

THE NEW APPRAISAL PROCESS IS A LARGE STEP FORWARD IN THE DIRECTION OF REDUCING THE SUBJECTIVITY OF PERFORMANCE APPRAISALS.

A NUMERIC PLAN FOR PERFORMANCE APPRAISAL

BY JACK HAMELINK
AND JERRY HAMELINK

When a technical person first encounters the supervisory task of employee performance evaluation, they are faced with the dilemma of bridging the gap between their objective technical background and their subjective management responsibility. They attempt to convert the evaluation criteria involved in any appraisal process into a numerical basis with which they feel comfortable.

Many employing units, in view of recent affirmative action legislation, converted their salaried employee assessment process to a system which involves terms such as key elements, performance standards, actual performance and performance deficiencies. Since these authors were technical in background and experience, the "at-taboys," "aw shucks," "warm fuz-zies," "cold pricklies" and "touchy feelies" in addition to the terms listed previously associated with the appraisal process was a real blow to their technical sensitivities. Obviously, when "apprais-

als conducted" is a key element of one's job, and one's own evaluation will in part be based on the conduct of performance appraisals on one's subordinates, this key element will not be ignored.

Problem Definition

Key elements can be defined as those duties which contribute significantly to the accomplishment of the job purpose or completion of the job objectives. In order to determine whether a person is accomplishing the purpose of their job, a supervisor must examine the worker's key elements in view of some yardstick.

The yardstick (performance standard) of a key element is tailored to the job, and every job with the same key elements for similar employees with the same grade have the same performance standards for satisfactory completion of that key element. An employee who has an overall "standard" rating is a satisfactory employee. However, for most salaried employees: 1. Some key elements are more important than others; 2. Actual performance for

the various key elements vary with the same employee, i.e., some key elements will be performed above standard, some at standard and some below standard. The supervisor not only has to rate the actual performance in view of the performance standard for each key element, but must give each key element a weighing factor to arrive at an overall rating for the relative accomplishment of the job purpose by the employee.

With these boundaries imposed on an already difficult and subjective evaluation, the responsibility of being fair and objective to each employee is significant.

Attack!

Consider assigning a numerical value to each key element reflecting its relative importance to the job purpose. Assign also a number to the performance standard and one to the actual performance based on the relative difficulty of accomplishing the particular key element and percentage of accomplishment of that key element. The resolution of the problem will then be as shown in Figure 1.

In equation form:

1. If $AP - PS > 0$; then $AP - PS = AS$

2. If $AP - PS < 0$; then $AP - PS = BS$ or D

Since, in theory, one's performance is what gets him/her somewhere, performance should be expressed as a vector quantity. (A vector quantity is one that has both magnitude and direction.) Re-writing equations one and two in vector notation yields the following:

3. $\overline{AP} - \overline{PS} = \overline{AS}\uparrow$ (arrow \uparrow represents upward mobility) when $AP - PS > 0$

4. $\overline{AP} - \overline{PS} = \overline{D}\downarrow$ (arrow \downarrow represents downward mobility) when $AP - PS < 0$

The resolution of the overall performance can then be obtained by calculating the Root Mean Square (RMS) of the mobility vectors $\overline{AS}\uparrow$ and $\overline{D}\downarrow$. Therefore, for "k" key elements, where $i + j \leq k$;

5. $RMS = \sqrt{(\overline{D}_i\downarrow \cdot \overline{D}_i\downarrow) + (\overline{AS}_j\uparrow \cdot \overline{AS}_j\uparrow)}$

where $i = 0 \rightarrow n_1$ key elements where a deficiency exists and $j = 0 \rightarrow m_1$ key elements where the performance is above standard.

Since most key elements have a variety of respective degrees of importance to the accomplishment of the job purpose, equation 5 can be re-written reflecting this flexibility as:

6. $RMS = \sqrt{[KE_1 \overline{D}_1\downarrow \cdot KE_1 \overline{D}_1\downarrow + KE_2 \overline{D}_2\downarrow \cdot KE_2 \overline{D}_2\downarrow + \dots] + [KE_3 \overline{AS}_1\uparrow \cdot KE_3 \overline{AS}_1\uparrow$

