"

AN ULTIMATE
GUIDE TO

# Psychometric Tests

**DECODE** the human personality
**MEASURE** via appropriate tools
**IMPACT** your business outcomes

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*Decode. Measure. Impact*

"

If you pick the right people and give them the opportunity to spread wings and put compensation as a career behind it, you almost don't have to manage them.

Jack Welch
The Chairman and CEO of GE

# Introduction

*It isn't the equipment or the data or the technology or any such physical or intellectual property that primarily shape a business. It's the people part of your company that moves your business forward.*

The decisions they take in various complex situations, the approach they incorporate in work-related problems or their conduct towards their colleagues and bosses; in short- their behavior is the core of any business.

Mettl's Psychometric tests can actually measure the behavior and personality of a candidate and help you make better work-related decisions. This piece describes in detail the science behind psychometric tests and based upon which Mettl's psychometric tools are handcrafted. In addition, it entails the detailed description of each of the psychometric tools and how can it be applied in businesses.

At last, after understanding why people behave in a certain manner and that we can actually predict that behavior in the workplace via certain psychometric tools, we'll take you on a tour. The tour of how these tools impact your business outcomes. It'll describe how psychometric tests can be used in hiring, training and development of employees and hence making them better leaders in the coming future.

Let's begin with understanding the science behind this.

# The Science Behind Psychometrics

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# The Science Behind Psychometric

*Personality traits are the determined characteristics that are exhibited consistently despite changing circumstances. Behavior, on the other hand, is the range of actions in which one conducts oneself to the environment, person, or stimulus.*

For instance, extraversion is a trait while an extrovert sitting quietly in a meeting is a type of behavior. Since the traits reflect an individual's patterns of thoughts, feelings, and behavior, they become the substratum for anticipating future intended behavior.

To be precise, **personality** is what we are while **behavior** is all about what we do. Personality traits, as a matter of fact, don't change over time, however, we can adjust and alter the behavior to an extent. The psychometric theory or the science behind them can be established by this equation.

*Exhibited Behavior = f (Bright side, Dark side, Cognitive abilities, X-factors)*

Let's take a look on the factors that influence human behavior on the basis of which our **psychometric tools** are built.

**Bright Side**

**Dark Side**

**Cognitive Ability**

**X-factors**
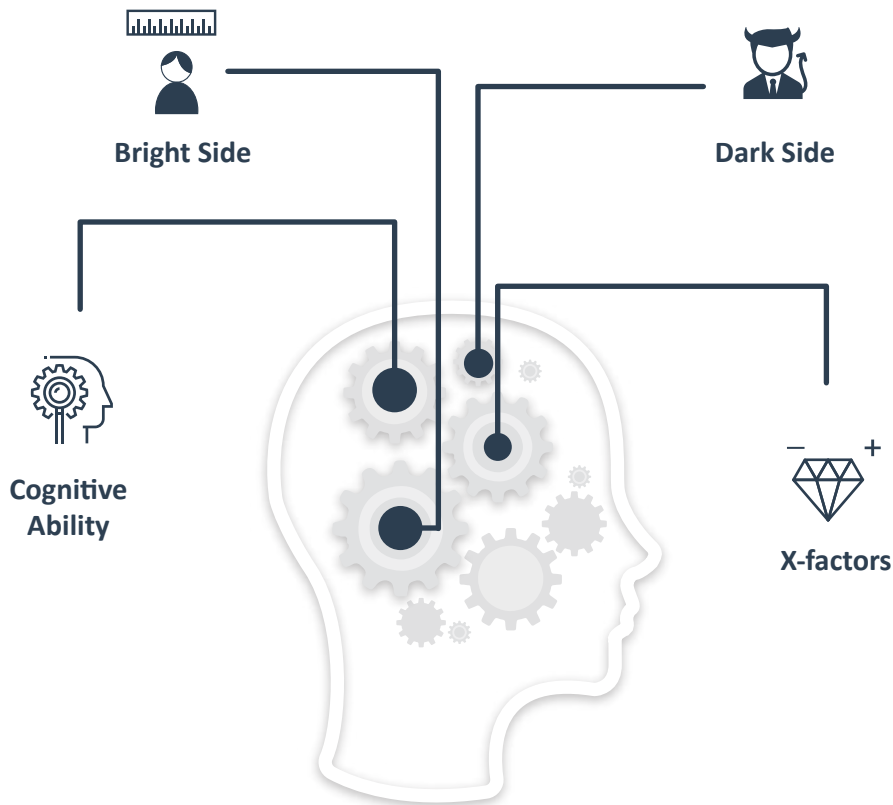
# 1.1 The Bright Side

The bright side of human personality comprises of those **positive personality traits** which are noticed quickly and capable of enhancing job performance. It is what we see when people are at their best.

The bright side of human personality is based on a Big Five Personality Traits of the Five-Factor Model which specifies that people can be described based on their standing on the five broad personality traits.

**Mettl** has, further, used these five factors as a construct to develop and categorize its set of behavioral competencies.

Positive traits in an individual make them feel confident, with the focus being on the betterment of the organization and not on individual success. People who rank high on these traits tend to be fair-minded co-workers and are endeared by people as a professional.

Leaders exhibiting an overall positive personality are efficient enough to articulate a vision in a way that builds commitment towards the organization's goal.

However, you can't really judge a person only on the basis of the **bright side** of human personality. If human personality could act as the drivers of success, then there are some hidden traits too, that can act as the derailers.

**Let's have a look on the traits as well as the determinants of personality.**

Openness

Conscientiousness

Agreeableness

Extraversion

Emotional Stability

# Openness

Tendency to be intellectually curious and open to consider new changes.
Tend to have a wide scope of interests and willing to try unusual ideas.

**Strengths:**

Imaginative, open to change, inquisitive, appreciate art

**Weakness:**

Imaginative, open to change, inquisitive, appreciate art

**Famous Personality**

*Was curious to learn the challenges of all classes of people, always open to innovative ideas to make his country great.*

**- Abraham Lincoln**

## Five Facets Of People With Openness Trait:

|  | HIGH ▲ | LOW ▼ |
|---|---|---|
| **Preference for novelty** | Try out new things | Stick to the conventional habits |
| **Active Imagination** | Tend to be creative | Tend to fear new inventions |
| **Values** | Are culturally fit | Face challenges while adjusting |
| **Open to change** | Able to adapt unfamiliar situations | Tend to stay within boundaries |
| **Risk taking** | Engage in dangerous activities to succeed | Fear failure |

**Bright Trait Variant**

**Bright Trait Level**

# Conscientiousness

Tendency to behave in an organized and thoughtful ways.

**Strengths:**

Strong sense of duty, achievement focused, disciplined

**Weakness:**

Overly cautious, leads to paralysis by over analysis

**Famous Personality**

*Has a right sense of right, wrong and common sense.*

*- Barack Obama*

## Six Facets Of People With Conscientiousness Trait:

| | | HIGH ▲ | LOW ▼ |
|---|---|---|---|
| **Bright Trait Variant** | **Achievement striving** | Are goal-driven hard workers | Aren't motivated to work hard |
| | **Challenge & Determination** | Happily face challenges to prosper | Lack of determination for their work |
| | **Deliberation** | Think carefully before discussing | Tend to lie |
| | **Dutifulness** | Have morally relevant motivators to work | Lack consistency in their work |
| | **Self-discipline** | Tend to break down their goal and work partly | Avoid activities that require efforts and persistence |
| | **Planning** | Don't naturally fear dead ends | Tend to panic when diverted from target |

**Bright Trait Level**

# Extraversion

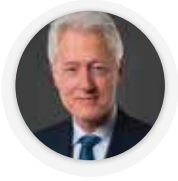Tendency to be enthusiastic and outgoing. Tendency to seek company of others.

