

Reliability and validity in selection process



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This research work focuses on the various aspects of evaluative standards like reliability and validity. Alongside the research work here describes the various phases in a selection process and a case study which help understand how reliability and validity can be examined and achieved over the entire selection process.

Validity

Validity in general is “ the accuracy in measurement and it must measure what it purports to measure” (Cooper, Robertson and Tinline, 2003, pp 49)

Different types of validity can be considered as per the research area.

Research shows while hiring an employee through a standard recruitment and selection process the construct validity, content validity and criterion based validity play a very crucial role (Cooper, Robertson and Tinline, 2003, pp 53). Validity can also fall under different types like faith validity, face validity, rational validity and synthetic validity (Cook, M., 1998, pp 78).

Reliability

Reliability can be stated as consistency in the measurement or extent to which an instrument gives the similar results when subjected to same working conditions. Reliability cannot be measured but it needs to be estimated. Reliability can be estimated in two different ways. Test/Retest method emphasizes on getting a same result in two different tests and then computing the correlation with reference to those two tests. Internal consistency the second way in estimating reliability focuses on clubbing

questions in such a format that in turn measures the required skills in the same aspect (Gate wood, Field, Barrick, 2004, pp 113)

Reliability can also be referred as “ Dependability of a measurement device or test; the underlying principle is consistency of measurement” (Cooper, Robertson and Tinline, 2003, pp 48)

Validity against Reliability

Psychological based research indicates employees hired through interviews and references constitute to the inaccurate methods of selection. The entire process of selection can said to be accurate if reliability and validity is maintained throughout the process. (Cook, M., 1998, pp 83)

Validity and reliability though related but are not the same. It may happen a device may be consistent but may not be valid. For example a watch which is Ten minutes slow and shows 11. 50 Am everyday at the noon can said to be reliable but cannot be considered as valid as it is out by ten minutes. On the similar ground a device cannot be held valid if the device is not reliable as well. (IRS Health and Safety Bulletin, Dyer, C., 2001)

The above example indicates that reliability and validity both are important for a process but validity is far important than reliability when compared. Similarly a process of selection can be effective if validity and reliability are critically examined and achieved over the entire process. For a company to have a systematic selection procedure the system should also focus on other evaluating standards like interpretability and practicality along with

reliability and validity during the various phases of selection (Cooper, Robertson and Tinline, 2003).

Interpretability refers to the degree till which the scores in a test may be meaningful as well as interchangeable. Similarly practicality can be measured by two perspectives “ it’s perceived usefulness and fairness and the extent to which it devours organizational resources.” (Cooper, Robertson and Tinline, 2003)

From the above discussion it can be said that for a selection method to be assessed accurately the entire method need not be only valid and reliable but also need to be practical and well interpreted. For example a selection method which is highly reliable and valid cannot be considered practical if it discriminates a certain group of people during the selection.

Phases in a Selection process

The various phases in selection and recruitment process can be listed out by using different approaches. Taylor in his book ‘ People Resourcing’ suggested two approaches for depicting the various phases in selection process: A traditional Job based and second one the Competency based approach. Fig. shows the collective approach in a systematic selection process. (Taylor, S., 2002)

Job Analysis

As shown the selection procedure starts with Job Analysis. It serves as a foundation to the entire selection procedure that helps in addressing the

critical issues like pay differentials, training needs identification and designing up of new hierarchical structures. (Taylor, S., 2002 pp 92)

The various techniques like ' Job-Oriented' and ' content oriented technique' that fall under job analysis necessitates intra-observer reliability along with inter observer reliability. Reliability at this phase of process can be achieved by analysis comparisons or inventory ratings with same profile jobs (Cook, M., 1998). In the process, job analysis should not stop with mere analyzing the requirement of a job but also need to focus on the skills required in the job and the working environment where job responsibilities can be worked out (Taylor, S., 2002, 93). The job analysis can be held valid if it shows the expected results that further help in correct selection of employees. (Cook, M., 1998, pp 36)

Job Description and Job Specification

Job analysis forms a key factor in designing the job description and person specification. Job description helps in defining the reporting relationships, deciding salary structure, performance evaluations and the like. (Taylor, S., 2002, pp 99) The job description is said to be reliable if it is consistently maintained in the same way for the same profile job.

