after that suggestion. The more jobs one seriously observes, the better one's understanding becomes of both the jobs in question and work in general.

**2. Interviews:** It is essential to supplement observation by talking with incumbents. These interviews are most effective when structured with a specific set of questions based on observations, other analyses of the types of jobs in question, or prior discussions with human resources representatives, trainers, or managers knowledgeable about jobs.

**3. Critical incidents and work diaries:** The critical incident technique asks subject matter experts to identify critical aspects of behavior or performance in a particular job that led to success or failure. For example, the supervisor of an electric utility repairman might report that in a very time-pressing project, the repairman failed to check a blueprint and as a result cut a line, causing a massive power loss. In fact, this is what happened in Los Angeles in September 2005 when half the city lost power over a period of 12 hours. The second method, a work diary, asks workers and/or supervisors to keep a log of activities over a prescribed period of time. They may be asked to simply write down what they were doing at 15 minutes after the hour for each hour of the work day. Or, they may list everything they have done up to a break.

**4. Questionnaires and surveys:** Expert incumbents or supervisors often respond to questionnaires or surveys as a part of job analysis. These questionnaires include task statements in the form of worker behaviors. Subject matter experts are asked to rate each statement from their experience on a number of different dimensions like importance to overall job success, frequency performance and whether the task must be performed on the first day of work or can be learned gradually on the job. Questionnaires also ask incumbents to rate the importance of KSAOs for performing tasks, and may ask the subject matter experts to rate work context. Unlike the results of observations and interviews, the questionnaire responses can be statistically analyzed to provide a more objective record of the components of the job. To a greater and greater extent, these questionnaires and surveys are being administered online to incumbents.

**5. The Position Analysis Questionnaire (PAQ)** is a well-known job analysis instrument. Although it is labeled a questionnaire, the PAQ is actually designed to be completed by a trained job analyst who interviews the SMEs (e.g., job incumbents and their supervisors). The PAQ was designed to measure job component validity of attributes presented in aptitude tests. Job component validity is the relationship between test scores and skills required for good job performance. There are 195 behavior-related statements in the PAQ divided into six major sections: information input, mental process, work output, relationships with others, job context, and other job characteristics.

**6. Checklists** are also used as a job analysis method, specifically with areas like the Air Force. In the checklist method, the incumbent checks the tasks he or she performs from a list of task statements that describe the job. The checklist is preceded by some sort of job analysis and is usually followed by the development of work activity compilations or job descriptions. The scope of task statements listed depends upon the judgment of the checklist constructor.

### **Six Steps of Job Analysis**

1. Decide how to use the information since this will determine the data to collect and how to collect it. Some data collection techniques such as interviewing the employee and asking what the job entails are good for writing job descriptions and selecting employees for the job. Other techniques like the position analysis questionnaire do not provide qualitative information for job descriptions. Rather, they provide numerical ratings for each job and can be used to compare jobs for compensation purposes.

2. Review appropriate background information like organization charts, process charts, and job descriptions. Organization charts show the organization-wide work division, how the job in question relates to other jobs, and where the job fits in the overall organization. The chart should show the title of each position and, through connecting lines, show reports to whom and with whom the job incumbent communicates. A process chart provides a more detailed picture of the work flow. In its simplest, most organic form, a process chart shows the flow of inputs to and



outputs from the job being analyzed. Finally, the existing job description (if there is one) usually provides a starting point for building the revised job description.

3. Select representative positions. This is because there may be too many similar jobs to analyze. For example, it is usually unnecessary to analyze jobs of 200 assembly workers when a sample of 10 jobs will be sufficient.

4. Actually analyze the job by collecting data on job activities, necessary employee behaviors and actions, working conditions, and human traits and abilities required to perform the job. For this step, one or more than one methods of job analysis may be needed

5. Verify the job analysis information with the worker performing the job and with his or her immediate supervisor. This will help confirm that the information is factually correct and complete. This review can also help gain the employee's acceptance of the job analysis data and conclusions by giving that person a chance to review and modify descriptions of the job activities.

6. Develop a job description and job specification. These are two tangible products of the job analysis process. The job description is a written statement that describes the activities and responsibilities of the job as well as its important features such as working conditions and safety hazards. The job specification summarizes the personal qualities, traits, skills, and background required for completing a certain job. These two may be completely separate or in the same document.