$+ KE_4 \overline{AS}_2\uparrow \cdot KE_4 \overline{AS}_2\uparrow + \dots]}$

Solution

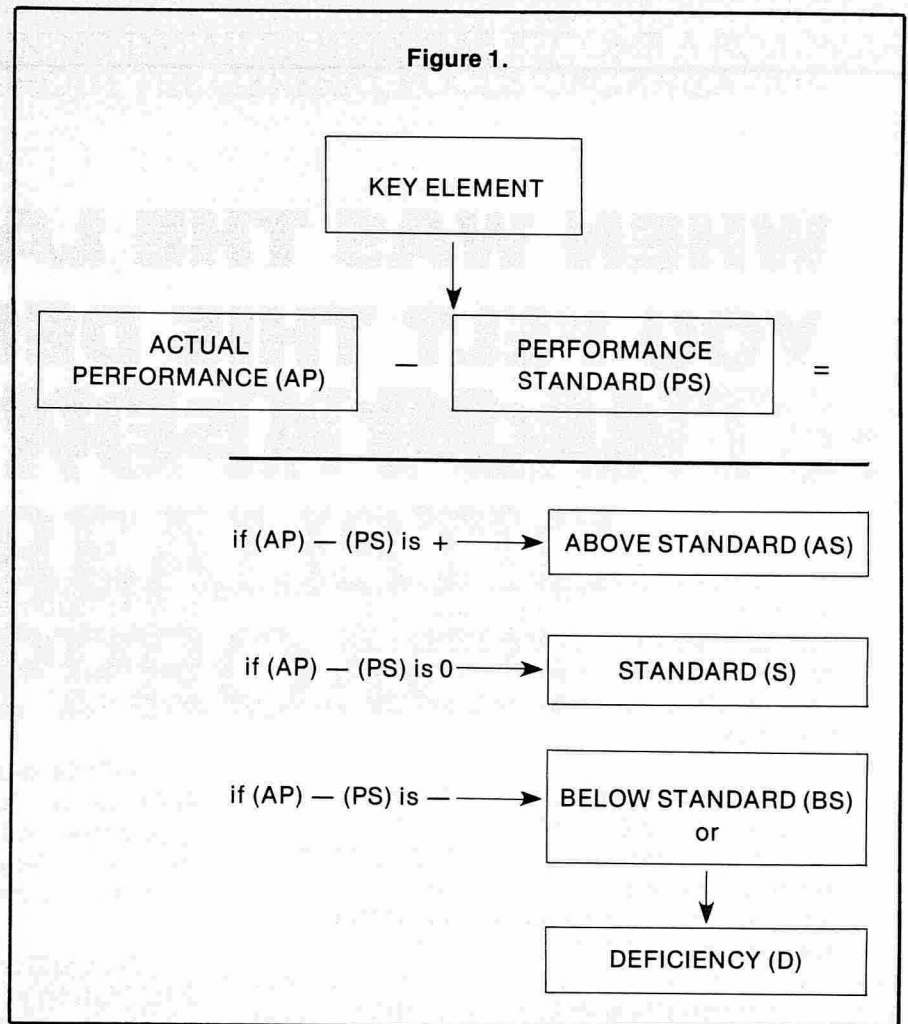
After plugging in the respective numerical values for the various key elements where the employee has an actual performance other than standard, the $(RMS)^2$ value can be determined. If the $(RMS)^2$ is positive (where the employee's overall performance is less than standard) the RMS can be calculated yielding an overall performance factor which can be used to rank relative deficiencies of the

*Key elements which are being performed at "standard" have an $\overline{AS}_j\uparrow = 0$ and/or a $\overline{D}_i\downarrow = 0$, therefore, do not need to be considered.

various employees rated. These deficiencies which are tied to the key elements can be examined by the supervisor and corrective action can be planned to get the employee up to standard. If $(RMS)^2 = 0$, the employee's performance is standard because RMS is also 0. However, if $(RMS)^2$ is negative, taking the square root of that number yields $iRMS$ which is mathematically an imaginary number since no real number times itself can possibly be negative.

This isn't all bad, because this square root of a negative number fits a criteria of the over performing employee. The over performing employee state is also imaginary or at most an unstable or transitory state, because in reality, either the under performer gets to the over performer, or the supervisor recognizes the over performer, gives him more work coupled with "atta-boys" and "warm fuzzies" until the employee rebels and gives the supervisor an "aw shucks" and a "cold prickley"

Figure 1.



thereby developing deficiencies. Once the employee develops deficiencies, he lowers his $[KE_3 \overline{AS}_1\uparrow + KE_3 \overline{AS}_1\uparrow + KE_4 \overline{AS}_2\uparrow + KE_4 \overline{AS}_2\uparrow + \dots]$ (above standard) total, and is no longer eligible for those extra assignments which was his reward for above standard performance.

Seriously, the new appraisal process is a large step forward in the direction of reducing the subjectivity of performance appraisals. While the evaluation of the performance of human beings will always retain subjectivity because of the uniqueness of the creature much work can be and has been done to insure that appraisals are fair, objective and represent the employee's singular output.

Jack Hamelink is a senior staff specialist for General Motors Managerial Educational Services, Detroit, Mich.

Jerry Hamelink is an associate professor of Mechanical Engineering at Western Michigan University, Kalamazoo, Mich.