**Strengths:**
Draw from a crowd's energy, prone to action

**Weakness:**
Difficult to work alone, might have poor listening skills, talkative

**Famous Personality**

*Reflected high excitement-seeking, and loved to be the center of attention*

**- Bill Clinton**

## Five Facets Of People With Extraversion Trait:

| Bright Trait Variant | | HIGH ▲ | LOW ▼ |
|---|---|---|---|
| | **Sociable** | Are inclusive and don't complain | Tend to be shy and reserved in nature |
| | **Assertiveness** | Understand, accept and value themselves | Tend to hesitate to start a conversation |
| | **Preference for fast paced work** | Arrange quick meetings to wrap up effeiciently | Takes time in follow-ups and delays the task |
| | **Warmth** | Attentively listen to others with interest | Tend to be self-reliant |
| | **Proactiveness** | Make things happen instead of waiting | Waiting for things to unfold |

**Bright Trait Level**

*Decode. Measure. Impact*

# Agreeableness

Tendency to get well along with others. To prioritize and con-structively address other's needs.

**Strengths:**
Trustworthy, Compassionate, Helpful, Sympathetic

**Weakness:**
Prone to being manipulated, a yes-man type behavior

**Famous Personality**

*Has greater acceptance for divorced people, the poor and all those in need.*

*- Pope Francis*

## Six Facets Of People With Agreeable Trait:

|  | HIGH ▲ | LOW ▼ |
|---|---|---|
| **Altruism** | Love to serve with no apparent benefits | Act with the state of being selfish |
| **Compliance** | Conform to a wish or command | Fail to consider (something significant) |
| **Forgiveness** | Willingness to pardon | Tend to blame others |
| **Belief in others; goodness** | Put people first in their decision making | Do not rely on others for work |
| **Empathy** | Have great intuition skills | Aren't good listeners |
| **Modesty** | Acknowledge and value their abilities | Tend to brag themselves |

**Bright Trait Variant**

**Bright Trait Level**

# Emotional Stability

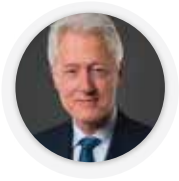Tendency to remain stable and balanced. To stay grounded and not panic

**Strengths:**

Less discouraged by disappointments, able to recognize their needs

**Weakness:**

May not show emotion too much

**Famous Personality**

*Let his feelings show in an appropriate capacity.*

*- Winston Churchill*

**Three Facets Of People With Emotionally Stable Trait:**

| Bright Trait Variant | | HIGH ▲ | LOW ▼ |
|---|---|---|---|
| | **Emotional Hardness** | Don't lose their sanity in stressful situations | Tend to make implusive decisions |
| | **Optimism** | Avoid naysayers and strive for success | May have destructive approach |
| | **Self Regard** | Take steps to better themselves | Tend to get distracted by slight criticism |

**Bright Trait Level**

## 1.2 The Dark Side

**Dark Personality Traits** are stable characteristics of a person when triggered, lead to the display of undesirable, counterproductive and destructive behavior, that have a negative impact on surrounding people (friends, family, co-worker or customers).
To measure these dark traits in the candidates, **Mettl** has created a **dark personality inventory** where almost all the lowlights of an individual at work have been clubbed.

**Here's a brief look at the traits and related facets.**

Opportunism

Self-Obsession

Insensitivity

Temperamental

Implusiveness

Thrill-Seeking

# Opportunism

Tendency to be deceitful and manipulative. Tendency to possess cynical or negative outlook towards intentions of others.

**Strengths:**
Good at Problem Solving, Pro-active, and Meets Deadlines

**Weakness:**
Team Work, Routine Work, Valuing Traditions

**Famous Personality**

*Known for being innovative, hard working, self-reliant and willing to bribe the system.*

*- Henry Ford*

## Three Facets Of People With Opportunistic Trait:

| Dark Trait Variant | HIGH ▲ | LOW ▼ |
|---|---|---|
| **Ambitious** | Snatches opportunities | Works hard to get access to good opportunities |
| **Competitive** | Lies to get ahead | Likes to stay ahead by working hard |
| **Greedy** | Wants more for less work | Demands proportionately to efforts |

**Dark Trait Level**

# Self-Obsession

Tendency to possess an inflated sense of self, accompanied by a fragile self esteem which makes the person vulnerable to criticism.

**Strengths:**

Perfectionist, Self Driven

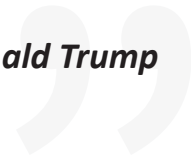**Weakness:**

Proud, Inflexible, Over Sensitive to Criticism

**Famous Personality**

*Get aggressive on facing criticism and love to boast about their greatness.*

**- Donald Trump**

## Three Facets Of People With Self-Obsessed Trait:

| Dark Trait Variant | | HIGH ▲ | LOW ▼ |
|---|---|---|---|
| | **Conceited** | Refuses to acknowledge his flaws | Accommodates critical feedback |
| | **Attention-Seeker** | Demands unwavering acceptance for any work done | Keeps realistic expectations |
| | **Dramatizer** | Reacts strongly to lack of appreciation | Intrinsically motivated |

**Dark Trait Level**

# Insensitivity

Inability to understand others' pain, suffering and perspective.

**Strengths:**
Resilient, Confident, Good at Dealing with Difficult Situations

**Weakness:**
Inability to Connect and Understand the Need of the Customer

**Famous Personality**

*Was insensitive towards the Jews and saw their extermination as collateral damage for Germany's progress.*

**- Adolf Hitler**

**Three Facets Of People With Insensitive Trait:**

| Dark Trait Variant | HIGH ▲ | LOW ▼ |
|---|---|---|
| **Logical** | Prefers rational decision making even if it hurts others | Prejudiced opinions |
| **Inconsiderate** | Unaffected by others' emotions | Sympathetic |
| **Callous** | Revels in others' misery | Empathetic |

**Dark Trait Level**

# Temperamental

Tendency to become angry at the slightest provocation, feeling and engaging in anger related emotions pervasively and persistently.

**Strengths:**
Considerate of Others' Feelings

**Weakness:**
Unstable Moods, Easily Provoked

**Famous Personality**

*Easily hurt and demotivated by others' take on his paintings. Very often got into fights with his critics.*

*- Vincent Van Gogh*

**Three Facets Of People With Temperamental Trait:**

| Dark Trait Variant | HIGH ▲ | LOW ▼ |
|---|---|---|
| **Assertive** | Imposes opinions on others | Easily influenced by others |
| **Volatile** | Frequent anger outbursts | Stays calm under stress |
| **Violent** | Provoked without reasons | Easily hurt by others |

Dark Trait Level

# Implusiveness

Tendency to act on a whim, displaying behavior characterized by little or no forethought, reflection, or consideration of the consequences.

**Strengths:**

 Quick Decision Making

**Weakness:**

 Rash Decision Making

**Famous Personality**

*Eccentric and free-spirited in her actions.*

*- Princess Diana*

**Three Facets Of People With Implusive Trait:**

| Dark Trait Variant | HIGH ▲ | LOW ▼ |
|---|---|---|
| **Spontaneous** | Jumps to conclusions | Thinks through any situation |
| **Careless** | Casual attitude towards things | Guarded and cautious towards things |
| **Rash** | Acts without carding about consequences | Plans, monitors, controls things |

**Dark Trait Level**

# Thrill-Seeking

The tendency to do activities filled with experiences and Thrill-seeking unusual sensations perceived as risky but rewarding.