## **2.2 Job Design concept (Uses of Job Analysis Information)**

**1. Recruitment and Selection:** Job analysis provides information about what the job entails and what human characteristics are required in order to perform these activities. This information, in the form of job descriptions and specifications, helps management officials decide what sort of people they need to recruit and hire and select.

**2. Compensation:** Job analysis information is crucial for estimating the value of each job and its appropriate compensation. Compensation (salary and bonus) usually depends on the job's required skill and education level, safety hazards, degree of responsibility, etc. -- all factors which can be assessed through job

analysis. Also, many employers group jobs into classes. Job analysis provides the information to determine the relative worth of each job and its appropriate class.

**3. Performance Appraisal:** A performance appraisal compares each employee's actual performance with his or her performance standards. Managers use job analysis to determine the job's specific activities and performance standards.

**4. Training:** The job description should show the activities and skills, and therefore training, that the job requires

**5. Discovering Unassigned Duties:** Job Analysis can also help reveal unassigned duties. For example, a company's production manager says an employee is responsible for ten duties, such as production scheduling and raw material purchasing. Missing, however, is any reference to managing raw material inventories. On further study, it is revealed that none of the other manufacturing employees are responsible for inventory management, either. From review of other jobs like these, it is clear that someone should be managing raw material inventories. Therefore, an essential unassigned duty has been revealed.

**6. EEO Compliance:** Job analysis plays a large role in EEO compliance. United States Federal Agencies' Uniform Guidelines on Employee Selection stipulate that job analysis is a necessary step in validating all major personnel activities. For example, employers must be able to show that their selection criteria and job performance are actually related. Doing this requires knowing what the job entails, which in turn requires job analysis.

## **JASR**

The Job Analysis at the Speed of Reality (JASR) method for job analysis is a reliable, proven method to quickly create validated task lists. The end product, which can be used for many purposes, is the basis for many potential training opportunities. This method is a tested process that helps analysts complete a job analysis of a typical job with a group of subject matter experts and managers in two to three hours then deliver a validated task list.

1. Job incumbents should know their jobs better than anyone else. They can provide accurate, timely content information about the job.
2. JASR participants want to spend a minimum amount of time providing job data during a session and business leadership wants to minimize disruption to business operations.
3. Since JASR participants do not spend as much time thinking about training as training professionals do, they do not require much orientation to the process.
4. JASR uses the quickest methods and best possible technology to complete the job analysis.

## **Systems**

For many years, the U.S. Department of labor published the Dictionary of Occupational Titles, which was a comprehensive description of over 20,000 jobs. However, the Department replaced the DOT with O NET online database, which includes all occupations from the DOT plus an additional 3,500. This makes O NET very useful for job analysis.

The O\*Net (an online resource which has replaced the Dictionary of Occupational Titles (DOT)) lists job requirements for a variety of jobs and is often considered basic, generic, or initial job analysis data. Everyone can use this database at no cost and is continually updated by observing workers from each occupation. O\*net also has a Career Exploration Tool which is an assessment to help workers and students who are searching for new careers. Data available from O\*Net includes physical requirements, educational level, and some mental requirements. Task-based statements describing the work performed are derived from the functional job analysis technique. O\*Net also provides links to salary data at the US national, state and city level for each job.

O\*NET was designed with several features in mind, including:

The inclusion of multiple descriptors and content domains to capture the range of ways that work can be described

The development of cross-job descriptors in order to enable comparisons between various jobs

The use of a taxonomic approach to occupational classification to enable full coverage within a content domain.

Using these principles, a content model was developed that identified 6 content domains and specific categories within each domain. These six domains and categories within them include:

**1. Worker characteristics:** enduring individual attributes that influence the capacities workers can develop

Abilities, occupational values and interests, and work styles.

**2. Worker requirements:** general attributes developed through education and experience, thus are more amenable to change than worker characteristics

Knowledge skills and education

**3. Occupational requirements:** descriptors of the work itself rather than the worker

Generalized work activities, work context, and organizational context.

**4. Experience requirements:** types and quantities of experience required for specific occupations

Worker experience in other jobs, related training, on-the-job training, and certification requirements

**5. Individual occupation characteristics:** reflects labor demand, supply, and other labor market information

**6. Occupation-specific requirements:** information unique to a particular job

Occupation-specific skills and knowledge, tasks and duties, and equipment used

### **Job Analysis in modern United States**

Over the past years, the concept of job analysis has been changing dramatically. One observer put it: "The modern world is on the verge of another huge leap in creativity and productivity, but the job is not going to be part of tomorrow's economic reality. There still is and will always be an enormous amount of work to

do, but it is not going to be contained in the familiar envelopes we call jobs. In fact, many organizations are today well along the path toward being "de-jobbed."

