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PEER REVIEW

SEE *Performance Appraisal; Performance Audits*

PENETRATION PRICING

SEE *Marketing; Marketing Mix; Pricing*

PERFORMANCE APPRAISAL

Performance appraisal (PA) is one of the important components in the rational and systemic process of human resource management. The information obtained through performance appraisal provides foundations for recruiting and selecting new hires, training and development of existing staff, and motivating and maintaining a quality work force by adequately and properly rewarding their performance. Without a reliable performance appraisal system, a human resource management system falls apart, resulting in the total waste of the valuable human assets a company has.

There are two primary purposes of performance appraisal: evaluative and developmental. The evaluative purpose is intended to inform people of their performance standing. The collected performance data are frequently used to reward high performance and to punish poor performance. The developmental purpose is intended to identify problems in employees performing the assigned task. The collected performance data are used to provide necessary skill training or professional development.

The purpose of the performance appraisal must be clearly communicated both to raters and ratees, because their reactions to the appraisal process are significantly different depending on the intended purpose. Failure to inform about the purpose or misleading information about the purpose may result in inaccurate and biased appraisal reports.

CRITICAL CRITERIA OF DEVELOPING A PA SYSTEM

In order for performance appraisal information to be useful, the PA system must be able to consistently produce

Partial graphic rating scale

Instructions: Carefully review employee's work performance during the period indicated above and write in the space an appropriate rating as described below.

1. Unsatisfactory. Performance outcomes are generally unacceptable.
2. Needs Improvement. Performance is deficient in certain areas and improvement is necessary.
3. Average. Performance results consistently meet requirements.
4. Good. Performance outcomes frequently exceed requirements.
5. Excellent. Performance outcomes consistently exceed requirements. Performance is of high quality in every aspect.

Evaluation Factors:

- ____ 1. Quantity of work: Considering the volume of work achieved, is he/she at the acceptable level?
- ____ 2. Quality of work: Considering accuracy, precision, completeness, and other quality of work, is he/she at the acceptable level?
- ____ 3. Job knowledge: Does he/she have adequate skills and knowledge to perform the job?

Figure 1

reliable and valid results. Measurement items in the performance appraisal system must be designed in such a way that the results of rating are consistent regardless of the raters and the timing of the assessment.

Another critical criterion in developing a PA system is the validity of the measurements. It is important to make sure that the appraisal items are really measuring the intended performance or target behavior. If they are not, the PA system encourages the wrong kind of work behaviors and produces unintended, frequently negative, organizational outcomes. For instance, if the number of traffic violation tickets issued is an item in performance appraisal of police officers, it encourages them to sit on a corner of a street and pull over as many violators as possible during heavy traffic hours. The true purpose of a police force, which is public safety, may become secondary to issuing a large number of tickets for many officers.

WHAT TO EVALUATE

The first important step in developing a PA system is to determine which aspects of performance to evaluate. The most frequently used appraisal criteria are traits, behaviors, and task outcomes.

Traits. Many employees are assessed according to their traits, such as personality, aptitudes, attitudes, skills, and abilities. Traits are relatively easy to assess once a rater gets to know rates. But traits are not always directly related to job performance. Trait-based assessment lacks validity and thus frequently raises legal questions.

Behaviors. For many jobs, performance is so broadly defined or so conceptual in nature—such as ensuring public safety in the police department—that it is hard to come up with reliable performance measures. In such cases, desirable behaviors can be identified and assessed in the belief that such behaviors lead to successful performance. Such behavior-focused assessment encourages employees to adopt desirable behavioral patterns in the workplace.

Task Outcomes. When information about task outcomes is readily available, it is the most appropriate factor to use in evaluating performance. When an organization has a clear and measurable goal as in the case of a sales force, this approach is recommended. However, it has its own pitfalls. There is a problem if employee behaviors are not directly related to the task outcome. Too narrow a focus on measuring outcome only sometimes results in unintended negative consequences. When sales staff narrowly focus on target sales figures to increase their performance measure, for example, they are encouraged to help a few

large-volume customers and to ignore many smaller buyers. This may result in poor customer service on the floor.

WHO EVALUATES?