Person Specification generally highlights skill, experience, academic qualifications and personality attributes and commonly classifies as essential and desirable (Taylor, S., 2002, pp 101)

Competency Analysis and Competency Framework

This stage falls under competency based approach which is often treated as person based rather than job based. The employees are hired by mapping the competencies required for the job and then evaluating the competencies of potential employee against the desired standard competencies. (Taylor, S., 2002, pp 106)

Recruitment and selection

Recruitment is the process of driving a pool of candidates that further helps in choosing of a right candidate through correct selection process. The selection process may comprise of various aptitude test, psychometric tests, technical test followed by an hr round in the end as per the demand of positions to be filled in. Reliability and validity at this stage can be achieved if the various tests are so designed that they are consistent and at the same time lead in drawing the expected results as per the position requirements.

Practical Imperatives affecting selection

The selection process may get affected by various factors. This can be classified into factors internal and external to the organization. The internal factors like organizational objectives, Personnel policies, size of the firm and cost may affect the selection process in a long run. At the same time external factor like Competitors, Poaching strategies adopted by competitors, Supply and demand of manpower, labour market and unemployment rate may have an impact on selection methods as well.

Case Study

Following is a case study which can help us in understanding the significance of evaluating standards in various phases of selection procedure.

' Bookswiz Inc' a US based MNC decided to expand its operations in United Kingdom by opening a new plant, the idea behind this expansion being increasing their market share in this potential area. At the initial stage the US firm designed the job analysis for the managerial positions by nominating a team of UK based recruitment consultants. As a next step the team of recruitment consultants in help with the US based firm identified the job description and person specification for the given level of positions, Job Analysis checklist was used for this purpose (Lewis, 1985). From the research carried out the team came to know that the managers within the departments required combination of skills and competencies.

This made them easy to decide on various selection techniques for the given level of positions. The systematic selection was said to be achieved as the team effectively assessed potential candidates by taking into considerations the various evaluative standards like validity, reliability, practicality and interpretability. The potential employees were then interviewed after conducting different psychometric tests, biodata and ' in-tray' exercises. The selection procedure started initially with screening the applicants through job related questionnaire. This was served to be reliable and valid as it gave the idea about future job performance.

To match the suitable candidates for various level of management team emphasized on conducting set of psychological tests. Job Choice exercise (Stahl, 1983) helped analyze the fitment of applicants at various levels. To

distinguish between dynamic, unpredictable and moody managers, a personality questionnaire, the Management Potential Scale of the California Psychology Inventory (Gough, 1984) was chosen. In-tray exercises helped HR team in assessing candidate's management and planning skills.

Forty potential candidates were called for the selection procedure. The biodata questionnaire helped in screening out the unsuccessful candidates in the screening phase. After the process 25 candidates could make it to the next round of structured interviews which were conducted by separate interviewers. The inter-interviewer reliability check helped in establishing a profound interviewers' agreement.

After completing this phase, twenty candidates were taken on board that resulted 87 percent of consensus among individual interviewers. The follow up assessment taken after a year showed 25% rise in productivity when it was compared to US firm, alongside the assessment also revealed that the workforce was motivated and drew a high amount of job satisfaction. The year on year assessment revealed that the productivity rose to 15 % on an average after every year and the firm achieved its target of increasing the market value (share) by three percent.(Case hauled- Cooper, Robertson and Tinline, 2003)

In above case, the US based firm was able to increase the market value (Share) in UK as the selection procedure was carried out by systematic assessment of evaluating standards. According to Taylor ' Good Practice' of selection was achieved as the skills required at various levels of position were strongly evaluated and in turn put into desired job description and job

specification. The validation in selection process becomes meaningless if the various evaluating standards stop with selection procedure and further no follow-up assessments are conducted. (Cooper, Robertson and Tinline 2003)