Jobs and job descriptions, until recently, tended to follow their prescriptions and to be fairly detailed and specific. By the mid-1900s writers were reacting to what they viewed as "dehumanizing" aspects of pigeonholing workings into highly repetitive and specialized jobs; many proposed solutions like job enlargement, job rotation, and job enrichment. Job enlargement means assigning workers additional same-level tasks, thus increasing the number of activities they perform. Job rotation means systematically moving workers from one job to another. Psychologist Frederick Herzberg argued that the best way to motivate workers is to build opportunities for challenge and achievement into their jobs through job enrichment. Job enrichment means re-designing jobs in a way that increases the opportunities for the worker to experience feelings of responsibility, achievement, growth and recognition.

Whether enriched, specialized or enlarged, workers still generally have specific jobs to do, and these jobs have required job descriptions. In many firms today, however, jobs are becoming more amorphous and difficult to define. In other words, the trend is toward dejobbing.

Dejobbing, broadening the responsibilities of the company's jobs, and encouraging employees to not limit themselves to what's on their job descriptions, is a result of the changes taking place in business today. Organizations need to grapple with trends like rapid product and technological changes, and a shift to a service economy. This has increased the need for firms to be responsive, flexible, and generally more competitive. In turn, the organizational methods managers use to accomplish this have helped weaken the meaning of JOB as a well-defined and clearly delineated set of responsibilities. Here are some methods that have contributed to this weakening of JOB's meaning:

Flatter organizations: Instead of traditional pyramid-shaped organizations with seven or more management layers, flat organizations with only three or four levels are becoming more prevalent

Work teams: Managers increasingly organize tasks around teams and processes rather than around specialized functions. In an organization like this, employees'

jobs change daily and there is an intentional effort to avoid having employees view their jobs as a specific set of responsibilities.

**The Boundaryless Organization:** In a boundaryless organization, the widespread use of teams and similar structural mechanisms reduces and makes more permeable the boundaries that typically separate departments and hierarchical levels. These organizations foster responsiveness by encouraging employees to rid themselves of the 'its not my job' attitudes that typically create walls between one employee's area and another's. Instead, the focus is on defining the project or task at hand in terms of the overall best interests of the organization, therefore further reducing the idea of a job as a clearly defined set of duties.

Most firms today continue to use job analysis and rely on jobs as traditionally defined. More firms are moving toward new organizational configurations built around jobs that are broad and could change daily. Also, modern job analysis and job design techniques could help companies implement high-performance strategies.

### **2.3 Job Classification**

The primary objective of JOB CLASSIFICATION is to define and describe accurately the current duties and responsibilities of positions for the following purposes:

- To aid in recruitment by establishing meaningful qualification requirements

- To determine proper compensation
- To facilitate developing performance standards and performance appraisals
- To identify career and promotional tracks in organizations
- To assign responsibilities related to company business plans and strategies

Classification is based upon the objective elements of a position and does not consider the person assigned, or to be assigned to a job. The skills and performance of the person in the job are not considered when classifying positions. Rather, factors such as the scope and level of the duties and responsibilities, the relationship of the position to other positions and the decision making autonomy are assessed.

Just as people change in an organization, so do job classifications. Organizations are constantly changing job classifications due to new procedures, new initiatives and in some cases, technology.

As job classifications change it is important to consider the impact on employees and performance. A job that is re-classified may result in different reporting relationships, affect how people work together and alter performance measurement benchmarks. Any of these factors separately or in combination change the environment for employees and can result in positive or negative stressors. Different characters will respond differently to these stressors; some performing better with others declining in performance.

The use of the Character Assessment, Competency Matrix Assessment and Job-Balance Assessment tools should be an integral part of an organizations human resource strategy with Job Classification changes. These tools will establish the new level of alignment of employees, in terms of character dynamism, competencies and other parameters to those factors that initiated changes in job classification.

## **2.4 Job Evaluation Methods**

A job evaluation is a systematic way of determining the value/worth of a job in relation to other jobs in an organization. It tries to make a systematic comparison between jobs to assess their relative worth for the purpose of establishing a rational pay structure.