The most common raters of performance are employees' immediate supervisors, who are usually in the best position to know and observe the employees' job performance. They are also responsible for employees' work. Their evaluation is a powerful tool in motivating employees to achieve successful and timely completion of tasks. However, as a result of working together over a long time with the same employees, the immediate supervisor may build up a fixed impression about each employee and use it every time he or she has to evaluate performance.

Some companies find that subordinates are in an excellent position to observe and evaluate their managers' performance, especially when it comes to measuring effective management of their department. While there is merit in asking subordinates to evaluate how they are managed, such evaluation may turn into a popularity contest. Accurate and objective assessment may not be obtained if employees are fearful of possible retaliation from their supervisors. Anonymity of the evaluators is key to the successful use of subordinates for objective evaluation.

Other raters who are frequently used in some companies include peers, customers, and the employees themselves. Peer evaluation is particularly useful when teamwork and collegiality are important to successful task performance. Peer pressure is sometimes a powerful motivator in encouraging teamwork among members. Customer satisfaction is vital to a company's success and can be used in performance appraisal. Many companies systematically collect performance information from customers, typically through anonymous surveys and interviews. Self-assessment is also a useful means, especially when the performance appraisal is intended to identify the training and development needs of potential employees.

Each of these raters contributes to assessing certain aspects of performance. Since job performance is multidimensional in nature, it is important to use different raters or a combination of multiple raters depending on the goal of a performance appraisal system. This multirater evaluation, or so-called 360-degree feedback system, is becoming increasingly popular among many American corporations, including General Electric, AT&T, Warner Lambert, and Mobil Oil.

PA METHODS

To ensure the reliability and validity of a PA system, a company must design the evaluation process carefully and

Behaviorally anchored rating scale	
Job: Project Manager	
Scale values	Anchors
9	Develops a comprehensive schedule, documents it, obtains required approvals, and distributes it to all concerned.
8	Plans, communicates, and observes target dates and updates the status of operations relative to plans, making schedule modifications as quickly as necessary
7	Experiences minor operational problems but still communicates effectively, laying out all parts of the job and schedules for each
6	Usually satisfies time constraints, with time and cost overruns coming up infrequently
5	Makes list of due dates and revises them but is frequently surprised by unforeseen events
4	Has a sound plan but neglects to keep track of target dates or to report schedule slippages or other problems as they occur
3	Plans poorly, with ill-defined, unrealistic time schedules
2	Has no plan or schedule of work and no concept of realistic due dates
1	Fails consistently to complete work on time because of no planning; expresses no interest in how to improve

Figure 2

develop appropriate measuring scales. Among the many assessment methods developed by human resource management experts, commonly used ones include the Graphic Rating Scale, Behaviorally Anchored Rating Scale, Narrative Technique, Critical-Incident Method, Multiperson Comparison Method, Forced Choice Method, and Forced Distribution Method.

The Graphic Rating Scale is the simplest and most popular method for performance appraisal. As shown on Figure 1, the Graphic Rating Scale offers a list of areas related to job performance. A manager rates each employee on the listed areas according to a numerical score. Although this method is relatively simple and quick to complete, some experts question its validity and reliability. Without elaborate description, appraisal items and scores are subject to various interpretations of raters.

In order to overcome pitfalls of the Graphic Rating Scale, numerous other methods have been developed. The Behaviorally Anchored Rating Scale (BARS), illustrated in Figure 2, offers rating scales for actual behaviors that exemplify various levels of performance. Because raters check off specific behavior patterns of a ratee, PA results of BARS are more reliable and valid than those of the Graphic Rating Scale. Human resource managers must carefully analyze each job and develop behavior patterns pertinent to various levels of performance for the job before they use the BARS.

The Narrative Technique is a written essay about an employee's job performance prepared by a rater. The essay

typically describes the ratee's job-related behaviors and performance. Without standard performance description, it is a cumbersome task for raters to write an essay for several employees. For example, a rater can be asked to describe the activities, achievements, and level of performance of the employee in a completely open-ended format (unstructured narration). Alternatively, the rater can be provided with some structure to use in the evaluation; for example, "Describe briefly the activities, achievements, and level of performance of the staff member in the following areas: (1) work habits, (2) planning and organizing the tasks, (3) management skills, communications, and development of others."

