

PAPER-PENCIL TO TECH-AGE: THE EVOLVING PSYCHOMETRICS

Abstract

Throughout history, the primary challenge in the human environment that influenced the evolution of intellect was not climate, weather, food scarcity, parasites, or predators. Instead, it was the constant need to navigate intricate and unpredictable social situations and interactions with fellow humans that became increasingly complex as our evolutionary lineage progressed. That need might have been the reason of beginning of psychology as a scientific discipline and psychometrics as a significant purposeful discovery to tackle the human vs. human transaction efficiently. Assessing or understanding a second person is a routine affair of our species. The social world is becoming more complex due to the emerging social media and 'metaverses'. That is increasing the complexity of day-to-day social interaction too. Here, psychology as a mind science has lots of importance to study such phenomenon in isolation as well as in the mass point of view. This chapter is trying to pour some insights toward how psychometrics is evolving as a major discipline of applied psychology to face the present and future of information era. This chapter (a) selectively overview the past and present evolution of psychometrics, (b) discussing the challenges in psychological measurements, (c) profile of a psychometrician, and (d) the new emerging trends in psychometrics.

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I. INTRODUCTION TO THE MIND-READING PSYCHOMETRY

Psychometric assessments are the scientific approach to evaluate one's mental functions to understand the presence of deficiency, normalcy, and giftedness. The conventional way of evaluating these used to be the traditional face to face interviews, projective tests, objective tests etc. During the era of evolution from Neanderthal to Homo Sapiens when humans recognised their power in cooperation to deal the environmental resource-based challenges, they started living in community with fellow humans. The frequent and intensified social interactions due to the community living evoked the evolution of social intelligence to be a more complicated attribute.

Human cognition can refer to own self called recursive thinking (thinking about thinking) which enables the human mind to perform 'self-consciousness' function where (s)he is able to distinguish his 'self' from other 'selves'. Perception and cognition of 'others' in comparison to the 'sense of self' parallely evolved in humans to deal fellow humans effectively. All these 'Me vs You' game to survive in the social world aided humans to constantly make theories of others' mind in their day today social interactions. Cognitive psychologists call this phenomenon as Theory of Mind ability (ToM), that is the ability of a human mind to comprehend beliefs, desires, and intentions to predict future behaviour of another mind (Ian A. Apperly 2012). It is a developmental milestone achieved by all humans when they step into their age 3. Like the way you see the physical world with your eyes, your mental vision is determined by Theory of Mind. Hence, by the third year of life all humans become a born psychometrician who conduct psychological assessments of fellow humans via a method called 'observation'. They sense, perceive, predict, and evaluate others intent and behaviour constantly in the social world. What really happens when the psychological evaluation takes place? One mind travel across to the other person's mental dimension to comprehend the other's mental functioning with a purpose. This need of our species later formally satisfied by the scientific community of psychology by contributing psychometry to the world.

Psychometric tests were revolutionary in its approach through its symbolic and abstract nature to assess the mental faculties. They served their purpose in the fields of psychiatry, military, education, and industrial sectors. It started with Sir Francis Galton's idea of measuring intelligence in 1800s. and in 1900s the French psychologist Alfred Binet created the first modern intelligence test, known as the Binet-Simon Scale. Later this got adapted as Stanford-Binet intelligence scale by Lewis Terman in the early 20th century. It turned into a popular test and became reference to many subsequently evolved intelligence tests. Wechsler Adult Intelligence Scale (WAIS) and Wechsler Intelligence Scale for Children (WISC) evolved from Wechsler-Bellevue Intelligence Scale by David Wechsler in 1930s. The very first personality test for identifying psychiatric diagnosis and personality attributes was Minnesota Multiphasic Personality Inventory (MMPI) developed by Starke R. Hathaway and J.C. McKinley in 1940s. Later in the same year, Katharine Cook Briggs and her daughter Isabel Briggs Myers developed the Myers-Briggs Type Indicator (MBTI). It became a popular personality assessment based on Carl Jung's theory of psychological types.