**Strengths:**

Open to New Ideas, Broad Minded, Adventurous, Out-Of-The-Box Thinker

**Weakness:**

Uncalculated Risk Taker

**Famous Personality**

*Jumped from one successful venture to another, without getting too elated by any one venture, which allowed him to try different industries and excel in different fields.*

*- Elon Musk*

## Three Facets Of People With Thrill-Seeking Trait:

| Dark Trait Variant | HIGH ▲ | LOW ▼ |
|---|---|---|
| **Excitable** | Novelty seeking | Likes routine |
| **Adventurous** | Likes the unusual | Conservative in choices |
| **Daredevil** | Taking high stakes risk | Prefers tried and tested paths |

**Dark Trait Level**

**Dark traits get triggered by various factors such as:**
Just the presence of dark traits in a person does not ensure that they will act in an unwanted way. The dark traits have to be activated in order to present the dark behavior, which gets triggered by various factors such as:

### 1. Level of Dark Traits

Greater be the level of dark traits, higher would be the chances they get triggered, even with the slightest provocation.

### 2. Environment

Places where people tend to be superior, there comes a subtle tendency to misuse that power, hence triggering dark traits.

### 3. Situation

Relaxed- where the person is at ease and not being observed & Stressed- where the person is made to do a lot in limited time.

To know everything about the dark side, do read our data-backed and scientific report on **Uncovering the Dark Side of Human Personality.**

# 1.3 The Cognitive Abilities

**Cognitive abilities** are brain-based skills one needs to process any activity, be it simple or complex. It is more of the ability to comprehend, to understand and benefit as a matter of fact.

The way things are perceived, the strategic thinking, the decision-making abilities, all these also form the substratum of how people behave. It could be divided into two categories:

**Fluid Intelligence**

The ability to perceive things, absorb and retain new information to tackle issues in novel circumstances. The core competencies used to measure this are:

◇ Abstract Reasoning
◇ Spatial Reasoning
◇ Visual Reasoning

**Crystal Intelligence**

The capacity to recover and utilize data obtained over a lifetime or leveraging the acquired knowledge to perform tasks. The core competencies used to measure this are:

◇ Language & Comprehension
◇ Logical & Critical Reasoning
◇ Problem Solving
◇ Decision Making

CORE BRAIN
FUNCTIONS

Abstract Reasoning

Language & Comprehension

ATTENTION
SPEED
MEMORY
VIZUALIZATION

Spatial Reasoning

Logical & Critical Reasoning

Problem Solving

Visual Reasoning

Decision Making
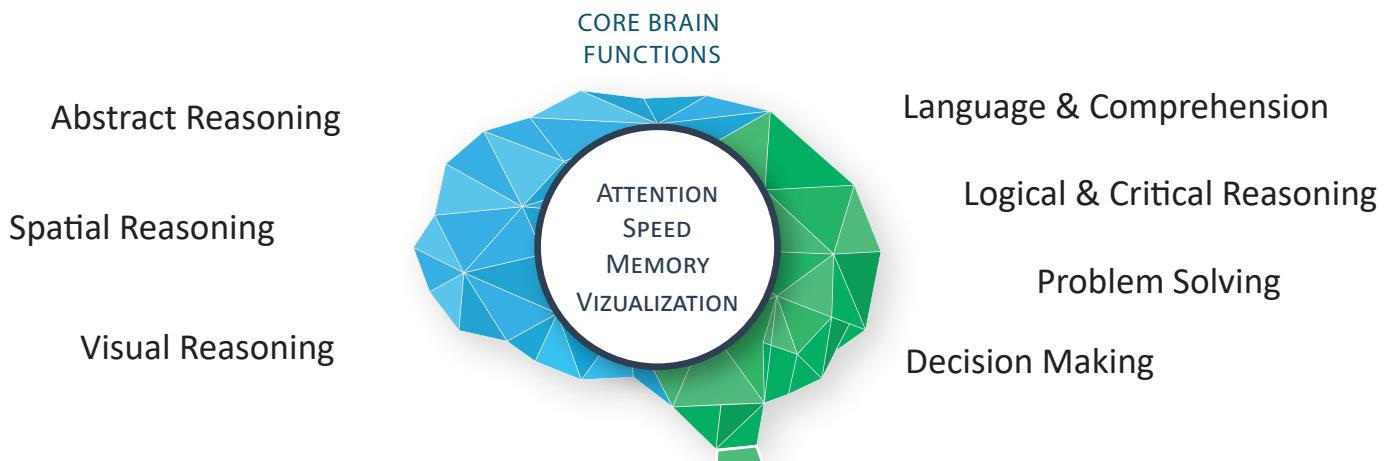
Well, you can visit the **guide to cognitive assessments** for the detailed explanation. Apart from the bright & dark side and cognitive abilities, there are some other factors affecting human behavior. These are clubbed under the X-factors.

# 1.4 The X-Factors

Although the dark and bright sides form a significant part of human personality, yet there are several other factors, which we call The X-Factors, that act as catalysts and affect the intended human behavior.

The **Nature vs. Nurture** debate influences in fluctuating personalities through the course of time. It provides an image of whether surroundings determines human behavior or if it is the individual's gene.

**Nature**
This is pre-wiring and is affected by biological factors, basically the hereditary legacy or the genetic inheritance.

**Nurture**
This is the impact produced from external factors, for example, the experience, acquired knowledge, learning or exposure of a person.

The X-factors include certain factors discussed below:

### 1. Upbringng

Kids are like sponges- they tend to learn and demonstrate behaviors that their parents portray. This can be seen in positive & negative behaviors they display.

### 2. Motivation

The way soldiers behave is totally unique and outstanding. The joy of meeting their loved ones after winning the battle and love for one's country keeps them pumped to behave accordingly even in the hardest situations.

### 3. Values

If we think of an organization as a decision-making body, then values establish the relationship between decisions and what happens consequently. They grow gradually over time subject to an individual's social and psychological development.

# What is a Psychometric Test?

◆ 2.1 Psychometric Properties

    2.1.1 Reliability

    2.1.2 Validity

    2.1.3 Norming

◆ 2.2 Can Psychometric Tests Be Faked

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# What is a Psychometric Test?

*Psychometric Tests are the standard, legitimate, logical and scientific method used to measure the behavioral traits and mental capabilities of the people. These assessments are principally proposed to gauge whether the individual is suitable for a specific job role in view of two core skills: personality and ability.*

They provide the best of the ways to evaluate human behavior of an individual subject to several certain situations. In fact, the word 'psychometric' fundamentally refers to the measurement of the mind. In fact, it is a short version of "psychological measurement".

The psychometric tools are used in the recruitment process and for training purposes to make selection and engagement experiences better. Familiarizing oneself with these tests will help in a superior, quicker and precise decision-making.
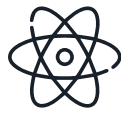
## 2.1 What are the Psychometric Properties?

Be it hiring or developing the employees, choosing the correct set of assessments is the pivotal decision that can actually make or break the success of a business. **Two critical properties of an assessment, from a psychometric/statistical standpoint, are its reliability and validity.** Do the assessments measure what they are supposed to measure? & Do they assess the same thing each time with the similar set of results?

