ABSTRACT


Many scholarly disciplines have been interested in judgment and decision making by managers. The present research applied theory of information integration (Anderson, 1981, 1982) to prediction of job performance by Indian managers. Three questions were raised. The first concerned the cognitive algebra underlying prediction of job performance. The second concerned the presence of initial opinions in the judges. The final question pertained to the problems of imputations about needed missing information. The second and third questions deal with managerial information processing. These two questions were answered by diagnosis of cognitive algebra for prediction of job performance.

In recent years, there has been a great deal of controversy on how motivation and ability determine performance. Heider (1958) and Vroom (1964) suggested a multiplying rule. Tests of multiplying model have yielded mixed results. Evidence for adding, averaging, and multiplying have been obtained, depending upon difficulty and nature of task as well as age, culture, and role of judges. In her doctoral research, Shobha (1984) hypothesized and demonstrated that school teachers uniformly obeyed
averaging model in prediction of examination, competition, and life performance. She argued, therefore, that cognitive algebra is linked with the role judges play in their everyday life.

Experiment 1 tested this role hypothesis by using professional managers and college professors as subjects. The stimulus descriptions varied with respect to levels of motivation and ability as well as reliability of the given information. Subjects predicted performance of so described supervisors along a 21-point scale. The cognitive algebra employed by managers and teachers are described in Equation 1 and 2 below:

\[
\text{Performance } = \left[\frac{w_0 M_0 + w M}{w_0 + w}\right] \times \left[\frac{u_0 A_0 + u A}{u_0 + u}\right], \quad (1)
\]

\[
\text{Performance } = \left[\frac{w_0 M_0 + w M}{w_0 + w}\right] + \left[\frac{u_0 A_0 + u A}{u_0 + u}\right], \quad (2)
\]

where \(M\) and \(A\) represent the scale values of motivation and ability, \(w\) and \(u\) are weights, and suffix \(o\) indicates initial values and their weights.

The two equations differ in only one respect: Managers followed multiplying model, whereas teachers followed an adding model. They were, however, similar in their information processing as can be seen from Equation 1 and 2. Reliability of information affected corresponding initial opinion. Information about motivation and ability and their reliability
were considered at the first stage and integration of motivation and ability was taken at second stage. This strategy of information processing agrees with previous results reported by Singh and Bhargava (1984a, 1984b), but disagrees with finding of one general initial opinion found in American college students (Surber, 1981).

Experiment 1 accomplished two goals. First, it demonstrated that role of judges affects the integration rule they follow in prediction of job performance. Second, judges in fact hold two initial opinions, one about motivation and another about ability, and they consider information about these components separately. Since managers and teachers did not differ in respect of information processing, it can be said that role affects integration process and not information processing.

The prediction of job performance by managers in Experiment 1 had linear fan pattern in Motivation x Ability effect. This pattern was interpreted to be multiplying, for multiplication rule makes such prediction. But the fan pattern is not unique to multiplying rule alone. A differential weight averaging can also produce an approximate linear fan pattern. Experiment 2 was, therefore, conducted to replicate the fan pattern in Motivation x Ability effect and to determine the exact rule underlying the fan pattern. To discriminate between the rules, stimulus descriptions were prepared in accord with two-stage