II. CHALLENGES IN MEASURING PSYCHOLOGICAL ATTRIBUTES

The primary challenge in measuring psychological attributes is due to its existence in nonphysical dimension in abstract forms. In short, psychological attributes are not physically present and unit of measurement is not fixed. It varies during the process of measurement. In psychological measurement there is only an arbitrary zero point but no true zero point. Though quantitative measurements are being performed but it is validated or accepted in the context of a qualitative evaluation by the psychometrician. Hence, in the psychological measurement psychometrician is the real instrument. The validity and reliability of results or measured data depend to a great extent on the knowledge, training, skill, practice, and integrity of the psychometrician. Prediction on any psychological construct cannot be made with definite accuracy and the entire quantity also cannot be measured. The qualitative or quantitative approach while measuring any psychological attribute, is coupled with subjectivity in the measurement due to the non-physicality or abstract nature of attributes. Also, psychological constructs are often complex and multilayered. Any attempt or establishment to perform an absolute measurement will result in simplification error or overselling of the tool.

Another intriguing and deep challenge while measuring psychological construct is the effect of social desirability especially in collectivistic cultures. Social desirability factor is very similar to the Heisenberg's uncertainty principle in quantum mechanics, where it says that when we try to measure the position and momentum of a particle that effort of measurement itself will affect its position or momentum. Similarly, when we try to measure a psychological attribute using any tool, that effort or process can generate a separate force called social desirability which affects the absolute manifestation of that attribute. Social desirability is most visible in personality assessments where context-based data like nonverbal and paraverbal behaviors have more validity than content-based data like literal test responses of the individuals. Projective tests have an upper hand in this arena where individuals are barely aware of their response nature or get a chance to display their attributes unknowingly or unconsciously in abstract manner. To overcome these challenges are already in progress in the discipline with the advancement of technology especially in the psychophysiological measurements where researchers are constantly trying to identify the psychophysiological markers for the psychological attributes. That will be discussed in the upcoming part of the chapter.

III. WHAT IS IT CALLED A 'GOOD' TEST?

Any scientific tool whether in physical science or psychological science becomes 'good' only when it satisfies its intended purpose. That is achieved by defining the scientific properties of a test. The first one is, standardized and uniformed administration for the different test takers for ensuring the consistency and applicability of the tool. Second, the reliability where results should be consistent under different testing situations. For example, if a person named 'A' carrying out a test on the subject and later person named 'B' carried out the same test on the same subject, both the results should be similar. Next would be the validity of a test. It is the accuracy of the intent of measurement. That is, a test should perform what it claims. Establishment of norms during the test development from the larger representative sample will only give the generalizable reference which determines the target population. This process will ensure the standardized scores of a test objectively which will

ensure the ease in interpretation of responses or performance of the test taker. Practicality and ethical nature are the other two essential properties where tests should be non-invasive to the test taker. A new test should essentially go through the following procedures to make it fair and useful for the wider range of individuals.

- 1. Test Development:** The first step is developing a test according to its objectives and target population based on the theoretical principles considering the psychological attribute being measured of the test. This includes the designing the test items that meant to assess the construct. It is purely a creative art and there are no defined rules or guide to design good items. The designer must have the few prerequisites while designing the items such as thorough knowledge and expertise, clarity on the test objectives, familiar with the construct and open for suggestions and criticisms.
- 2. Representative Sample:** Standardizing a test is on a sample population based on the test taking targets. The sample should be heterogenic in its nature for better generalization. A larger sample is essential to obtain the reliable normative data.
- 3. Test Administration:** The test is preliminarily administered among the target population to find out major weaknesses, errors, ambiguities, and other issues. It also includes identifying the difficulty and validity of the items. This also helps the researcher to identify the standardization of instructions, test time and procedure. It is more of a rehearsal of the actual testing conditions to gain confidence over designed items.
- 4. Data Collection:** During the test administration, data on individual performance are collected. This data may include raw scores (actual number of correct responses), response times, and other relevant information. It is obtained through the controlled administration, consistent instructions, data recording, ensuring the standardized testing conditions, participant privacy and adherence to the test manuals.
- 5. Reliability Assessment:** It ensures how consistent are the test scores over time and under different circumstances. Test-retest reliability, internal consistency (Cronbach's alpha), and inter-rater reliability are few methods to assess the reliability of a newly constructed test.
- 6. Validity Assessment:** Validity assesses whether the test measures what it intends to measure. Multiple types of validity evidence are gathered, such as content validity, criterion-related validity, and construct validity, to support the meaningfulness and appropriateness of the test in its intended context.
- 7. Standardization Manual:** A comprehensive standardization manual is created to document all aspects of the test's development, administration, scoring, and interpretation procedures. This manual provides guidelines to test administrators and researchers on how to use the test correctly and consistently.
- 8. Test Revision:** Psychological tests are supposed to undergo the periodic review and modification to maintain their significance and accuracy. As new norms are established over time, the test's norms may need updating to reflect changes in the population being tested.