In addition to validity and reliability of tests, the standardization of the tests normed with respect to several aspects such as age, gender, occupation, employability, education, etc. also determines the properties of assessments.
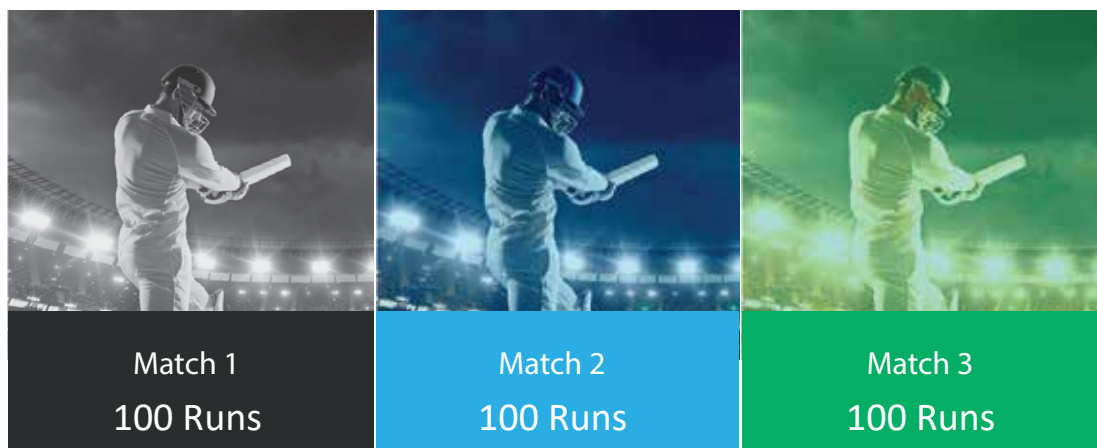
Reliability

Validity

Norming

# 2.1.1 Reliability of a Psychometric Test

The reliability of an assessment refers to the consistency of scores obtained under the repeated testing of the same individual on the same test under identical conditions (including no changes within the person).

Since this ideal is impossible to meet, one aspires to collect **evidence of reliability** and express it in the form of a correlation coefficient that can range from .00 to 1.00. A perfectly reliable test would have a reliability coefficient (Cronbach's alpha) of 1.00, and a completely unreliable test would have a reliability coefficient of .00.

**For instance,** a batsman at 4th position scored a century in each of the matches of a series. He, of course, is a reliable player, for he is consistent, however, can't assure the victory.
Reliability refers to the consistency of the test.

| Match 1 | Match 2 | Match 3 |
|---------|---------|---------|
| 100 Runs | 100 Runs | 100 Runs |

Reliable Player

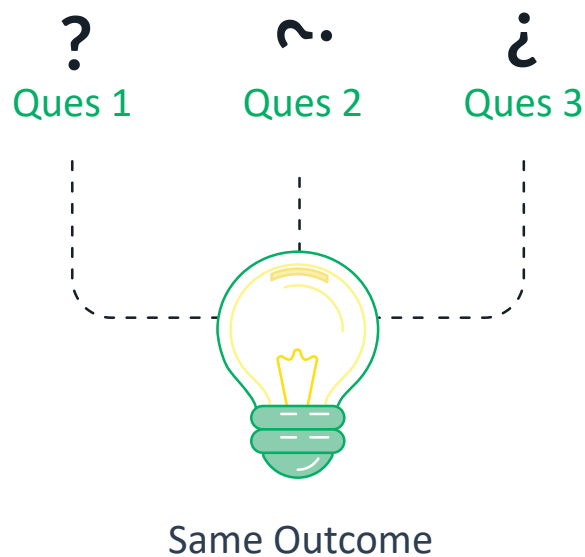**The reliability of an assessment can be evaluated in two broad ways:**

**INTERNAL CONSISTENCY**

While taking the test, the test-takers might have noticed that there are several items that aim to measure the same thing, same competency in this case. Well, this is intentional. This methodology assures the accuracy while measuring the concept.

For instance, in order to evaluate the level of satisfaction of your customers via your customer services, you should measure overall satisfaction. Options should be on Likert scaling; varying from Strongly Agree to Strongly Disagree. Some of the certain items could portray:

◇ Satisfied with the experience
◇ Will recommend the company to peers
◇ Will write a positive online review

If the survey turns out to be reliable or has good internal consistency, the answers would be the same for all the questions, be it strongly agree or disagree with all the three.



? **Ques 1**      ᷈. **Ques 2**      ¿ **Ques 3**

**Same Outcome**

**TEST-RETEST RELIABILITY**

Unlike the former one, test-retest reliability is more of a time-dependent way to measure the reliability of an assessment. It makes sure if candidates respond to the items the same way each time they take the test. It uses a correlation (using Pearson coefficient) of scores from the first test and then the second test over time.

**For instance,** the IQ of a person does not suddenly change or experience a drastic jump. So, these IQ tests taken over each month would provide almost similar results on the same set of candidates. This will extract out the test-retest reliability of IQ tests.



**Test**
**Time T$_1$**

**Test**
**Time T$_2$**

Gives Same Result Over Time
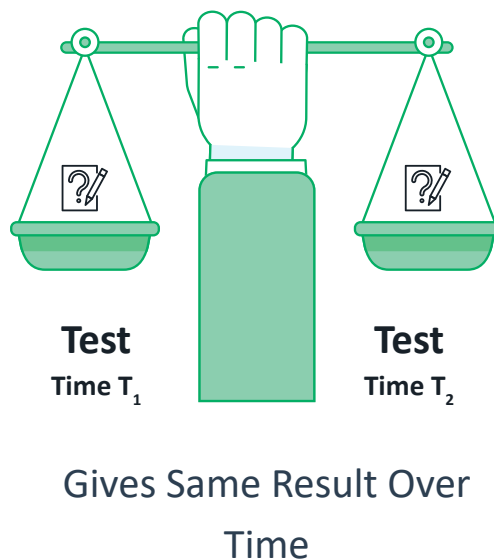
# 2.1.2 Validity of a Psychometric Test

Validity is subjectively defined as the test's capacity to measure what it claims to measure. It's imperative to say that a test with high validity guarantees the items remain firmly connected with the test's intended core interest.

Let's take the case of a weighing machine. A person weighing 75 kg. each time ensures the machine is reliable; validity concerns if he is actually 75 kgs. in weight.

**Let's go through the most important types of psychometric validity:**

**PREDICTIVE VALIDITY**
This tells us how precise a tool is at predicting a certain outcome and is the highest possible extent of validation. In our case, a better tool will be the one which predicts how well an individual will perform their job.

**For instance,** the predictive validity of JEE (engineering entrance exam) is measured through the correlation of students' JEE scores with their undergraduate scores. If high-scorers in JEE perform better in their undergraduate than the ones who score low, then the JEE is considered to be predictively valid.

| Tool's Prediction | | Present Performance | |
| --- | --- | --- | --- |
| Recommended | ✔ | High | ▲ |
| Not Recommended | ✘ | Low | ▼ |

**CONVERGENT VALIDITY**
To establish the evidence of convergent validity, i.e; the second most precise validation methodology, scores on a test must relate to scores on other tests or variables that purport to measure similar traits or constructs.

