HOW TO DESIGN PSYCHOMETRIC TESTING?

BY: SEEKERS INTERNATIONAL

Mr. Asad N. Sheikh

SUNDAY 12 DECEMBER 2010
LABISH DINE RESTURANT
Workshop Minutes

• Start - 11:10am to 11:30 ... Seat Allocation & On time Registration Process
  11:30 to 11:40 ...... Ms Sadaf Introduction
  11:40 to 12:00 .......... Mr. Asad Speech ---- 1st Part
  12:00 to 2:00 .......... Mr. Rao Jameel Speech – 1st & 2nd Part
  2:00 to 2:40 .......... Lunch & Prayer Time
  2:40 to 3:30 .......... Mr. Asad Speech – 2nd Part

• 3:30 to 4:00 ------- TEA BREAK
  4:00 to 5:30 .......... Mr. Asad Speech 3RD Part
  5:30 to 6:00pm................. Prize, Gift & Certificates distributions.
Human Resource Objective

• “WE MUST SIMPLY INCREASE
• OUR PRODUCTIVITY”
Your Experience about PMT

• Think about your last PMT review:
  – What thoughts come to mind?
  – What went right, what went wrong?
CBR & CBES

Competency-Based Employee Selection

**Selection**: The process of matching people and jobs. The decision-making process in hiring – it typically involves multiple interviews and interviewer ratings, and it may make use of performance tests and assessment centers.
Recruitment and Selection

- *Recruitment*
  - is the process of generating a pool of capable people to apply for employment to an organization.

- *Selection*
  - is the process by which managers and others use specific tools to choose from a pool of applicants a person or persons most likely to succeed in the job(s), given management goals and business requirements.
The main approaches to attracting applicants can be summarized internal/external as follows:

- Walk-ins
- Employee referrals
- All Types of Advertising
- Websites
- Professional associations
- Educational associations
- Professional agencies
- E-recruitment (general recruitment agents/ companies’ own sites)
- Word-of-mouth
- Executive Search Agency
Question?

• How do I start when HR ask "Tell me about your self"?

• The reason for asking this question is:
• To break the ice - to start the conversation to notice your communication, presentation, dress-up and overall appearance to decide the flow and length of interview. It can very helpful, if the Self-introduction is short...
Mehrabian (1971) established this classic statistic for the effectiveness of spoken communications:

- 7% of meaning is in the words that are spoken
- 38% of meaning is paralinguistic (the way that the words are said)
- 55% of meaning is in facial expression
Employee Life-Cycle

For Example
THE 12 MOST COMMON COMPETENCIES

Communication
Achievement orientation
Customer Focus
Team work
Leadership
Planning and organizing
Commercial awareness
Flexibility
Developing others
Problem solving
Analytical thinking
Building relationships
Question?

• Most common question people asks, How do I start when HR ask "Tell me about your self"?

• The reason for asking this question is:

• To break the ice –
• to start the conversation to notice your communication, presentation, dress-up and overall appearance to decide the flow and length of interview, It can very helpful, if the Self-introduction is short...
Psychometrics

- Psychometrics deals with the *scientific measurement* of individual differences (personality and intelligence)
- It attempts to measure the *psychological qualities* of individuals and use that knowledge to make predictions about behaviour
PSYCHOMETRIC INTRODUCTION
The word "psychology" is the combination of two terms - study (ology) and soul (psyche), or mind. The derivation of the word from Latin gives it this clear and obvious meaning:

• The study of the soul or mind.

This meaning has been altered over the years until today, this is not what the word means at all. The subject of psychology, as studied in colleges and universities, currently has very little to do with the mind, and absolutely nothing to do with the soul or spirit.

Let's see what a few dictionaries have to say and how a word could alter and lose it's true and actual meaning.

"Psyche" is defined as:

• 1. The spirit or soul.
  2. The human mind.
  3. In psychoanalysis, the mind functioning as the center of thought, emotion, and behavior.
TYPES OF TEST

- Numerical Computation
- Numerical Estimation Data Interpretation
- Numerical Critical Reasoning
- Spelling
- Word Meaning
- Word Relationships
- Verbal Comprehension
- Verbal Critical Reasoning
- Abstract Reasoning
- Diagrammatic Reasoning
- Spatial Ability
- Mechanical Reasoning
- Fault Diagnosis
- Data Checking
- Concentration/Work Rate
What is a Test?

- A test can be described as an objective, systematic and standardised measure of a sample of behaviour
  - **Objectivity** is where every observer of an event would produce an identical account of what took place
  - **Systematic** refers to a methodical and consistent approach to understanding an event
  - **Standardised** means observations of an event are made in a prescribed manner
Test vs. Assessment

• A test is also different from an assessment
  – **Assessment** refers to the entire process of collating information about individuals and subsequently using it to make predictions
  – **Tests** represent only one source of information within the assessment process
  – e.g. spelling is one aspect of writing, and so to assess it we would use a spelling test. Whereas to gauge up someone’s general writing ability we would have to assess the entire process (spelling, style, grammar, punctuation etc.)
CHARACTER, PERSONALITY AND PSYCHOMETRIC TESTS

Psychometric tests are used by more than 70% of large businesses all over the world
Are people genuinely different?