- 9. Ethical Considerations:** During the standardization process, ethical guidelines are strictly followed to ensure the protection of participants' rights, informed consent, confidentiality, and appropriate use of the test results. Essential ethical principles are discussed in detail in the next part of the chapter.

IV. ESSENTIAL ETHICAL PRINCIPLE

All the properties of a psychometric test mentioned above itself act as an essential ethical way to determine the readiness to use the test. In addition to that there are many principles that should be the heart and soul of a psychometrician. First, is the informed consent of the individual being assessed or the legal guardian by clearly mentioning all the information about the test which includes benefits and potential risks and the right to refuse or withdraw from without any consequences. Second, the confidentiality should be ensured in the identity information, accessing the personal information, test results since the psychological tests are deeply personal and vulnerable information about an individual. Psychometrician should put efforts to cause the benefits at its maximum and minimizing the harm. Non-invasive methods should be the major way to offset the risks. After test taking, the participants should be given adequate feedback regarding their testing and encourage them to ask questions if have any. Finally, the competence determined by the qualification and experience of the psychometrician is very crucial in this profession with the necessary knowledge, skills, training, and qualifications to administer and interpret the tests accurately. It is being discussed in detail in the next part of the chapter.

V. PROFILE OF A PSYCHOMETRICIAN

It is a recursive scientific irony when we try to profile a psychometrician where that itself is a psychometrician's job. There are very few or almost nil scientific studies available in the area of psychological attributes of psychologists or job profiling of a psychologist other than qualifications and experience. Unlike any other sciences, psychology is the only science which study the mind using another mind. Whereas all other disciplines, the mind is studying the fields whether it is economics or rocket science. When a mind studies another mind, it is bio-psycho-socially biased always. Hence, the desensitisation of such bias to an extent possible only through a deep reasoning recursive mind. So, profiling such minds are essential in the entire subdisciplines of psychology, especially the psychometrician. A psychometrician rigorously interacts with other minds in routine to understand the individual mind functioning where his own (psychometrician's) mind also an evolutionary product just like any others except the knowledge and training in the science (s)he acquired. Therefore, letting the qualification and training required being the basic essential criteria for being a psychologist or psychometrician, let's also shift our focus to this novel side of psychological profiling of a psychometrician.

Basic cognitive abilities like high functioning executive functions are general factors in all the jobs for being successful and efficient. But when the psychologists themselves discovered that beyond the cognitive factors, emotional intelligence and resilience are also some of the key factors for an individual to be successful or happy in his professional and personal life. So, is it just same for the psychologists or are there any other attributes which play vital in their profession?

VI. THEORY OF MIND (TOM)

Theory of Mind (ToM) that is the ability of a human mind to comprehend beliefs, desires, and intentions to predict future behaviour of another mind (Ian A. Apperly 2012). It is considered as a significant socio-cognitive attribute to function efficiently in the social world to understand and deal others' mind. Psychologists are bound to serve in the social world by the nature of profession itself. No psychologist has a 'lab' without 'humans.' Theory of Mind is an umbrella term or mother quality for many other attributes. We call it social intelligence, affective and cognitive empathy, emotional intelligence, mentalizing, and even naively known as mind reading ability. Most often all psychologist face in their career a cliché question that "Can you read my mind by just looking at me?". I rigidly believed it as an unscientific question by the naïve crowd where the majority do not even know or do ask why there is a 'P' in the spelling of 'Psychology'. But later I had to change my stand while dealing a dissertation research question that why some people are good at understanding and dealing others. Yes! Every Homo Sapiens in routine read others mind using this Theory of Mind (ToM) ability in their social world. Most often it is unconscious or involuntary due to evolutionary reasons. We started speaking language around just 10,000 years ago (Harari, Y. N, 2014) and before that all our communications were of nonverbal and paraverbal nature. The hand to mouth evolution desensitised the insight of the Homo Sapiens regarding their ability to read others nonverbally or para-verbally though the ability continued. We involuntarily grasp and interpret others facial expressions, body gestures, tone, and pitch of their voice to form the understanding of a second mind in a fraction of second. But in the complex social world those are bare minimum to have an accurate understanding about second person. That made us prone to mind reading errors which compelled us to believe that we are incapable of it. Presently, we invested this ability mostly in our sympathetic and parasympathetic responses like fight or flight to recognise the life threat stimuli for the purpose of self-preservation. And in communication we started believing blindly on the literal verbal transactions where it is the least reliable form to understand the second perspective.