**For instance,** IPL 2018 has seen the use of Decision Review System (DRS) which is but another set of a hawk-eyed test of decisions like LBW and other such vital decisions, which either way the field umpires decide. If both the field umpire's decision and decision through DRS comes out to be the same, this proves the validity of the game.

| Tool's Prediction | | Other Validated Tool's Prediction | |
|---|---|---|---|
| Recommended | ✅ | Recommended | ✅ |
| Not Recommended | ❌ | Not Recommended | ❌ |

**CONSTRUCT VALIDITY**

This, unlike the former, doesn't concern the basic item of whether a test measures an attribute. It comes after the predictive and convergent has been applied. Rather, it is more oriented towards whether the test score interpretations are consistent with theoretical and observational **terms around the construct.**

The phenomenon to be measured must actually exist in the first place. There are different approaches (factor analysis and other correlational methods) compiled to generate the overall construct validity of a test.

**For instance,** you wish to develop a new measure to assess intelligence. Construct validity is found by ensuring the new measure precisely predicts the findings derived from the theory of intelligence.

| Tool's Prediction | | Theory Prediction | |
|---|---|---|---|
| Recommended | ✅ | Recommended | ✅ |
| Not Recommended | ❌ | Not Recommended | ❌ |

# 2.1.3 What is Norming?

Psychometric tests are frequently normed or standardized against groups for comparison. It likewise avoids taking a look at individual items or questions, and rather observe the total score of an individual in comparison with a representative sample.

Representative sample alludes to a group of similar people when developing a test. Let me be more clear. Using a group of children when developing a test for children, and an adult group when developing a test for adults.

Different test taker has very different performance levels and therefore their scores differ quite a bit. The importance of norming are:

- ◇ Assess the relative performance of test-takers
- ◇ Brings value to the assessments
- ◇ Indicates the true objective of a candidate among the pool
- ◇ Leads to a better interpretation of results
- ◇ Can provide primary care for top scorers

"

*When you get a 97 percentile on a trait like openness to experience, you realize that you are essentially more open than 97% of the sample group, whereas 94% would directly mean you score 97 out of 100.*

"

The different parameters of the demographic of norming sample subject to the gender are as follows:

◇ Age Distribution
◇ Work Experience
◇ Employment Status
◇ Educational Qualification
◇ Occupational Area

## 2.2 Can Psychometric Tests Be Faked

The best tests expect that individuals will lie or fake and take that into account, in light of the fact that faking is an indication of competence. Our psychometric tests cover almost all the response styles approach followed by the test-takers and interpret the results accordingly.

Response style is the tendency of a person to respond to the tests in a biased manner either consciously or unconsciously. Response bias, on the other hand, is a systematic tendency to respond to a set of items on some other basis than the specified content.

In order to identify which candidates' responses were likely to be genuine or less likely to be distorted, reasons being faking or careless responding, there are certain key points, put in place for hiring managers to prioritize candidates for further consideration.

Socially Desirability

Extreme Responding

Central Tendency

Careless Responding

Genuine
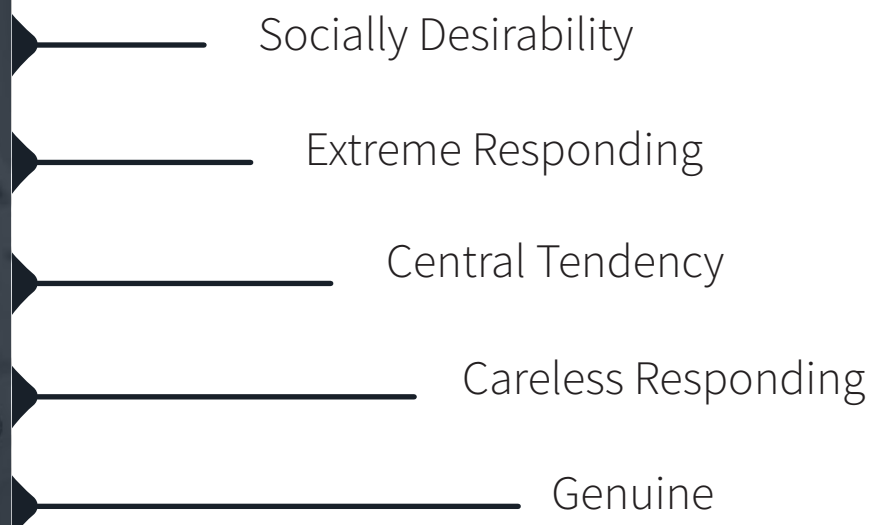
# 1

## Socially Desirability

It is the tendency to portray oneself in an unrealistically positive or socially relatable manner. For instance, when a candidate selected a response of 'most like me' out of other responses, more than an expected number of the time, it depicts something is not good. The candidate is then cautiously recommended.

# 2

## Extreme Responding

It is the tendency of a respondent to endorse extreme response categories on a rating scale, even if they do not have that view. For instance, there are people who aim to choose the least or the highest response, no matter what their true stance is. They target to either love or hate everything.

# 3

## Central Tendency

It also indicates the person is prone to answering with the utmost honesty. Unlike extreme responding, it is the tendency of people which indicates either the candidate is unsure about the response to the items or has chosen a safe mode of clicking only the middle one. The respondent is hence not recommended.

**4**

# Careless Responding

It is the tendency of the respondent where the person tends to pay insufficient attention to the items before responding, leading to a biased estimation of relationships. The person intends to select only one response all the times deliberately and hence is not recommended.

**5**

# Genuine

When a candidate is not flagged or reported using any of the above response styles and he/she can proceed with confidence, that one is the genuine and recommended candidate.

**The scaling methodologies used in our tools are of course a factor as to why our assessments are far too genuine to make better decisions. The two scales on which our tools reside are:**

**LIKERT SCALE**
It is a type of rating scale which is leveraged to evaluate the attitudes or opinions. The respondents are asked to rate items on a level of agreement with this scale. It utilizes a five-point scale, not limited to only *"agree" or "disagree",* but varies from *"often' to "never", "very good" to "very bad", or be it "Definitely" to "Never".*

Well, it would be important to understand that the Likert Scale is subject to distortion from several causes, such as Central Tendency bias or Social Desirability Bias.

**Question: You prefer not to run away from challenges.**

| Strongly Disagree | Disagree | Neither Agree Nor Disagree | Agree | Strongly Agree |

## SEMANTIC SCALE

It is a bipolar scaling method that measures the response with respect to two contrasting items, both having positive response options with a neutral option in between. For instance, if you have money and given two options as in going out & enjoy with that money and have fun or purchase books and read. You could agree with either both or neutral.

It could be distorted from response styles like extreme responding, careless responding and social desirability.

**Question: You enjoy sharing your work with others**

**Question You prefer to go unnoticed**

| Strongly Agree | Agree | Neutral | Agree | Strongly Agree |

# Psychometric Tools At Mettl

- ◆ 3.1 Mettl Personality Inventory
- ◆ 3.2 Mettl Personality Profiler
- ◆ 3.3 Mettl Dark Personality Inventory
- ◆ 3.4 Mettl Motivation Inventory

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# Psychometric Tools At Mettl

*Mettl has a set of valid and reliable assessment tools for behavioral problems, individually designed to evaluate the bright side, dark side and motivation factor in a candidate/employee while hiring/training.*

# 3.1 Mettl Personality Inventory (MPI)

**ABOUT MPI**

The **Mettl Personality Inventory (MPI)** is an innovative, data-backed personality assessment that evaluates critical work-relevant personality traits.

'Know Thyself' is the key to professional growth and personal development. Capturing this spirit, the Mettl Personality Inventory (MPI) has been designed to measure the person's strengths and growth opportunities, gazing how his/her behavior influences himself/herself and others and having a better understanding of personality traits and how to deal with them effectively.

**SCIENCE BEHIND MPI**

The MPI measures work-relevant bright side of the personality traits. Mettl scientists went beyond the well-established model of the broad "Big Five" personality factors and developed 26 'scales' or narrower facet-like constructs, which form the building blocks of our assessments. These scales span a wide domain of personality and are mapped to companies' or job roles' specific performance models or behavioural competencies to obtain the optimal prediction of job success.

Ideally, the MPI should be administered to job applicants who have passed a few minimum qualifications for the job. The assessment results can serve as an important piece in the jigsaw puzzle of the hiring decision – but not the only determinant.

| Five Factors of MPI | Validity Score | Reliability Score |
|---|---|---|
| Extraversion | .642 | .695 |
| Agreeableness | .482 | .624 |
| Conscientiousness | .583 | .657 |
| Openness to Experience | .401 | .701 |
| Emotional Stability | .673 | .733 |
| **OVERALL** | 0.4-0.67 | 0.63-0.73 |

## APPLICATIONS

The MPI is best used as part of a systematic selection process, along with other scientifically developed and job-relevant predictors of future success.

**Recruitment**
Cashier Hiring Test, Cab Drivers- Used in hiring blue-collar workers

**Training and Development**
Learning Agility Assessment to better evaluate the capacity to learn new things in the employees

**HiPo Identification**
Leadership Assessment, Managerial Potential Assessment – to have a healthy pipeline of future leaders

**Succession Planning**
Employee Retention Assessment-  to fast-track high potential to retain them

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# 3.2 Mettl Personality Profiler (MPP)

## ABOUT MPP

The **Mettl Personality Profiler (MPP)** is an innovative, evidence-based assessment, that measures the relevant personality traits required for critical work. It helps predict behavioral competencies, which in turn, lead to organizational outcomes of interest. It is designed to help employers gain access to otherwise hidden information about a job applicant or an employee, that is critical in influencing her/his behavior at work. Key highlights and functionality remain inalienably like the MPI with adaptability outside the Mettl Competency Framework.

## SCIENCE BEHIND MPP

The MPP is based on the well established "Big Five" model of personality traits and the corresponding facets aligned to the bright side of human personality. The MPP uses the semantic differential item format to reduce the problem of respondents 'faking good' and thereby improve the assessment usefulness.

The FFM specifies that people can be described based on their standing on these five broad personality traits: extraversion (outgoing/energetic vs. solitary/reserved), openness to experience (inventive/curious vs. consistent/cautious), emotional stability (secure/confident vs. sensitive/nervous), agreeableness (friendly/compassionate vs. cold/unkind), and conscientiousness (efficient/organized vs. easy-going/careless).

| Five Factors of MPP | Validity Score | Reliability Score |
|---|---|---|
| Extraversion | .661 | .639 |
| Agreeableness | .464 | .624 |
| Conscientiousness | .522 | .704 |
| Openness to Experience | .522 | .738 |
| Emotional Stability | .691 | .705 |
| **OVERALL** | 0.4-0.75 | 0.63-0.88 |

## APPLICATIONS

The MPP, when used with large numbers of job applicants, in recommended ways, will yield a better-quality workforce over time.

**Recruitment**
Aviation Pilots, Insurance Sales Executive- hiring white-collar employees

**Training and Development**
Learning Style Test to understand the current proficiency level of an employee; train and develop them effectively

**HiPo Identification**
Leadership Assessments- to have a healthy pipeline of future leaders

**Succession Planning**
Employee Retention Tests- to retain the potential employees

**Difference between MPI & MPP**

Well, MPI and MPP are almost the same at the front end with more or less similar applications. The basic difference lies in the scaling technique used in its development; Likert in MPI whereas Semantic in MPP. The usage of Semantic scale, the bipolar item approach accompanies with a bit more of thinking level and a significant change in response style.

Therefore, MPP is basically made for white-collar workers. The major reason being, it becomes a bit easier for some smart people to fake items based on MPI.

# 3.3 Mettl Dark Personality Inventory (MDPI)

**ABOUT MDPI**

With the increase in work pressure and subsiding patience, workplaces nowadays provide the ideal environment, appealing and triggering of dark traits, which have a tendency to threaten the security of employees, clients and work culture as a whole. Mettl has created a dark personality inventory that contains 6 dark traits, aiming to measure negative personality construct in potential hires and existing employees as well.

**SCIENCE BEHIND MDPI**

With extensive research, we came up to a point where we divided the human personality into six traits, on the basis of which MDPI has been built. We've already discussed those traits in the above sections which include opportunism, self-obsession, insensitivity, temperamental, impulsiveness and thrill-seeking.
We studied several factors responsible for triggering dark traits and segregated the industries and job roles into three categories in the decreasing order of risks:

**Red Zone-** These are the **high risk zones** hold the power to jeopardize the company's reputation and customer safety.

**Yellow Zone-** These are the **medium risk zones,** the reason being employees might exploit internal work culture, intellectual property, and data stored by the company.

**Green Zone-** These are the **low risk zones** for employees can harm assets like company property, financial assets, machinery or other physical assets.

| Six Factors of MDPI | Reliability Score |
|---|---|
| Opportunist | .60 |
| Self-Obsessed | .80 |
| Insensitivity | .73 |
| Temperamental | .81 |
| Implusive | .74 |
| Thrill Seeking | .68 |

**Validity**
Construct validity estimation with EFA and CFA

## APPLICATIONS

Knowing yourself is the beginning of all wisdom. Find Mettl Dark Personality Inventory and other related tests to discover your dark and bright side.

**Screening while Hiring**
Cashier hiring, cab drivers, blue collar recruitment test- to filter out the unwanted ones.

**Safeguard your culture**
Workplace culture assessments- to ensure no danger to the work culture.

**Safeguard your customers**
school safety assessments- to assure a safe place for customers & employees.

# 3.4 Mettl Motivation Inventory (MMI)

**ABOUT MMI**

Just as a smooth and intense motor is vital for the continuous working of the car, motivated and finely tuned workforce is imperative to operate the business smoothly and adequately. **Mettl Motivation Inventory** is a comprehensive test of motivation, that gives a precise understanding of what actually drives and motivates a person to effectively perform and excel at work.

**SCIENCE BEHIND MMI**

As a matter of fact, the more motivated and engaged the workforce, the greater is the organization's potential for success. Typically, it measures 8 key motivators under 3 major needs listed below.

◇ **Sustainability Needs-** This talks about the elements that aim to meet the needs of one's current situation and the predicted future. The key motivators pertaining to this are:

  ◇ Money
  ◇ Security

◊ **Relatedness Needs-** This refers to the part of a person's identity which equates to the social and external esteem needs. This covers the following three motivators:

  ◇ Recognition
  ◇ Affiliation
  ◇ Competition

◊ **Growth Needs-** It is self-explanatory and alludes to the individual's internal expectations and desires constituting what they will obtain from their work. The key motivators here are:

  ◇ Power
  ◇ Advancement
  ◇ Achievement

## APPLICATIONS

The Mettl Motivation Inventory's in-depth insights and range of business-relevant reports make it suitable for selection of graduate, professional and management positions.

**Retention**
Employee Retention Test to explore the motivators needed to retain the potential employees

**Engagement**
Employee Engagement Assessment to uncover the factors driving a healthy engagement at the workplace
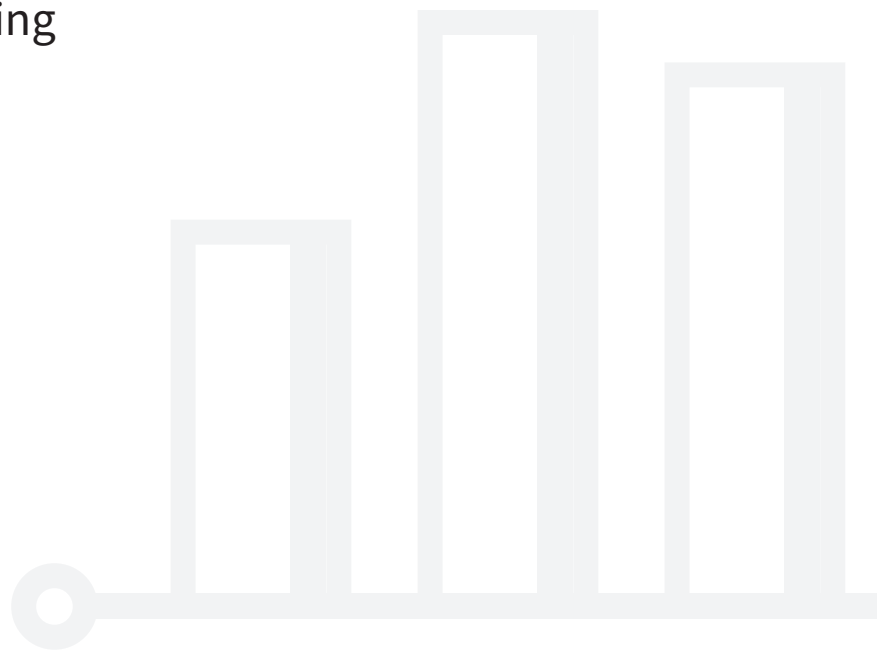
**Exit Interview**
Exit Interview Assessment to discover the elements badly needed at workplace to motivate employees
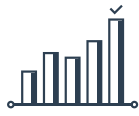
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# How Do Psychometric Tests Impact Business Outcomes?

- 4.1 Recruitment

- 4.2 Training & Development

- 4.3 Organizational Planning

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# Psychometric Tests Impact Business Outcomes

*These days, making predictions has become crucial. People nowadays tend to foresee the climate, sports results, money related information, etc. Well, it is quite similar to the corporate world; running with the same pattern. Talking about business, the two quite significant elements responsible for starting it are 'Human' and 'Capital'.*

Leaving aside the 'capital' side, Mettl solves the 'human' side of the equation. Mettl's tools can be leveraged to have a strong and effective impact on each of the aspect of employee life-cycle. This starts with hiring the best fit, culturally and role-wise, to training them and finally transforming them into better leaders.

Let's take a gander at all the segments where psychometric tools or the behavioral assessments could impact a business.

**Hire the Right Person**

**Develop Right**

**Make Better Leaders**

**Better Business Outcomes**
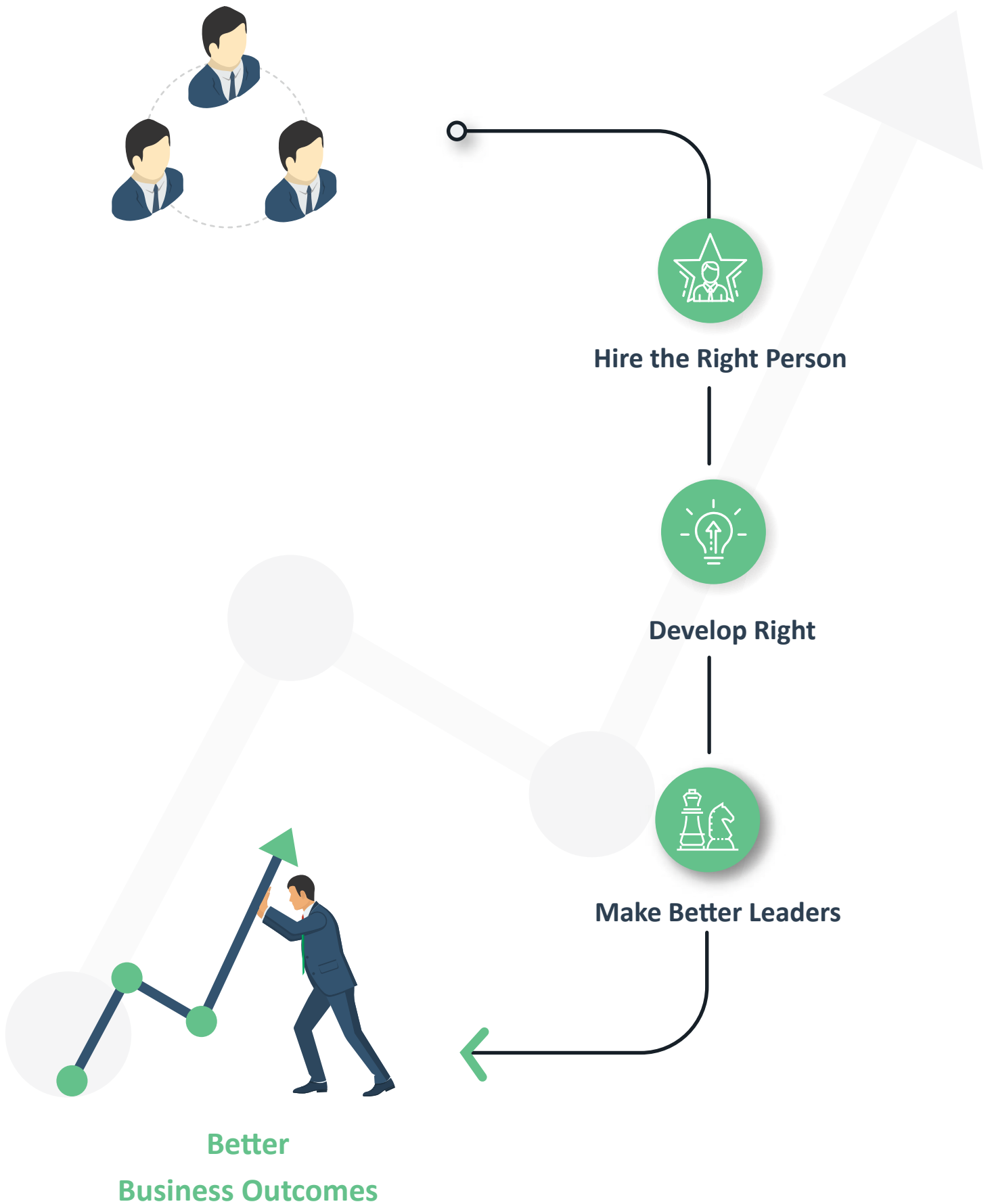
# 4.1 Recruitment

Principally, developing the business begins with hiring the right people. This is the crucial step in building up a business and so as to succeed, the HR team ought to have a strategic recruitment process using the right kind of tools required for the same.

Leveraging psychometric tools during the recruitment process provide a better overall evaluation of a candidate and ideally secure the best fit for the role. Typically, a behavioral assessment for employment doesn't come in isolation, however, as one segment of a more extensive and coordinated assessment strategy. The people who already use this believe that it gives a more objective diagram of a candidate's character, qualities, shortcomings and working style.

**Basically, when talking about recruitments, psychometric tests contribute in two different areas:**

Role Fitment

Culture Fitment

# 4.1.1 Role Fitment

Choosing the correct fit is the fundamental objective of the recruitment process. Based on the job role specific competency framework, organizations use different kinds of Pre-Employment Assessments:

- ◇ Cognitive Assessments
- ◇ Domain Tests
- ◇ Psychometric Tests

Nowadays, evaluating the candidate's behavior alongside aptitude in the hiring process is preferred more than evaluating just the aptitude. Mettl's psychometric tools: MPI and MPP which are based on the Big Five Personality Traits aids in:

- ◇ Uncovering the bright traits of candidates
- ◇ Adding a scientific filter to the recruiter's gut-based decisions

This ensures that the organization has hired candidates worthy of their roles and that they will guarantee the overall productivity and fewer nuances, for they are hired to do what they actually are good at.

For instance, psychometric tests assure that the person hired as a sales manager is actually a strategist, excellent at communication, having mentorship qualities and qualifying other such criteria.

The outcomes this has on an organization are:

◇ Employees possess key performance indicators
◇ Reduced attrition rates
◇ Achieve competitive advantage
◇ Overall employees and business growth

# 4.1.2 Cultural Fitment

The organization culture is a system of shared assumptions, values, and beliefs that regulate how people behave in organizations. It presents the unique social and psychological environment of the company.

> *As a matter of fact, turnover from a poor culture fit can straightforwardly cost directly up to 50%-60% of an employee's yearly pay and indirectly to 90% to 200% of the annual compensation.*

An organization needs candidates whose qualities, judgements, outlook, and behavior fit in with the organizational culture. The role of psychometric tools in discovering out the cultural fit employees can be seen as:

**MPI/MPP-** focuses on a person's strengths, growth opportunities; the positive side of human personality, who'll fit for long.
**MDPI-** uncovers the candidates with dark personalities along with the level of risks they accompany with them.

Not only would you be able to test individuals for cultural fit via psychometric tests, you also ensure the absence of bad hires. The other major outcomes it will have on a business are:

◇ Sense of well-being
◇ Reduced attrition
◇ Enhanced performance
◇ Highly engaged employees

# 4.2 Training & Development

In this dynamic and competitive world, we wake up with something new in the business world every day. It's undeniable that an innovation is one of the reasons which escort to changes in aims and objectives of the organizations. This kind of situation demands a recalibration of the skills of employees in terms of competencies aligned with the business objectives.

**Training employees, in itself, is a complete long process where psychometric tests and tools play a vital role.**

◊ Identifying Training Needs
◊ Pre-Training Assessment
◊ Training
◊ Post-training Assessment

Training Needs Identification

Training Effectiveness

# 4.2.1 Training Needs Idetnification

The key first step in the training process is to identify the skill gaps in employees. This includes:

### Why to Train?

Identify and develop key competencies in employees to achieve business goals.

### Who to Train?

Picking out the employees who need training based on their competency levels.

### What to Train for?

Preparing a customized training plan on the basis of skill gaps and training needs.

Apart from physical assessment and development centers (AC/DC) which include activities like sailing, rope climbing, etc., there is a **virtual AC/DC** setup to identify the 3-W's of training. Getting to know to the exact amount of training to the precise employees would become an excellent piece of data to train em-ployees

# 4.2.2 Training Effectiveness

For an organization, it becomes very much crucial to know if the training program incorporated post **understanding the training needs** is effective enough.

This talks about if the training had a long-term lasting impact on employees, whether the training program was powerful enough to help candidates apply their learning effectively and hence increase performance at work.

**Psychometric assessments are again involved at each stage of the process.**

### Pre-Training Assessment

To measure the current proficiency level of the employees with respect to the desired competencies.

### Post-Training Assessment

To evaluate the effectiveness of training, leveraging the **Kirk Patrick 4 level training evaluation model.**

With such a detailed process concerning **training and development** of employ-ees on the desired competencies using psychometric tests, a company can defi-nitely do a lot more in terms of its productivity.

If the employee has been trained well on the skills he wishes to, the chances grow multifold that they'll stay in the company for long. This leads to reduced attrition and a huge decrement in the investments made to onboard them, which sums up approximately to half of their annual salary.

The outcomes of a better **L&D program** in an organization, apart from the increased productivity of employees are higher morale and improved business results.

# 4.3 Organizational Planning

**Organizational planning** means pinpointing the organization's short and long-term objectives, hence planning and organizing it for what will happen in the years ahead. The business-related decisions require proper justification with data-backed information.

Even the **Willis Tower Watson Study** measured the utility of psychometric assessments by the organization in succession planning and identifying high potential across varied seniority.

**Let us move on to the use cases:**

Succession Planing

High Potential Identification

# 4.3.1 Succession Planning

**Succession planning** is a procedure for identifying and developing new pioneers who can substitute the old leaders on the off chance they leave, retire or expire. It builds the accessibility of experienced and competent employees that are already set up to accept these roles as they end up being available.

This would require the assessment of skills, seeking to fill in the gaps between what an organization needs next and the current skill set of employees aligned to business objectives. This may also accompany training and development initiatives, for better leadership development. Psychometric tests track and develop the right set of high potential employees and prepare them for development through structures and the scientific process.
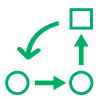
**If we move on to the process, it goes like this.**

**1. Identify**
Define key competencies needed to succeed in critical roles & nominate candidates.

**2. Assess**
Use reliable & valid tools to evaluate candidate readiness on key competencies.

**3. Plan**
Use customized reports to hand pick the right candidates for succession.

**4. Act**
Develop & track growth of selected candidates for promising future.

It negates the cost and time behind external recruitment and training, which turns out to be statistically more expensive.

Succession planning aims to address many of the human resource issues such as:

◇ Increased turnover rates,
◇ Rapid changes in work,
◇ Desire for a sound workplace across different levels.

# 4.3.2 High Potential Identification

**High potential (HiPo) identification** determines the furthest reaches of an employee's development range. It would be sufficient to say that the more potential they have, the less expensive and speedier it is to develop them.

It is likewise essential that potential employees are force multipliers, pushing up the performance bar for their co-workers, and obviously for their immediate reports. By their words and activities, they model and preach winning practices that shape high-performing cultures.

> *Just adding a star performer to a team boosts up the effectiveness of other members by 5-15%.*

There are psychometric tools around that aim to identify the high potential in an organization.

**The ingredients or the generic markers of potential include:**

**Ability**
**Cognitive tests** are designed which measure the intelligence or brain-based skills required to carry tasks to completion.

**Social Skills**
**MPI/MPP** evaluates solid cooperative relationships with coworkers, be it colleagues or boss which can easily be measured by.

**Drive**
**MMI** depicts hard work, willingness to push extra miles, responsibili-ties, the kind of ownership, and other such motivators.

Although identifying high potential employees isn't an easy task, for not many employees are highly able, socially skilled and driven. The use of scientific and data-backed tools end up with a stronger portion of talented employees that contribute significantly to the organization.

This has a **tremendous impact on business** and is the key to higher levels of ROI.

# Conclusion

*It's great that you made so far. You've got to understand the science behind psychometric tests and that they are the appreciable ways to decode human personality and behavior*

Depending upon the bright side, dark side, cognitive abilities, and some X-factors, the intended behavior could differ from human personality.

Then, there are valid and reliable tools based on the same science to measure the precise personality and behavior of people at workplaces. You've also got to understand how psychometric tools and their results about individuals could impact business outcomes, be it recruitment, training and planning to make better leaders.

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# mettl

# What is Mettl?

Mettl is a Saas based assessment platform that enables organizations to create customized assessments for use across the entire employee lifecycle, beginning with pre-hiring screening and candidate skills assessment, training and development programs for employees/students, certification exams, contests and more.

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