As per Cooper, Robertson and Tinline 'Bookswiz Inc' was able to achieve the desired share in UK as it had a sound selection procedure. The team of specialist before designing the selection procedure for UK operations was able to compare it with existing selection procedure at US plant. It gave them the clear idea on how the selection procedure should be designed so that lacunas existing in selection can be eliminated and job performance can be achieved as per expectations. 'Test and Retest' technique of reliability may have served as a basis for testing and achieving the reliability of 'In-Tray' exercises. These were done by testing the in-tray exercises on people working in US firm and the result was put into operational use.

Thus the reliability of the exercise was determined after achieving the correlation between the two tests. "The higher the correlation is the better the match between each set of applicant's scores and reliable the method will prove to be." [Cooper, Robertson and Tinline, 2003]

The reliability tested through 'Test and Retest' Technique may consume more time and at the same time it may seem to be more expensive. Also, if the test is taken again by the same applicant, the applicant's performance may improve and there are chances of getting scores with low correlations. The 'In-Tray' exercises can be evaluated by another form of reliability called as 'Parallel Form Reliability'. This can be achieved when 2 separate versions of a same selection procedure are estimated and a reliability coefficient is

calculated from them. This type of reliability to be achieved in selection process takes more time.

This can be avoided by dividing the test conducted in selection procedure into 2 separate halves and then correlating them. The various methods adopted in a selection procedure have a crucial role and also their success depends on degree to which it is validated after the process. (Cooper, Robertson, Tinline, 2003). These exercises can be validated to check the perseverance of the test being conducted by taking into consideration the concept of 'Content and Face Validity', where content validity relies on job analysis (Cook, M., 1998 pp 211).

In the above case 'Need for Power' and 'Need for Achievement' can be correlated to managerial motivation because it's more like a behavior. Stahl through his research conducted with help of 'Job Choice Exercise' has showed that candidate with need for power and need for achievement are more likely to become good managers. Thus 'Bookswiz Inc' through job choice exercise was successful in selecting motivated managers. (Cooper, Robertson, Tinline, 2003)

The correlation gained from different interviewers forms a basis for the measurement of inter-rater reliability (Cook, M., 1988, pp 44). The different interviewers who interviewed the candidates had a higher degree of consensus. They conducted structured interviews with same type of questions that lead to good and accurate selection decision making. The high degree of consensus among the selectors was achieved as the structured interviewers were more reliable (Cooper, Robertson and Tinline, 2003)

A predictor type and criterion type data are collected through ratings of interviewers and productivity index respectively which forms a base for validation study (Cook. M., 1998). In the case the inter linkage between the tests conducted and job performance is more concerned to criterion related validity. Test's predictive validity is referred as the extent to which the performance of an applicant depends on the test being conducted (Cooper, Robertson and Tinline, 2003)

Other factors that can be integrated with the Selection Procedure

It's a better idea to use various forms of evaluative standards in selection methods as it may happen that the significantly reliable and valid procedure of selection may fall short in differentiating right candidate from available pool. Going forward to make the selection procedure more sound the various types of interpretability like criterion based and norm based scoring system may be included (Cooper, Robertson and Tinline, 2003). Criterion based scoring helps in defining the expected outcome from the selection procedure. Similarly, Norm-based scoring interprets candidates' score of performance in relation to other (Cooper, Robertson and Tinline, 2003).

Practicality is the other important factor that needs to be considered in recruitment procedure. The practicality is said to be achieved if fairness is taken into account during the entire selection process (Cooper, Robertson and Tinline, 2003)

Conclusion

In a nutshell the researcher is of the opinion that to yield an optimum output through the selection procedure the various evaluating standards like reliability, validity, interpretability and practicality need to be fulfilled. The selection process should be timely planned, accurate, correctly interpreted and at the same time avoid unfair discrimination (Cooper, Robertson and Tinline, 2003). Alongside factors like cost and time also need to be considered as they play a crucial role in designing of a selection procedure.