ToM mainly has two components, the social-perceptual component and social-cognitive component. The social-perceptual component is the ability of an individual to determine the mental states of others using immediately available non-verbal cues such as eyes, facial expression, gestures and postures, tone, and pitch of the voice and so on. This is an early developmental ability which is controlled by the right hemisphere medial temporal and orbito-frontal regions of the brain. When someone uses his reasoning to predict others' behaviour, then the social-cognitive component is the active part. This includes reasoning others' behaviour as well as prediction. This component is controlled by the medial frontal areas and the temporoparietal junction. Astington and Pelletier (1996) proposed a connection between the level of Theory of Mind (ToM) development and the capacity for learning through instruction and collaboration. They also suggested that ToM skills are associated with the advancement of scientific and critical thinking abilities.

The "social brain hypothesis" says that people who has high functioning ToM is likely to outperform the poor mentalizers, especially in the context of social success (Brothers 1990; Dunbar 1998). Though it is pertaining to the day-to-day complicated social world, application of psychology is a complex and sophisticated social bond where its success speaks about benefitting the second person at its maximum. So, whether in a psychotherapy context or psychometrics context, extracting the relevant meaning and information from the speech is

dependent upon the intact ToM. That generally goes with the decoding of language beyond literal meanings of word in the basis of contextual information. In short, successful social interaction depends on accurate sensing and interpreting the social behaviours and that is very essential in the profession of psychology especially as a psychometrician.

- 1. Affective and Cognitive empathy:** Affective and cognitive empathy which are two parts of ToM but can function independently too. Affective empathy is the mirroring part of emotion from 'other' to 'self' whereas cognitive empathy is the perspective taking by wearing the second person shoe to get the greater picture how his mind functioning. Affective empathy is more of a zero-order cognitive function where mirror neurons in the prefrontal lobe facilitates this involuntary act. It is the capacity to feel what another is feeling through emotional contagion (Dufner, & Zeigler-Hill, 2015). Any action is observed, the higher order motor functions like recognition, imitation, acquiring new motor patterns and language processing are filtered through this mirror neuron system (MN System) (di Pellegrino et al. 1992; Gallese et al. 1996). Cognitive empathy is an effortful first order and beyond cognitive function where your overall mental reasoning dominantly lead by prefrontal cortex and temporal parietal junction (TPJ). In the psychometric context, the listening and sensing part would be more efficient when your affective empathy has a high functionality whereas the perspective taking and understanding the symbolic social cues, believe system and strategizing the conversation is more connected to the cognitive empathy part.
- 2. Enactment Imagination (E-imagination):** It is a dimension of vivid imagination where you can visualise different situations, simulate emotions and mental states, thinking creatively by divergent thinking. It is a construction of mental state that isn't generated by the usual means (Goldman, 2006; Currie and Ravenscroft, 2002). E-imaginations, a frequently employed cognitive process when attempting to read others' minds (re-experiencing or re-enactment). In the psychologist's context, this applicable mostly to the social reasoning where you are obliged to travel mentally to others' situations to simulate their mental state to understand the context accurately.
- 3. Errors in 'Mind Reading':** An attempt to understand others might go erroneous when the mind reader or the professional lacks the relevant information about the target's initial states like preferences, belief system and so on. That is the reason psychometric tests are never conducted in isolation rather than it is coupled with initial interview (clinical or non-clinical) with detailed access to the background information of the individual. Later, when he or she simulate the second person's mental state, one might fail to quarantine own genuine mental state which leads to the phenomenon called egocentric bias. Inhibit or quarantine own mental state is essential to predict other mental state accurately (Shanton, K., & Goldman, A, 2010). People who strongly rely upon own perspective, experiences, and beliefs are vulnerable to fail in understanding others' mental states in social or professional life. Naturally, humans are inclined to see the world from own perspective and struggle to appreciate or understand other viewpoints. Egocentric bias not only affects the social contexts but also the problem-solving scenarios to arrive at independent decisions. Overcoming this is effortful and takes lot of cognitive restructuring which happens either naturally through experiences otherwise through education or training.

The psychologist like attributes need more exploration through job analysis by not merely focusing on the qualifications required. It is a very sensitive and powerful science which can have impact over others beyond our imagination. Any sensitive or influential science in this world, psychology as a science do help in profiling the job. But in the case of the psychology profession that process is still incomplete.

VII. TYPES OF TESTS

Tests are mainly classified as cognitive and non-cognitive tests. Cognitive tests are generally performance tests where you measure the efficacy of cognitive functioning through identifying its presence, intensity, and frequency. Intelligence test, aptitude tests, achievement tests, memory tests, problem solving, language tests are few examples. They are mostly objective by nature and quantitative measurements are generally being followed. Non-cognitive tests majorly measure psychological attributes like personality, emotional intelligence, coping style, defense mechanism style etc. They are characterized as objective as well as projective tests. Objective tests are purely structured in its administration, scoring and interpretation where subjectivity is at its minimum. Projective tests are qualitative and subjective tests where the scoring and interpretation solely depends on the expertise of the trained interpreter. The social desirability factor earlier discussed is minimum in projective tests and maximum in objective tests.

There are clinical and diagnostic tests and neuropsychological tests to understand mental health conditions and brain-behaviour connections. They are mostly accompanied by the clinical interviews and secondary data gatherings.

VIII. NEW EMERGING TRENDS

The landscape of psychological assessment has changed in the new era of technological advancements where the approach is becoming more objective basis to reduce the subjectivity in the process without affecting the social desirability factor. Most followed path in technology driven assessment paradigm is psychophysiological methods. Electrodermal activity (electrical potentials in the skin), electroencephalography (electrical activity in the brain), electrocardiography (electrical activity in the heart), electromyography (electrical activity in the muscles), eye tracking, facial expression analysis, visual stress analysis, voice analysis, automated polygraph are few examples for analysis of physiological responses in individuals to understand their psychological and emotional states. Recent research shows that customized AI based assessment platforms can identify the personality characteristics of an individual through facial recognition, nonverbal cues, and vocal analysis (Rupasinghe, A. T., 2016). Instruments like LVA (Layered Voice Analysis), a forensic tool as well as pre-employment integrity & personality assessment platform, incorporating unique voice analysis technology by processing the voice's psychophysiological parameters. For the military purpose Chinese have developed fusion technology where it performs the integrated personality tests, eye movement techniques, EEG, soft neurological signs detection, and MRI (Xiao, Miao, & Gong, 2007). Let's discuss some of these methods in details for better understanding. Reliability and validity of the data obtained is most challenging in psychometrics as discussed earlier. Now technology is really helping to quantify the human behaviour data by using live biosensors to access live human experiences as data.

- 1. Eye Tracking:** Eye tracking can be done in different methods like screen based, virtual reality based (VR) and using smart glasses. An average person spent his majority of time nowadays in the cyberworld looking at their display of mobile phone or computer. Eye tracking will allow to measure such screen eye movements to attain the visual attention data. Nature of stimuli for the sake of measuring any attribute can be customized accordingly. Eye movement, gaze and eye-contact have many psychological correlates in one individual's functioning of mind. Screen-based eye tracking involves the utilization of software and hardware to monitor the movement of the eyes while individuals view stimuli presented on a screen. This technology enables the recording and analysis of visual attention as users interact with multimedia content. Screen-based eye tracking can be applied to images, videos, websites, games, software interfaces, 3D environments, and mobile phones, providing valuable insights into how visual attention is engaged and allocated during these interactions.

- 2. Facial Expression Trackers:** Mapping and quantifying the facial expressions to accurately measure the emotional/mental state of an individual to explore various attributes is another method using algorithms of AI. This also includes the posture of head and face movements. Affective dynamics, personality correlates and physiological responses to varying conditions are few examples for such explorations. It uses the Facial Action Coding System (FACS), a collection of facial muscle movements that correspond to different displayed emotions. Initially developed by Carl-Herman Hjortsjö in 1970, it consisted of 23 facial motion units. Over time, it was further refined and expanded by Paul Ekman and Wallace Friesen. The version of FACS known today was first officially published in 1978, and later underwent significant updates in 2002

- 3. Electrodermal Activity or Galvanic Skin Response (EDA/GSR):** It directly collects the data of autonomic nervous system to study various human emotions in different contexts. The EDA/GSR index contribute deep insights to the respondent's psycho-physiological processes. Automated EDA trackers are available to access such data using technological interface to conduct intriguing research. Cognitive load, addiction, immersion, sleep etc are few examples for such research. The degree of emotional arousal adapts in reaction to the environment. When we encounter something scary, threatening, joyful, or emotionally significant, our emotional response intensifies, leading to an increase in activity of the eccrine sweat glands and consequently affecting the galvanic skin response.

- 4. Electroencephalography (EEG):** It can access the brain electrical activity to track and measure cognitive processes that connects how we think, react, and behave. In short, cognitive process underlying behaviour. Language, motivation, memory, executive functions are very few examples to research using this method with the help of data driven platforms. This opens the untouched or so-called impossible area of psychological research of quantification of mental processes. It is valuable as it offers insights into the communication among large groups of neurons through electrical impulses and their connection with cognitive processes like drowsiness/alertness, wakeful relaxation, and approach or avoidance. Moreover, EEG stands as one of the most effective diagnostic tools employed by healthcare professionals to identify and diagnose various health and mental health conditions

5. **Electrocardiogram (ECG):** This can explore the connections between psychological states and physiological arousal by tracking and studying the behaviour of heart. Intensity, consistency, and change in speed can provide insights of psycho-physiological responses of autonomic system. It is a non-invasive procedure in which several electrodes are placed on the arms, legs, and chest. These electrodes then communicate with an ECG machine to record the heart's electrical activity.
6. **Electromyography (EMG):** Electromyography (EMG) captures muscle movements by detecting bursts of electrical activity produced during muscle contractions. EMG provides insights not only into muscle movements and activity but also into exploring their connections with specific emotions and behavioural outcomes. This includes the sensitive assessment of facial muscles using facial electromyography (fEMG).

Considering the ontogeny and trends in this technology-based assessment paradigms it can be classified as Psychophysiological paradigm, Human assist paradigm, Automated Paradigm, and Autonomous Paradigm. Psychophysiological paradigm is the physiological and psychological correlates of psychological attributes as discussed above, the human assist paradigms are the technology-based platforms which assists the psychometrician in arriving at decisions as a corroboration method. Automated paradigm enables the automation of existing psychometric tools for the ease in administration, scoring and interpretation. Autonomous paradigms are the futuristic assessment interface which can independently take decisions without human intervention. Decision making agents and social robots are few examples of such paradigms.

It is strongly evident that, present era is already being revolutionized by the artificial intelligence (AI) paradigm. Whatever we are seeing is just the rudimentary byproduct of the same and more developed and complex are yet to come and that is only possible by the contribution from psychology's psychometric and cognitive science disciplines. AI is nothing but mimicking human abilities mainly the mental functions. For mimicking the complex mental functions, psychology science has a long way to go to explore the surface and deep of many psychological attributes. We are still answerless of nature of human consciousness, unconscious mind shaping our behaviours, origin of emotion and language etc. Unless we explore these attributes, we cannot reproduce or mimic these in AI paradigm. So, presently the fantasy of AI being the autonomous decision makers like self-driving cars, autonomous surgery robots and social robots like Sophia, all are still the rudimentary ones where we are still unreachable to the point like ToM-AI. Tom-AI refers to the hot cognition in AI. Autonomy to any AI machine without hot cognition will create danger in the human-machine interactions. Hot cognition mainly refers to the ToM(Theory of Mind) ability which includes the affective and cognitive component of taking others perspective whereas AI has mostly focused on 'cold' cognition, especially how to extract information from data.

IX. CONCLUSION

The psychometry is becoming most demanding day by day in all the fields wherever humans are present. It carries out the crucial role in mental health services, educational assessment, personnel selection and recruitment, forensic psychology and even in personal growth and self-understanding. More than a tool, it promotes the psychological wellbeing,

conscious decision-making pertaining to human capital to achieve better outcomes in different areas of life.

Advancements in technology have contributed a modern way to conduct psychological tests in a reliable and efficient manner. The challenge is to make it most valid system by converting the already existing theoretical knowledge into required platforms using the maximum data bank. Integration of these theoretical insights of psychological attributes with technology to produce modern psychometric assessment paradigms will be less burdened with human evaluation and minimized social desirability. Ease in administration, discrete nature, significant saving in time and human effort, accuracy and lack of biases are the core nature of such assessment paradigms in psychometrics.

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