Job evaluation needs to be differentiated from job analysis. Job analysis is a systematic way of gathering information about a job. Every job evaluation method requires at least some basic job analysis in order to provide factual information about the jobs concerned. Thus, job evaluation begins with job analysis and ends at that point where the worth of a job is ascertained for achieving pay equity between jobs.

## **Features**

The purpose of job evaluation is to produce a ranking of jobs on which a rational and acceptable pay structure can be built. The important features of job evaluation may be summarised thus:

It tries to assess jobs, not people.

The standards of job evaluation are relative, not absolute.

The basic information on which job evaluations are made is obtained from job analysis.

Job evaluations are carried out by groups, not by individuals.

Some degree of subjectivity is always present in job evaluation.

Job evaluation does not fix pay scales, but merely provides a basis for evaluating a rational wage structure.

## **Purpose of Job evaluation**

Balance 2 goals: Job evaluation aims at balancing two goals i.e., internal equity and external competitiveness. internal equity:- paying different jobs differently, based on what the job entails. And, external competitiveness :- Paying satisfactory performers what the market is paying.

Focus on job content: - It basically focus on what each individual is doing their part of the jobs efficiently and effectively.

Ranks all jobs :- It seeks to rank all the jobs in a hierarchy with in a hierarchy. This helps to create job structure as well as payment structure for the organization.

## **Process of job evaluation**

The process of job evaluation involves the following steps:

**Gaining acceptance:** Before undertaking job evaluation, top management must explain the aims) and uses of the programme to the employees and unions. To elaborate the program further, oral presentations could be made. Letters, booklets could be used to classify all relevant aspects of the job evaluation programme.



**Creating job evaluation committee:** It is not possible for a single person to evaluate all the key jobs in an organization. Usually a job evaluation committee consisting of experienced employees, union representatives and HR experts is created to set the ball rolling.

**Finding the jobs to be evaluated:** Every job need not be evaluated. This may be too taxing and costly. Certain key jobs in each department may be identified. While picking up the jobs, care must be taken to ensure that they represent the type of work performed in that department.

**Analyzing and preparing job description:** This requires the preparation of a job description and also an analysis of job needs for successful performance.

Selecting the method of evaluation: The most important method of evaluating the jobs must be identified now, keeping the job factors as well as organizational demands in mind.

**Classifying jobs:** The relative worth of various jobs in an organization may be found out after arranging jobs in order of importance using criteria such as skill requirements, experience needed, under which conditions job is performed, type of responsibilities to be shouldered, degree of supervision needed, the amount of stress caused by the job, etc. Weights can be assigned to each such factor. When we finally add all the weights, the worth of a job is determined. The points may then be converted into monetary values.

### **Installing the program**

Once the evaluation process is over and a plan of action is ready, management must explain it to employees and put it into operation.

### **Reviewing periodically**

In the light of changes in environmental conditions (technology, products, services, etc.) jobs need to be examined closely. For example, the traditional clerical functions have undergone a rapid change in sectors like banking, insurance and railways, after computerisation. New job descriptions need to be written and the skill needs of new jobs need to be duly incorporated in the evaluation process.

Otherwise, employees may feel that all the relevant job factors - based on which their pay has been determined - have not been evaluated properly.

For job evaluation to be practicable it is necessary:

that jobs can be easily identified

that there are sufficient differences between different jobs; and

that agreements know the relative importance or worth of different jobs can be negotiated between the enterprise and its employees and/or their representatives..

### **Benefits**

The pay offs from job evaluation may be stated thus:

It tries to link pay with the requirements of the job.

It offers a systematic procedure for determining the relative worth of jobs. Jobs are ranked on the basis of rational criteria such as skill, education, experience, responsibilities, hazards, etc., and are priced accordingly.

An equitable wage structure is a natural outcome of job evaluation. An unbiased job evaluation tends to eliminate salary inequities by placing jobs having similar requirements in the same salary range.

Employees as well as unions participate as members of job evaluation committee while determining rate grades for different jobs. This helps in solving wage related grievances quickly.

Job evaluation, when conducted properly and with care, helps in the evaluation of new jobs.

It points out possibilities of more appropriate use of the plant's labour force by indicating jobs that need more or less skilled workers than those who are manning these jobs currently.

## **Job evaluation methods**

There are three basic methods of job evaluation: (1) ranking, (2) classification, (3) factor comparison. While many variations of these methods exist in practice, the three basic approaches are described here.