“YES People are different from each other and no amount of external internal pressure is going to change them… nor is there any need…”
The origins of character analysis...

Empedocles

5 century BC

Humans are a microcosmic form of the macrocosmic theory of the four elements (earth, water, air, fire) and the four qualities (dry, wet, cold, hot).
“Everyone is born fundamentally different”

Hippocrates
4th century BC
Extraversion (bold) vs Introversion (reserve)
+ 4 basic psychological types

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Types of Psychometric Tests

• Psychometric tests are used by more than 70% of large businesses

Two types of psychological tests are used by personnel selection practitioners:

– Tests of **cognitive ability**
  • Cognitive assessment tests attempt to measure an individual’s ability to process information from their environment

– Tests of **personality measures**
  • Personality measures are more concerned with people's dispositions to behave in certain ways in certain situations
• **What is a Behavioral Question?**
  – A description of the situation, competency or critical success factor, the applicant’s actions and results of those actions.
  – Hire for attitude through behavior based questions.
Examples of Behavioral Questions

• Tell me about the most challenging project you have ever worked on? What made it challenging?

• Give me an example of how you coached an underperformer to an exceptional employee. What were your biggest challenges/rewards?

• What professional development courses or conference have you attended? What did you take away and how did you apply what you learned?
Six Parts of a Behavior-based Interview

• Part One: Warm-up
  – Make the person feel at ease.
    • You should have already sent the applicant a parking pass, gave specific directions to campus and a campus contact number
    • Now you need to make sure everyone the applicant comes in contact with has read the resume, familiar with the job, thinks positively of the University, has a connection to the position and is genuinely pleasant with positive non-verbals.
Six Parts of a Behavior-based Interview

- Part Two: Set the Expectations
  - You should have already communicated the timeframe and with whom the applicant will be meeting prior to the applicant’s arrival.

  - Now you set the *specific* agenda. Where are the bathrooms...when is lunch...who will the applicant meet, and explain when and *why* the applicant is meeting with them?
Six Parts of a Behavior-based Interview

- Part Three: Body of the Interview
  - If you are using a search committee, give them advance notice to make sure they know their specific role in the interview process. Each member should have a copy of the resume, agenda, interview questions and have read this tutorial.
  
  - Ask behavioral-based questions of the applicant.
    - Ask additional related questions to gain clarity or more insight into the applicant.
Six Parts of a Behavior-based Interview

- Part Four: Describe and “Sell” the Job
  - You should have already given the applicant a job description prior to stepping foot on campus.
    - Note: A job description is not to be confused with a posting.
  - Talk about the opportunities and challenges of the position
  - Customize the benefits to the applicant—if they disclosed that they have children of daycare age, talk about childcare. Mention health care benefits, fitness center, professional development courses, tuition reimbursement, etc. Contact HR for more specific information.
Six Parts of a Behavior-based Interview

- Part Five: Applicant Questions
  - Note the type of questions you are being asked.
  - If no questions, don’t jump to conclusions.

- Talk to other people who interviewed the applicant separately. Perhaps, insightful questions were asked.
Six Parts of a Behavior-based Interview

• Part Six: Close
  – Let the applicant know what comes next and the anticipated timeline.

  – Keep in touch after interviewing the good applicants to show you still have interest.
    • Let them know if you have not been able to interview all the applicants.

  – Send a personal thank you.
Different Categories of Psychometric Tests

- There are three categories of psychometric tests in use by psychologists:
  - **Normative tests** – most psychometric tests where data exists which tell us the range of scores expected from the population under consideration e.g. IQ scores
  - **Criterion (standard) referenced tests** – commonly used in education where a candidate has to meet some pre-arranged standard.
  - **Idiographic (case study) tests** – it used in therapy to observe an individual’s progress over time
Cognitive Testing

- Intelligence tests are commonly used in two main areas: *occupational psychology* and *educational psychology*
- Cognitive ability tests fall into two categories in terms of administration of the test:
  - Individually administered tests
  - Group administered tests
- Three different types of cognitive tests (collectively known as *maximum performance* tests):
  - Speed, power and knowledge tests
Personality Testing

• Personality tests are concerned with attempting to measure people’s characteristics or traits
• There are two forms of personality test:
  • **Objective personality tests**
    – Individuals are asked to rate their own actions or feelings in set situations
  • **Projective tests**
    – Individuals are asked to formulate an unstructured response to some form of ambiguous stimuli e.g. Rorschach ink-blot test (Rorschach, 1921)
Sample Behavioral Interview Questions

