Chapter 6
Statistics for Recruitment and Selection

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ABSTRACT

Recruitment and selection processes focus on the acquisition of suitable human resources. Recruitment refers to the firm's efforts to attract the maximum number of minimally-qualified applicants while selection refers to the firm's efforts to choose competent and suitable candidates. The parameters for identifying minimally-qualified candidates come from job analysis. Statistical processes used in recruitment include summing the scores on different parameters; finding mean scores of applicants and rejecting candidates with scores below the cutoffs. The selection procedure focuses on designing tests that identify superior talent from the candidate pool. Statistical procedures used in selection include development of scales for capturing competencies, measuring the reliability of the scales, that is, how well they capture the underlying construct, measuring the validity of the scales, that is, how well the competencies relate to job performance and optimal combination of the selection instruments.

INTRODUCTION

Organizations are conventionally defined as a deliberately structured and coordinated activity systems linked to the external environment and consisting of a group of people who come together to achieve a common set of objectives (Daft, 2007). The organizations source inputs, both human and material, from the environment and exchange outputs, such as goods and services, with the environment. The human resource management function includes the sourcing of employees from

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the environment and developing them to meet the organizational objectives. The HRM function includes the processes of ascertaining demand for employees and acquiring, training, appraising, and compensating employees (Dessler & Varkkey, 2016). Ascertaining demand is the domain of human resource planning processes and acquiring employees from the external environment, or internally within the firm, falls under the recruitment and selection function.

The recruitment and selection processes of a firm usually follow the demand ascertainment or human resource planning (HRP) process. HRP is defined as the "systematic analysis of HR needs, so that the required number of employees with appropriate skill sets can be made available at times of needs" (Bhattacharyya, 2012). HRP processes can be divided into two broad categories – demand ascertainment and supply analysis. The demand ascertainment process aims to determine the change in the number of employees required, on an absolute basis as well as position-wise basis, to fulfill the firm's short-term objectives. It is linked to the firm's strategic planning. The supply analysis component of HRP analyzes the structure of the firm's talent base and aims to forecast the future distribution, by position, of the firm's current workforce. The gap analysis between demand ascertainment and supply analysis guides company's future behavior. If the gap is positive, it forms the basis of the targets for the recruitment and selection function. If the gap is negative it leads to downsizing.

STATISTICS FOR JOB ANALYSIS

The recruitment and selection process aims to select the required number of candidates for each position. Hence, job analysis is a pre-requisite for the recruitment and selection process as it helps define the work duties and employee competencies needed for that position. Job analysis is defined as "a purposeful, systematic process for collecting information on the important work-related aspects of a job" (Barrick, Field & Gatewood, 2011). The output of job analysis is normally divided into two components – job description or content of the job and job specification or the competencies (knowledge, skills and abilities) that are required to do the job. A candidate possessing the requisite job specifications is usually considered competent to do the job. Such a candidate is called a minimally-qualified candidate. A thorough job analysis should lead to the identification of relevant work behaviors and relevant competencies for performing the work behaviors.

There are no universally valid techniques to objectively identify relevant work behaviors and personal competencies. Hence, subject matter experts (SMEs) are usually consulted while performing a job analysis. As the job specifications establish the guidelines for selecting candidates they must be possessed by the candidate at