### **Ranking method**

Perhaps the simplest method of job evaluation is the ranking method. According to this method, jobs are arranged from highest to lowest, in order of their value or merit to the organization. Jobs can also be arranged according to the relative difficulty in performing them. The jobs are examined as a whole rather than on the basis of important factors in the job; the job at the top of the list has the highest value and obviously the job at the bottom of the list will have the lowest value. Jobs are usually ranked in each department and then the department rankings are combined to develop an organizational ranking. The variation in payment of salaries depends on the variation of the nature of the job performed by the employees. The ranking method is simple to understand and practice and it is best suited for a small organisation. Its simplicity however works to its disadvantage in big organisations because rankings are difficult to develop in a large, complex organisation. Moreover, this kind of ranking is highly subjective in nature and may offend many employees. Therefore, a more scientific and fruitful way of job evaluation is called for.

### **Classification method**

According to this method, a predetermined number of job groups or job classes are established and jobs are assigned to these classifications. This method places groups of jobs into job classes or job grades. Separate classes may include office, clerical, managerial, personnel, etc. Following is a brief description of such a classification in an office.

Class I - Executives: Further classification under this category may be Office Manager, Deputy office manager, Office superintendent, Departmental supervisor, etc.

Class II - Skilled workers: Under this category may come the Purchasing assistant, Cashier, Receipts clerk, etc.

Class III - Semiskilled workers: Under this category may come Stenotypists, Machine-operators, Switchboard operator etc.

Class IV - Unskilled workers: This category comprises Daftaris[clarification needed], File clerks, Office boys, etc.

The job classification method is less subjective when compared to the earlier ranking method. The system is very easy to understand and acceptable to almost all employees without hesitation. One strong point in favour of the method is that it takes into account all the factors that a job comprises. This system can be effectively used for a variety of jobs. The weaknesses of the job classification method are:

Even when the requirements of different jobs differ, they may be combined into a single category, depending on the status a job carries.

It is difficult to write all-inclusive descriptions of a grade.

The method oversimplifies sharp differences between different jobs and different grades.

When individual job descriptions and grade descriptions do not match well, the evaluators have the tendency to classify the job using their subjective judgments.

### **Factor comparison method**

A more systematic and scientific method of job evaluation is the factor comparison method. Though it is the most complex method of all, it is consistent and appreciable. Under this method, instead of ranking complete jobs, each job is ranked according to a series of factors. These factors include mental effort, physical effort, skill needed, responsibility, supervisory responsibility, working conditions and other such factors (for instance, know-how, problem solving abilities, accountability, etc.). Pay will be assigned in this method by comparing the weights of the factors required for each job, i.e., the present wages paid for key jobs may be divided among the factors weighted by importance (the most important factor, for instance, mental effort, receives the highest weight). In other words, wages are assigned to the job in comparison to its ranking on each job factor.

The steps involved in factor comparison method may be briefly stated thus:

Select key jobs (say 15 to 20), representing wage/salary levels across the organisation. The selected jobs must represent as many departments as possible.

Find the factors in terms of which the jobs are evaluated (such as skill, mental effort, responsibility, physical effort, working conditions, etc.).

Rank the selected jobs under each factor (by each and every member of the job evaluation committee) independently.

Assign money value to each level of each factor (example: consider problem solving is one of the factor, what level of problem solving is required {basic, intermediate or advance}) and determine the wage rates for each key job.

The wage rate for a job is apportioned along the identified factors.

All other jobs are compared with the list of key jobs and wage rates are determined. An example of how the factor comparison method works is given below:

After the wage rate for a job is distributed along the identified and ranked factors, all other jobs in the department are compared in terms of each factor. Suppose the job of a 'painter' is found to be similar electrician in skill (15), fitter in mental effort (10), welder in physical effort (12) cleaner in responsibility! (6) and labourer in working conditions (4). The wage rate for this job would be  $(15+10+12+6+4)$  is47.j

### **Point method**

This method is widely used currently. Here, jobs are expressed in terms of key factors. Points are assigned to each factor after prioritizing each factor in order of importance. The points are summed up to determine the wage rate for the job. Jobs with similar point totals are placed in similar pay grades. The procedure involved may be explained thus:

1. Select key jobs. Identify the factors common to all the identified jobs such as skill, effort, responsibility, etc.

2. Divide each major factor into a number of sub factors. Each sub factor is defined and expressed clearly in the order of importance, preferably along a scale.