The performance review form at a college asks an evaluator to describe the activities, accomplishments, and creative works of the professors in the areas of (1) teaching and (2) research/creative activity. A dean of the college writes about the professor's teaching performance: "Dr. Michael Johnson has been nominated by his students for the Outstanding Teacher Award several times during his service. He introduced many teaching innovations into his classes. His teaching record is exemplary." In the area of creative activity, the dean writes, "Dr. Johnson has a strong and productive research record with a defined focus in organizational leadership. His research has been recognized with several awards given by professional organizations. His creative activity is exemplary."

Similar to the Narrative Technique is the Critical-Incident Method, which involves keeping a running log of

Paired comparison method of employee evaluation					
For the quality of work: Performance in meeting quality standards					
Employees that are rated:					
	Amy	Barbara	Charlie	Dave	Elaine
As compared to:					
Amy		+	+	–	–
Barbara	–		–	–	–
Charlie	–	+		+	–
Dave	+	+	–		+
Elaine	+	+	+	–	

Note: Barbara ranks the highest.

Figure 3

effective and ineffective job performance. For example, the PA log of an employee, Mr. Campbell, contains Unsatisfactory Incidents as follows: 1/28/2000: "Refused to try a new work procedure," and 2/15/2000: "Argued with a customer about the origin of error in the paperwork." The log also contains Satisfactory Incidents as follows: 1/20/2000: "Volunteered to help Charlie complete his assignment in time"; 2/19/2000: "Trained new employees in safety regulations."

The Multiperson Comparison Method asks raters to compare one person's performance with that of one or more others. It is intended to effectively eliminate the possibility of giving the same rating to all employees. In order to separate performance scores among multiple employees, the Forced Choice or Forced Distribution Methods are adopted. Raters must choose one high performer from the list of employees or distribute certain scores to employees at different ranks. For example, only one top person will get 40 percent, two second-rank persons 20 percent, and the bottom one person 10 percent. The Paired Comparison Method is a special case of the Multiperson Comparison Method. Everyone in the evaluation pool is compared against everyone else as a pair and recorded "plus" or "minus" when the target ratee is better or worse, respectively, than his/her comparison. The final performance ranks are determined by the number of positives. Figure 3 provides an example.

SUBJECTIVITY AND OBJECTIVITY

Accuracy is critical to performance appraisal. In order to obtain accurate performance information, raters must provide objective and unbiased ratings of employees. However, because it is almost impossible to develop a perfectly accurate performance checklist, managers' subjective

opinions are frequently called for. Many companies use some combination of subjective and objective assessment for actual performance appraisal.

Yet there are numerous problems in the actual assessment of employee performance, mainly due to rater bias. Some raters tend to rate all employees at the positive end rather than to spread them throughout the performance scale; this is called leniency. Alternatively, central tendency, which places most employees in the middle of the scale, also raises concern about possible appraisal error.

Another common error in performance appraisal is the halo effect. This occurs when a manager's general impression of an employee, after observing one aspect of performance, influences his/her judgment on other aspects of the employee's performance.

Researchers have found that personal preferences, prejudices, appearances, first impressions, race, and gender can influence many performance appraisals. Sometimes raters' personal opinions or political motives creep into the performance appraisal process. They intentionally inflate or deflate performance ratings of certain employees as a way to punish them or promote them out of the department.

Using unreliable and unvalidated performance appraisals may cause a legal problem. A number of court cases have ruled that the performance appraisal systems used by many companies were discriminatory and in violation of Title VII of the Civil Rights Act.

In order to avoid legal problems, companies must develop an appraisal system based on careful job analysis and establish its reliability and validity. They must give clear written instructions to raters for completing evaluations and provide them adequate training if necessary. The company must allow employees to review the results of

the appraisals. Human resources departments must play a key role in the development and implementation of an effective performance appraisal system.