• Tell me about a time when you had to use your presentation skills to influence someone’s opinion.
• Give me a specific example of a time when you had to conform to a policy with which you did not agree.
• Please discuss an important written document you were required to complete.
• Tell me about a time when you had to go above and beyond the call of duty in order to get a job done.
• Tell me about a time when you had too many things to do and you were required to prioritize your tasks.
• Give me an example of a time when you had to make a split second decision.
• What is your typical way of dealing with conflict? Give me an example.
• Tell me about a time you were able to successfully deal with another person even when that individual may not have personally liked you (or vice versa).
• Tell me about a difficult decision you’ve made in the last year.
• Give me an example of a time when something you tried to accomplish and failed.
• Give me an example of when you showed initiative and took the lead.
• Tell me about a recent situation in which you had to deal with a very upset customer or co-worker.
• Give me an example of a time when you motivated others.
• Tell me about a time when you delegated a project effectively.
• Give me an example of a time when you used your fact-finding skills to solve a problem.
• Tell me about a time when you missed an obvious solution to a problem.
• Describe a time when you anticipated potential problems and developed preventive measures.
• Tell me about a time when you were forced to make an unpopular decision.
• Please tell me about a time you had to fire a friend.
• Describe a time when you set your sights too high (or too low).
Applications of Personality Tests

- **Criminal psychologists** might employ questionnaires to measure impulsivity and its relation to crime.

- **Health psychologists** might measure people’s optimism in relation to their response to cancer diagnosis.

- **Occupational psychologists** often employ personality tests to predict job performance and job suitability e.g. Workers with high ‘negative affect’ tend to be less productive and have less job satisfaction etc.
Principles of Psychometric Tests

• Three important concepts:
  – reliability, validity and standardisation are essential criteria for a good psychometric test

• Test standardisation – ensures that the conditions are as similar as possible for all individuals who are given the test.

• Standardisation also ensures that no matter who gives the test and scores it, the results should be the same.
Test Reliability

- Test Reliability – a test must measure the same thing in the same way every time someone takes it
- There are two types of test reliability
  - Internal consistency reliability – all the parts of your test questionnaire are reliable throughout
  - Test–retest reliability – the test remains valid over time
Test Validity

• There are four types of test validity:
  – **Face validity**: does your test appear to measure what it purports to measure
  – **Concurrent validity**: does your test of honesty correlate with existing standardised tests of honesty
  – **Predictive validity**: do the results of your test predict future behaviour
  – **Construct validity**: if all our hypotheses about the test variable (construct) are supported then we have a high degree of construct validity
Problems with Psychometric Tests

• **Social Desirability** – when faced with a psychometric test many people feel they are being judged and so alter their answers accordingly.

• People might engage in social desirability for two reasons:
  
  – **Self-deception** – individuals are overly optimistic in their perceptions of their own positive personality features and play down their perceived negative aspects.
  
  – **Impression management** – individuals try to appear ‘nice’ because they fear social disapproval.
Mood and Environmental Influence

- Mood does seem to play a part in how people go about performing in tests, especially those concerning personality
  - people in a good mood might answer the questionnaire completely differently than if they were in a bad mood

- Features of the environment (noise, heat & light) might also have an impact on our moods and our cognitive abilities
  - Hancock (1986) has shown that high temperature has a significant negative effect on vigilance, attention, memory and reaction time
Ecological (Natural) Validity

- Research that lacks *ecological validity* focuses on what an individual can do in a research environment instead of what they are usually doing in their everyday lives.
- If a test is not relevant to an individual’s lifestyle, an individual probably will not perform well at it.
- This might be due to a *lack of motivation* or *lack of relevant experience* with the type of problem set than any lack of intellectual capability.
Cultural Bias

• A contentious issue in the field of psychometric testing is the possibility of bias in such tests against members of ethnic subgroups of the population
  – e.g. newly arrived immigrants will have difficulty with an intelligence test which asks them to name past leaders of the country to which they have recently immigrated

• At the present time most standardised psychometric tests are based on western definitions and western cultural practices
Are there Culture-Free Tests?

- Attempts have been made to develop **culture-free** tests of intelligence, but on the whole these attempts have not been successful. This is due to several factors:
  - **Conceptions of intelligence** vary widely from culture to culture
  - even if the content of a test can be made culture-free, culture itself will still affect the results through directing attitudes towards tests, test-taking, competition, and so on
Examples of Relatively Culture-Free Psychometric Tests

- The **Leiter International Performance Scale** covers four domains of functioning: reasoning, visualisation, attention and memory
- The **Ravens Progressive Matrices**
  - covers general cognitive ability
  - Both the above tests are un timed and can be administered using virtually no language
• **Tips**
  
  • **Select traits carefully** An employer that selects applicants with high degree of 'assertiveness', 'independence', and 'self-confidence' may end up excluding females significantly more than males which would result in *adverse impact*. **Select tests carefully** Any tests should have been analyzed for (high) reliability and (low) adverse impact.
  
  • **Not used exclusively** Personality tests should not be the sole instrument used for selecting applicants. Rather, they should be used in conjunction with other procedures as one element of the selection process. Applicants should not be selected on the basis of personality tests alone.
GOOD LUCK TO ALL OF YOU

Thank You