The most frequent factors employed in point systems are (i) Skill (key factor); Education and training required, Breadth/depth of experience required, Social skills required, Problem-solving skills, Degree of discretion/use of judgment, Creative thinking (ii) Responsibility/Accountability: Breadth of responsibility, Specialized responsibility, Complexity of the work, Degree of freedom to act, Number and nature of subordinate staff, Extent of accountability for equipment/plant, Extent of accountability for product/materials; (iii) Effort: Mental demands of a job, Physical demands of a job, Degree of potential stress

The educational requirements (sub factor) under the skill (key factor) may be expressed thus in the order of importance.

3. Find the maximum number of points assigned to each job (after adding up the point values of all sub-factors of such a job).

This would help in finding the relative worth of a job. For instance, the maximum points assigned to an officer's job in a bank come to 540. The manager's job, after adding up key factors + sub factors points, may be getting a point value of say 650 from the job evaluation committee. This job is now priced at a higher level.

4, Once the worth of a job in terms of total points is expressed, the points are converted into money values keeping in view the hourly/daily wage rates. A wage survey is usually undertaken to collect wage rates of certain key jobs in the organization. Let's explain this:

### **Market Pricing**

Market pricing is the process for determining the external value of jobs, allowing you to establish wage and salary structures and pay rates that are market sensitive. Job matching session is conducted.

## **Merits and demerits**

The point method is a superior and widely used method of evaluating jobs. It forces raters to look into all key factors and sub-factors of a job. Point values are assigned to all factors in a systematic way, eliminating bias at every stage. It is reliable because raters using similar criteria would get more or less similar answers. The methodology underlying the approach contributes to a minimum of rating error (Robbins p. 361). It accounts for differences in wage rates for various jobs on the strength of job factors. Jobs may change over time, but the rating scales established under the point method remain unaffected. On the negative side, the point method is complex. Preparing a manual for various jobs, fixing values for key and sub-factors, establishing wage rates for different grades, etc., is a time consuming process, According to Decenzo and Robbins, "the key criteria must be carefully and clearly identified, degrees of factors have to be agreed upon in terms that mean the same to all rates, the weight of each criterion has to be established and point values must be assigned to degrees". This may be too taxing, especially while evaluating managerial jobs where the nature of work (varied, complex, novel) is such that it cannot be expressed in quantifiable numbers.

## **Limitations of job evaluation**

1. Job evaluation is not exactly scientific.
2. The most of the techniques are difficult to understand, even for the supervisors.
3. The factors taken by the programme are not exhaustive.
4. There may be wide fluctuations in compensable factors in view of changes in technology, values and aspirations of employers, etc.
5. Employees, trade union leaders, management and the programme operators may assign different weight to different factors, thus creating grounds for dispute.

## **Concept of job design**

What is job design? As we just explained, job analysis provides job-related data as well as the skills and knowledge required for the incumbent to perform the job. A better job performance also requires deciding on sequence of job contents. This is called 'job design'. Job design is a logical sequence to job analysis. In other words,

job design involves specifying the contents of a job, the work methods used in its performance and how the job relates to other jobs in the organization.

A few definitions on job design are produced here with a view to help you understand the meaning of job design in a better manner. Michael Armstrong<sup>11</sup> has defined job design as "the process of deciding on the contents of a job in terms of its duties and responsibilities, on the methods to be used in carrying out the job, in terms of techniques, systems and procedures, and on the relationships that should exist between the job holder and his superiors, subordinates and colleagues".

Mathis and Jackson<sup>12</sup> have defined job analysis as "a process that integrates work content (tasks, functions, relationships), the rewards(extrinsic and intrinsic), and the qualifications required (skills, knowledge, abilities) for each job in a way that meets the needs of employees and organizations."

Popplewell and Wildsmith<sup>13</sup> define job design in these words: ".....involves conscious efforts to organize tasks, duties, and responsibilities into a unit of work to achieve certain objectives".

Having gone through the above definitions of job design, it can now be described as a deliberate attempt made to structure both technical and social aspects of the job to attain a fit between the individual (job holder) and the job. The very idea is that job should be designed in such a way as to enable employees to control over the aspects of their work. The underlying justification being that by doing this, it enhances the quality of the work life, harnesses the potential of the workers in a more effective manner and thereby improves employee performance.

### **Techniques for designing jobs**

Basically, there are four techniques used in the design of jobs. These include Job simplification, Job enlargement, Job enrichment and Job rotation.

#### **Job simplification**

Job simplification is a design method whereby jobs are divided into smaller components and subsequently assigned to workers as whole jobs. Simplification of work requires that jobs be broken down into their smallest units and then analysed.



Each resulting sub-unit typically consists of relatively few operations. These subunits are then assigned to the workers as their total job. Many fast food restaurants such as McDonald's, Burger King and Nirula's use simplification because employees can learn tasks rapidly; short work cycles allow task performance with little or no mental effort and low-skilled and low-paid employees can be hired and trained easily.

On the negative side, job simplification results in workers experiencing boredom, frustration, alienation, lack of motivation and low job satisfaction. This, in turn, leads to lower productivity and increased cost.

### **Job enlargement**

Job enlargement expands a job horizontally. It increases job scope; that is, it increases the number of different operations required in a job and the frequency with which the job cycle is repeated. By increasing the number of tasks an individual performs, job enlargement increases the job scope, or job diversity. Instead of only sorting the incoming mail by department, for instance, a mail sorter's job could be enlarged to include physically delivering the mail to the various departments or running outgoing letters through the postage meter.

Efforts at job enlargement have met with less than enthusiastic results. As one employee who experienced such a redesign on his job remarked, "Before I had one lousy job. Now, through enlargement, I have three!" So while job enlargement attacks the lack of diversity in overspecialized jobs, it has done little to provide challenge or meaningfulness to a worker's activities.

### **Job rotation**

Job rotation refers to the movement of an employee from one job to another. Jobs themselves are not actually changed, only the employees are rotated among various jobs. An employee who works on a routine job moves to work on another job for some hours/days/months and returns to the first job. This measure relieves the employee from the boredom and monotony, improves the employee's skills regarding various jobs and prepares worker's self-image and provides personal growth. However, frequent job rotations are not advisable in view of their negative impact on the organization and the employee.

## **Job enrichment**

Job enrichment, as currently practiced in industry, is a direct outgrowth of Herzberg's Two Factor Theory of motivation. It is, therefore, based on the assumption that in order to motivate personnel, the job itself must provide opportunities for achievement recognition, responsibility, advancement and growth. The basic idea is to restore to jobs the elements of interest that were taken away under intensive specialization. Job enrichment tries to embellish the job with factors that Herzberg characterized as motivators: achievement, recognition, increased responsibilities, opportunities for growth, advancement and increased competence. There is an attempt to build into jobs a higher sense of challenge and achievement, through vertical job loading. 6 Job enrichment has four unique aspects:

It changes the basic relationship between employees and their work. Interesting and challenging work, as studies have proved, can be a source of employee satisfaction.

It changes employee behaviors in ways that gradually lead to more positive attitudes about the organization and a better self-image. Feeling of autonomy and personal freedom help employees view their jobs in a favorable way.

It helps the employer to bring about organizational changes easily, securing employee cooperation and commitment.

Job enrichment can humanize an organization. 'Individuals can experience the psychological that comes from developing new competencies and doing a job well. Individuals are encouraged to grow and push themselves.'

Many companies in India realized the importance of offering jobs having depth, variety and meaningfulness to their employees long back. ICICI, Procter & Gamble, Infosys, Bharat Petroleum, Asian Paints, HLL and Hughes Software have certain things in common: greater opportunities to grow vertically open communication, flexible working hours, excellent reward schemes, employee-oriented work environment, sharing with and learning from others etc. The BT-

Hewlett Associates study has clearly indicated the benefits of having such excellent practices.

Employees in the above companies displayed tremendous pride in what their company does and in its products and services. They also believed in its future prospects.

Employees in the above companies admired their leadership for making them feel 'safe and well-led'.

This article is written like a personal reflection or opinion essay rather than an encyclopedic description of the subject. Please help improve it by rewriting it in an encyclopedic style. (November 2012)

A job evaluation is a systematic way of determining the value/worth of a job in relation to other jobs in an organisation. It tries to make a systematic comparison between jobs to assess their relative worth for the purpose of establishing a rational pay structure.

Job evaluation needs to be differentiated from job analysis. Job analysis is a systematic way of gathering information about a job. Every job evaluation method requires at least some basic job analysis in order to provide factual information about the jobs concerned. Thus, job evaluation begins with job analysis and ends at that point where the worth of a job is ascertained for achieving pay equity between jobs.