SEE ALSO *Management; Motivation*

BIBLIOGRAPHY

- Bernardin, H. J., Kane, J. S., Ross, S., Spina, J. D., and Johnson, D. L. (1996). Performance Appraisal Design, Development, and Implementation. In Gerald R. Ferris, Sherman D. Rosen, and Darold T. Barnum (Eds.), *Handbook of Human Resource Management*, Cambridge, MA: Blackwell, 462–493.
- Cascio, W. F., and Aguinis, Herman (2005). *Applied Psychology in Human Resource Management* (6th ed.). Upper Saddle River, NJ: Pearson Prentice-Hall.
- Cawley, B. D., Keeping, L. M., and Levy, P. E. (1998). Participation in the Performance Appraisal Process and Employee Reactions: A Meta-Analytic Review of Field Investigations. *Journal of Applied Psychology*, 83(4), 615–633.
- DeNisi, A. S., Robbins, T. L., and Summers, T. P. (1997). Organization, Processing, and Use of Performance Information: a Cognitive Role for Appraisal Instruments. *Journal of Applied Social Psychology*, 27, 1884–1905.
- Greller, M. M. (1998). Participation in the Performance Appraisal Review: Inflexible Manager Behavior and Variable Worker Needs. *Human Relations*, 51:8, 1061–1083.
- Grote, D. (1996). *The Complete Guide to Performance Appraisal*, New York: AMACOM Book Division.
- Illgen, Daniel R., Barnes-Farrell, Janet L., and McKellin, David B. (1993). Performance Appraisal Process Research in the 1980s: What Has It Contributed to Appraisals in Use? *Organizational Behavior and Human Decision Processes*, 54, 321–368.
- Jawahar, I. M., and Stone, T. H. (1997). Influence of Raters' Self-Consciousness and Appraisal Purpose on Leniency and Accuracy of Performance Ratings. *Psychological Reports*, 80: 323–336.
- Jourdan, J. L., and Nasis, D. B. (1992). Preferences for Performance Appraisal Based on Method Used, Type of Rater, and Purpose of Evaluation. *Psychological Report*, 70: 963–969.
- Kaplan, R. E. (1993). 360-Degree Feedback Plus: Boosting the Power of Co-Worker Ratings for Executives. *Human Resource Management*, 32, 299–314.
- Kravitz, D. A., and Balzer, W. K. (1992). Context Effects in Performance Appraisal: a Methodological Critique and Empirical Study. *Journal of Applied Psychology*, 77, 24–31.
- Mount, M. K., Judge, J. A., Scullen, S. E., Sytsma, M. R., and Hezlett, S. A. (1998). Trait, Rater, and Level Effects in 360-Degree Performance. *Personnel Psychology*, 51(3), 557–577.
- Peach, E. B., and Buckley, M. R. (1993). Pay for Performance. In H. J. Bernardin and J. Russell (eds.), *Human Resource Management: An Experiential Approach* (482–515). New York: McGraw-Hill.
- Sanches, J. I., De La Torre, P. (1996, December). A Second Look at the Relationship Between Rating and Behavioral Accuracy in Performance Appraisal. *Journal of Applied Psychology*, 81, 3–10.

Schneider, C. E. and R. W. Beatty (1979, August). Developing Behaviorally Anchored Rating Scales (BARS). *The Personnel Administrator*, 59–68.

Smith, H. P., and Brouwer, P. J. (1997). *Performance Appraisal and Human Development*, Reading, MA: Addison-Wesley.

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PERFORMANCE AUDITS

Performance audits, the public version of operational audits, are conducted to determine if an entity's operations, programs, or projects are functioning effectively and efficiently to achieve goals established. All levels of public administration in the United States—from municipalities to the federal agencies—undergo performance audits. Since all levels of government in the United States have some federal funding, the professional standards for performance audits established by the U.S. Government Accountability Office (GAO) are required for auditors who perform such engagements. Government auditing standards include the following definition for a performance audit:

An objective and systematic examination of evidence to provide an independent assessment of the performance and management of a program against objective criteria as well as assessments that provide a prospective focus or that synthesize information on best practices or cost-cutting issues. (GAO, 2003, p. 21)

Accountability is the key motivation for performance audit engagements. The performance audit, therefore, is perceived to be a valuable means of determining if goals have been achieved, as well as valuable in identifying what is needed to improve program operations.

The specific objectives of such audits, as noted in the GAO standards, are varied. Among objectives are those relating to program effectiveness, economy and efficiency in the use of resources, internal control, extent of compliance with legal requirements and policies, and prospective analyses.

NATURE OF PROFESSIONAL GUIDANCE PROVIDED

The GAO professional standards for performance audits are categorized as general, field, and reporting. The general standards established by the GAO apply to not only performance audits, but also to financial and attestation engagements. There are field and reporting standards, however, specifically for performance audits. The authority of the standards is identified in a footnote that states: