

Psychological Testing in Talent Acquisition: HR Fraternity Overview

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Abstract

The employee evaluation and assessment has always been the core of talent acquisition process. To identify the right fit employee for the right job is always the need of the hour and organisations are experiencing this challenge in the current post COVID pandemic scenario.

This paper tends to explore the industry perspective in the employee recruitment and selection process involving psychometric testing, while highlighting the practices as adopted amidst the new normal and any further avenues/dimension to look upon.

Key Word: Employee, HR, Selection, Psychological Testing, Talent, Psychological Assessment, HR, Psychometric Testing, Interview, Selection, Employment, etc.

Introduction

Talent acquisition is one of the process in talent management value stream. The various steps involved in the process includes recruiting, tracking and interviewing job candidates with onboarding and training new employees.

HRM practices including talent acquisition focuses on the assessment activities [1] [7] direct towards employee selection, evaluation of potential, development and their psychological characteristics [10]

Psychological Testing: A Review

“The process of administering, scoring, and interpreting psychological tests” [11] , is psychological testing.

Psychological testing includes use of various forms of assessment techniques used to validate the hypothesis in relation to people fitment to role, organisational culture.

Basically, psychological assessment is a process which makes use of a combination of methods and techniques in order to test some hypotheses about people and their psychological characteristics [1][3]. Hiring decisions are based on the outcomes of psychological testing [5][8], potential assessment is also driven by psychological testing [13] academic orientation with cognitive ability of students is validated with various forms of psychological assessment [14] hospitals draw patient diagnosis through results of different form of assessments [15].

There are different types of psychological testing like interviews, written activities, role-plays, in-baskets, questionnaires, surveys, psychological tests, personality inventories, etc. Use of variety of such assessments helps to draw more objective hiring conclusions.[9]

Types of Psychological Testing Tools

There different types of assessment which are considered as a part of psychological assessment [16].

- Clinical Interview
- Assessment of Intellectual Functioning (IQ)
- Personality Assessment

□ Behavioural Assessment

While organisations focus upon the cognitive assessments during initial rounds, level of employee fitment is being checked with behavioural or personality assessments

There are different areas with organisations



Source: <https://blog.mettl.com/applications-of-psychometric-assessment-tests/>, Dec 2020

Around 18% corporates utilize personality testing in hiring process, as per survey by the Society for Human Resource Management.

The hiring decisions are governed by outcome of psychometric tests with alignment of organisational competencies rather than only focusing on parameters like past performance, experience . [17].

Human Resource Management (HRM)[18] Practices as a combination of people-centered management practices that recognizes employees as assets to create and maintain skillful and committed workforce for achieving organizational goals. “Human Resource Management” referred to HRM practices as the integrity of principles and applications regarding the responsibilities about the „human resources“ of top management like human resources planning, job analysis, recruitment process, selection, orientation, charging, work evaluation, labor force training and industrial relations. [18]

Timeline of major developments in the history of psychological testing. [12][15]

- 1890 The term 'mental test' is first used by James McKeen Cattell
- 1905 Alfred Binet and Theodore Simon devise the first test of intelligence for use with children
- 1916 Lewis Terman publishes the Stanford-Binet test, based on the pioneering work of Binet and Simon
- 1917 Robert Yerkes leads the development of the Army Alpha and Beta tests for selection for military
- 1917 Robert Woodworth devises the first self-report test of personality
- 1921 Hermann Rorschach, a Swiss psychiatrist and psychoanalyst, publishes *Psychodiagnostics* on the use of inkblots in evaluating personality
- 1927 The first version of the Strong Vocational Interest Blank is published
- 1938 Oscar Buros publishes the first compendium of psychological tests, the *Mental Measurements Yearbook*
- 1939 David Wechsler reports an individual test of adult intelligence
- 1942 The *Minnesota Multiphasic Personality Inventory* (MMPI) is published to assist the differential Diagnosis of psychiatric disorder
- 1948 Henry Murray and colleagues publish *Assessment of Men* and the term 'assessment' comes to replace mental testing as a description of work with psychological tests
- 1957 Raymond Cattell publishes on performance tests of motivation
- 1962 Computer interpretation of the MMPI is introduced
- 1968 Walter Mischel publishes his widely cited critique of personality assessment
- 1970 Computers are used for testing clients; computerised adaptive testing follows
- 1971 The Federal Court in the USA challenges testing for personnel selection
- 1985 Publication in the USA of the first edition of the *Standards for Educational and Psychological Testing*
- 1988 Jay Ziskin and David Faust challenge the use of psychological test results in court
- 1993 The American Psychological Association publishes guidelines for computer-based testing and interpretation
- 1993 John Carroll publishes *Human Cognitive Abilities: A Survey of Factor-Analytic Studies*, in which he proposes his three-stratum theory of intelligence
- 1999 Publication of the second edition of the *Standards for Educational and Psychological Testing*
- 2001 Gregory Meyer and colleagues publish the results of a review of 125 earlier literature reviews Indicating the value of psychological tests

Source: Based on a more extensive timeline in Sundberg (1977).

Behavioural difference measurement scales/test were developed by 1950, even various psychologists like Hans Eysenck (1916–1997) and Raymond Cattell (1905–1998) started establishing hypothesis on performance measures of the personality and motivation domains similar to those developed in the cognitive domain.

Various psychometric tests that are available through different sources are:[11][16]

<i>Publisher</i>	<i>Website</i>	<i>Popular Published Tests</i>
Educational Testing Service	www.ets.org	<ul style="list-style-type: none"> • Advanced Placement (AP) Program Tests • Graduate Management Admission Test (GMAT) • Graduate Record Examinations (GRE) • Scholastic Assessment Test (SAT) • Test of English as a Foreign Language (TOEFL)
Pearson	www.pearsonassessments.com	<ul style="list-style-type: none"> • BarOn Emotional Quotient Inventory • Bayley Scales of Infant and Toddler Development—III • Bender Visual-Motor Gestalt Test—II • Watson–Glaser Critical Thinking Appraisal
Hogan Assessment Systems	www.hoganassessments.com	<ul style="list-style-type: none"> • Hogan Personality Inventory (HPI) • Hogan Development Survey (HDS) • Hogan Business Reasoning Inventory (HBRI) • Motives, Values, Preferences Inventory (MVPI)
IPAT	www.ipat.com	<ul style="list-style-type: none"> • 16 Personality Factors (16PF)
PAR	www.3.parinc.com	<ul style="list-style-type: none"> • Self-Directed Search • NEO Personality Inventory • Personality Assessment Inventory • Slosson Intelligence Test—Revised for Children and Adults
Psytech International	www.psytech.co.uk	<ul style="list-style-type: none"> • Occupational Interest Profile • Clerical Test Battery • Values and Motives Inventory
PSI	www.psonline.com	<ul style="list-style-type: none"> • Customer Service Battery • Firefighter Selection Test • Police Selection Test
Hogrefe	www.testagency.com	<ul style="list-style-type: none"> • Rorschach Inkblot Test • Trauma Symptom Inventory (TSI) • WPQ Emotional Intelligence Questionnaire
University of Minnesota Press Test Division	www.upress.umn.edu/tests/default.html	<ul style="list-style-type: none"> • Minnesota Multiphasic Personality Inventory (MMPI)
Wonderlic	www.wonderlic.com	<ul style="list-style-type: none"> • Wonderlic Personnel Test

Source: https://www.sagepub.com/sites/default/files/upm-binaries/36361_Chapter1.pdf

Characteristics of Psychological Tests. [18]

Psychological tests need to have certain characteristics before being considered for application in workplace scenarios. [18]

1. **Assumption:** Tests applications assume that two different individual behaves differently to different stimulus, hence no two individuals are same with respect to intelligence, skills, etc.

2. **Standardisation:** Standard defines conditions and procedures being consistent during test applicability.
3. **Objectivity:** Suggest objectivity in results achieved which do not encounter any subjective biases, based on norms set of the scoring process.
4. **Reliability:** Suggest how reliable is the test and reveals similar test scores in similar standard test administration conditions. There are different types of reliabilities considered while developing a psychological test:
 - a. Test-Retest method: same test administered at same population with time variance.
 - b. Equivalent-forms method: follows re-test approach where two different set of tests are administered to identify test score correlation
 - c. Split-Halves Method: In which the test is taken once, divided in half, and the two sets of items are correlated with each other.
5. **Validity:** refers to how well a test measures what -it intends to measure. Test validity is an important construct as a test may remain valid for a certain condition and invalid in other scenario. Content validity, face validity, concurrent validity, predictive validity, construct validity, and predictive validity are some of the known types.
6. **Utility:** the extent to which a particular test can be used with facility.
 - General Ability Tests
 - Aptitude and Achievement Test
 - Personality Tests and Interest Tests

The use of psychological test is categorised as a measure for general ability (intelligence), aptitude or achievement, personality and interest. Basis requirement and need, each test is utilized in the industry.

1. General Ability Tests: Use for assessment of cognitive assessment, one of the examples is Wechsler Adult Intelligence Scale (WAIS), results in IQ scores. Few other tests: [19]

- The Otis Self Administering Test of Mental Ability
- Wonder lie Personnel Test, SRA Verbal and
- Thurston Test of Mental Alertness

2. Aptitude and Achievement Test: Different achievement and aptitude tests are used to measure candidate's skill/expertise on a construct.

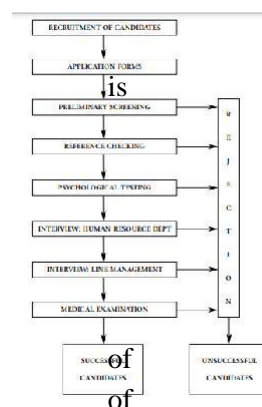
3. Personality Tests: Measure of different personality test to identify dispositions of behaviour required for a job role.

4. Interest Tests: used to identify interest for career and vocational guidance. Strong-Campbell Vocational Interest Blank and the Kuder Preference Record are known such tests.

Talent Acquisition Process in Different Organization[19]

The recruitment and selection process varies widely across organisations and across roles. Complexity of the selection process dependent on the organisation requirement as well as role for which hiring process is to be governed determined by the HR philosophy (Aiken, 1994). Successive hurdle technique is used widely in selection process where different achievable milestones to applicant are presented for reaching next level.

Psychometric tests can be of great value in employee selection because their objectivity and validity (Schultz & Schultz, 1998). The general nature the selection process is set out in Figure 1.



Interview of 10 different organisation HR managers were conducted to identify

- Recruitment/selection process
- Types of test for selection decision
- Any observation by HR fraternity

Listed below are the different recruitment/selection activities practiced by the organisation. Each organisation is identified as A, B, C, D....nomenclature

SELECTION PROCEDURE IN ORGANISATIONS

Organi- sation	Clear procedure	Application blank/CV	Interviews	Psychometric testing	Reference checking
A	X	X	X	X	X
B	X	X	X	X	
C	X	X	X	X	X
D	X	X	X	X	X
E	X		X	X	
F	X	X	X	X	X
G	X	X	X	X	X
H	X	X	X	X	
I	X	X	X	X	X
J			X	X	X

The parameters identified by different organisation to close a hiring decision are:

- Defined clear recruitment/selection procedure
- Screening of application form/CV
- Interview process for applicant screening
- Psychometric Testing for job-applicant fitment
- Reference checks to proceed for hiring decision.

Test Types Used in Firms mentioned above [14][19]

Test	Details
Sixteen Personality Factor Questionnaire (16 PF)	It measures 16 primary personality traits and is used inter alia in industry and business in selection, placement and promotion of employees by predicting important job related criteria such as work efficiency, tolerance of routine etc (Huysamen, 1996; Spangenberg, 1990).
South Wechsler African Adult Intelligence Scale (SAWAIS)	This test is a verbally administered individual scale that was designed to evaluate the intellectual functioning of the older child and adult (Huysamen, 1996; Spangenberg, 1990).
Intermediate Battery (INT Bat)	This battery was designed to measure certain mental abilities, including mental alertness, arithmetical ability, some aspects of language, and clerical skills. It can be used in vocational guidance as well as for the selection of persons who have received not more than 12 years of schooling (Huysamen, 1996; Owen & Taljaard, 1996; Spangenberg, 1990).
Minnesota Multiphasic Personality Inventory (MMPI)	It is a broad-band test designed to assess a number of the major patterns of personality and emotional disorders. To a certain extent it highlights signs of pathology in people being tested (Aiken, 1994; Anastasi & Urbina, 1997).
Senior Aptitude Tests (SAT)	This test was designed to measure a number of aptitudes and the results can be used for vocational guidance and selection purposes (Huysamen, 1996; Owen & Taljaard, 1996).
Career Path Appreciation (CPA)	This is based on a stratified systems theory and assesses a manager's ability to deal with challenges of varying complexity. Judgement in making decisions under a variety of conditions of uncertainty is assessed, along with the ability to adopt long-term and short term thinking. This evaluation works on a semi-structured interview system.
Dover/Vienna Test System (DOVER)	This is a machine with lights of different colours and the teste is expected to coordinate the hand switches with the different lights of the machine as they come on and go off. The performance of the candidate is scored automatically. Performance under stress, orientation ability, levels of productivity, and learning ability, are some of the aspects evaluated by this system.
High Level Figure Classification Test (HL FCT)	This is a nonverbal pencil and paper test which measures abstract reasoning ability. It is intended for use in selecting staff for positions which require a moderate to high level of abstract conceptual functioning – more than mere routine activities (Spangenberg, 1990)
SHL Occupational Personality Questionnaire (OPQ)	This questionnaire is applied to assess a comprehensive range of personality characteristics, including relationships with people; thinking and problem-solving style; emotions, motivation and drives; team working styles; leadership or subordinate styles; selling and influencing styles (SHL, 1996).

SHL Customer Contact Styles Questionnaire (CCSQ)	This questionnaire has been designed to measure sixteen dimensions of personality relevant for non-supervisory staff working in sales or customer service roles (SHL, 1996).
Thomas Personal Profile Analysis (PPA)	This is a questionnaire in which the person being evaluated has to select the words which most and least describe him/her. By charting these choices scientifically, insight is obtained into how this person will behave in the work situation. It can provide helpful understanding as to how this person copes with his/her environment and what his/her present attitudes are likely to be. It also provides insight into possible performance in a particular function (Thomas International, undated).
Myers-Briggs Type Indicator (MBTI)	This test was designed to implement Jung's theory of type, as understood by the author (Isabel Myers). More specifically the aim is to identify the basic preferences of people with regard to perception and judgement. These preferences are: Extraversion-Introversion, Sensing Intuition, Thinking-Feeling, and Judgement-Perception (Spangenberg, 1990).
Group Interaction Exercise (GI Exerc)	This can be regarded as a group problem solving exercise. The group of candidates is given a problem to discuss and within fifteen minutes they must come to a solution. Afterwards, each member of the group's contribution is evaluated and considered, to determine if it contributed to the final outcome reached by the group. Presentation: This exercise is similar to the previous (group interaction exercise) except that the candidate works as an individual. The candidate is given a problem and allowed five minutes to think about a way of solving it. Then the candidate has to make an oral presentation, debating and demonstrating how the problem can best be solved.
In-basket Exercise	This exercise consists of samples of typical items or activities found in the department in which the vacancy exists. Candidates are asked to indicate what action should be taken with regard to each item or activity. In other words, it is a type of simulation exercise in which the person must deal with a pile of paperwork – letters, reports, phone messages, and so on – typical of what might be found in a manager's in-basket.
Structured-Objective Rorschach Test (SORT)	The SORT is based on the traditional Rorschach Test and its aim is to obtain psychologically meaningful data by means of which a broad overall picture of the individual can be obtained (Spangenberg, 1990). Together with data from other tests, this can then be used for counselling, selection and the prediction of job success.
Nineteen Field Interest Inventory (19 FII)	This inventory measures occupational interests with respect to 19 broad fields of activity. It also measures the extent to which a person is actively or passively interested in the 19 fields, as well as the extent to which the interests are work- or hobby-related (Owen & Taljaard, 1996).

Talent Acquisition process in Post Covid World [19]

- Digital upgradation of process
 - o The talent acquisition process in the post Covid world has now upgraded digitally.
 - o Applicant tracking system are more abundantly used for the process using Enterprise Resource Planning Systems like Workday, PeopleSoft
 - o The face to face interview process has now moved to a virtual interview equipped via technological applications like Zoom, Google Hangout, Skype, WebEX.
- More robust tool for applicant assessment [20]
 - o Psychological tools have now become a more sharpen screening tool for assessing the applicant's capability and fitment to the job role before while allowing

recruiters to allow more time to assess right set of candidates within available time frame. Simulations, Case-study analysis with open ended questionnaires are directed to the applicants as a part of pre-screening strategy.
 - o Organisations need to be aware of legal compliances for considering psychometric testing in pre-employment screening. (Dattner, Ben, How to Use Psychometric Testing in Hiring, Harvard Business Review, September 12, 2013)
- Applicant Identity and Legal Compliance
 - o In order to ensure all associated organisational legal compliance as well secure the applicant identity, organisations are encouraging applicants to share their CVs, recent photograph and other details which is then matched when an virtual interview is conducted via interviewer submitting the screen-shot of live interview process.

Conclusion

While organisations are utilizing different combinations of psychological assessment for employee selection processes,

- there seems to be certain bias which governs the outcomes of aptitude and achievement.
- organisation needs to comply with ethical practices in use of psychometric assessments.
- organisations are also considerate of economical feasibility of the utilising psychological tests in talent acquisition process

- they must ascertain the fact the psychological tests assist in selection process while providing more information on applicant and should not be the only mode of selection/rejection tool for job applicant.
- organisation needs to ascertain to employ certain as per test directives only. As few of the organisations utilizes certain development-oriented tests for employment screening which is not recommended. Organisations at times are using certain tests in pre-employment screening like the Myers-Briggs Type Indicator (MBTI), which is quite popular with many organizations, it should not be used for employee selection. The MBTI was not developed for that purpose and is not intended for personnel evaluation — even the test’s published

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