

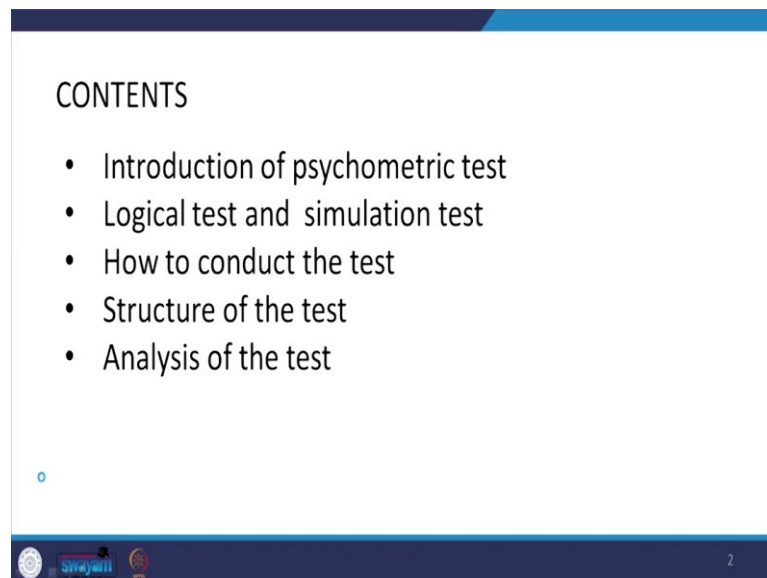
**Talent Acquisition and Management**  
**Prof. Santosh Rangnekar**  
**Department of Management Studies**  
**Indian Institute of Technology, Roorkee**

**Lecture – 11**  
**Introduction to Psychometric Test**

We are today discussing a very interesting topic; so far, we have taken the case studies and theoretical concepts, and now the question arises that is the research orientation.

So, we have to identify that; in the last session, I talked about that you have to identify where the talent is? And for identifying the talent, you should have a certain test, and these tests are called the Psychometric Test. And I will be discussing the psychometric test.

(Refer Slide Time: 01:07)



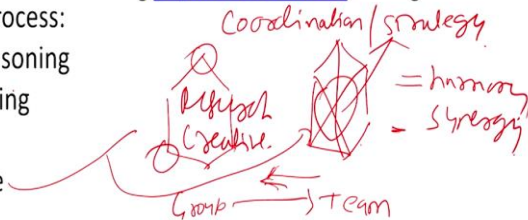
So, in this session, we will be discussing the introduction of the psychometric test, then the logical test and the simulation test, how to conduct the test structure of the test and analysis of the test.

(Refer Slide Time: 01:14)

### Example : Hewlett Packard (HP) Assessments and Aptitude tests for Talent Acquisition

• Hewlett Packard uses, depending on the specific job profile, one or more of the following [psychometric tests](#) during their recruitment process:

- Numerical Reasoning
- Verbal Reasoning
- Presentation
- Group Exercise
- Case Study
- Personality Test



Now, the introduction of the psychometric test; these are the companies' example I have taken, that is how they are identifying the talent from the applicants and select the right person at the right job, and it depends on the specific job profile basically.

There are three types of jobs; skilled jobs, semi-skilled job, unskilled job, managerial job, administrative jobs, leadership roles, then communicator's roles, and interpersonal roles. So, therefore, what type of job profile a person is having and accordingly, you have to see the type of personality.

And we know that personality depends on the heredity, environment and situation and, in a given situation, how the person reacts and interacts. So, we have to explore matching of the job profile; we have to find out whether that particular applicant is having that type of orientation or not.

I would like to give my example. I have worked in the industry for around 10-11 years, and then since the last 25 years, I am into academics, and then the shifting from the industry to academia was totally a personality shift, and then you have to explore yourself.

I was the HR head, so I tried to identify myself; that is what I like to do. And then, I realized that I am more convenient with this particular job of a teacher, and therefore, I have adopted this teaching profession.

So, here one can also identify, Stephen P Robbins book is there, Professor Udai Pareek sir book is there, HRD Instruments. And in the HRD Instruments, you will find there is a list of the psychometric tests. And you can choose any one test and identify; whether you have job satisfaction or you do not have job satisfaction.

What type of personality is there, what type of organizational culture is there, whether you are matching with that culture or you are not matching with that culture, what leadership styles are there, what are your motivational factors people do not know.

Many times, when I ask in the class what is your motivation. So, normally people think that is money is the motivation, but because most students are the freshers. But when there are also the students who are having the experience. And if they have three years five years of experience and they are leaving the job and coming for the MBA, what it means?

So, it is not their money motivation; if money had been the motivation, they would not have come and sat in the classroom. They would have continued with the jobs, so then, what was the motivation? The motivation was job satisfaction.

So, therefore, in that case, it is very important according to the job profile. Whether it is technical, non-technical, administrative, managerial, or it is skilled or semi-skilled, or it is unskilled, what type of job profile are there.

So, HP is using this type of recruitment processes. Next is numerical reasoning. If it is a quantitative job profile, then the numerical reasoning is there. The job can be of the interpersonal role dynamics, and therefore, communicators role is there, then the verbal reasoning, the presentation skills are there; that is how you are able to make the presentations. Then the group exercise, if the job is requiring team building working together.

So, are you a group member or a team member? And then we know the difference between a group and a team. So, when we say the structure is like this, so this is a group, and when a structure is like this, then this is a team. So, what is lacking in you can be differentiated. That is where the coordination and strategy are lacking.

If you have the coordination and strategy amongst the group members, what you develop? You develop harmony, harmony, or synergy. If you are developing that harmony or synergy, you are converting that group into a team. If it is not there; it is minus, then it will be like this only.

So, it becomes very important, whether in the group exercise you have to identify that whether that personality will be working like this or personality will be working as the other way. Now, whatever the job profile is, both the personalities you see, no personality is a negative personality.

Every personality is a positive personality. Every personality is right for a particular job. So, this group can you imagine that is the which jobs will be good for the group working. So, research-oriented jobs or creative jobs where the individual's performance matters.

Whenever an individual performance matters, then the person matters. Then, in that case, we will say that this research is creative, and all are research-orientated or creativity orientated. So, therefore, there is no group activity required, but when there is a group exercise, then you have to go for this.

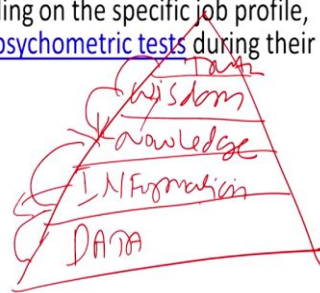
So, these are the different aptitude test for talent acquisition. And dear friends, I will suggest that, please go through each and every test practically and some of these psychometric test examples I will be giving. However, maybe in the assignment, we may give you something to give the responses and then analyze that response; so assignments can be taken. And case study and group exercise are there.

Another job profile is an analytical job. So, when we talk about the analytical job, it becomes very important how you are going to analyze that data because we know the parameter.

(Refer Slide Time: 08:58)

### Example : Hewlett Packard (HP) Assessments and Aptitude tests for Talent Acquisition

- Hewlett Packard uses, depending on the specific job profile, one or more of the following psychometric tests during their recruitment process:
- Numerical Reasoning
- Verbal Reasoning
- Presentation
- Group Exercise
- Case Study
- Personality Test



What is the parameter? A parameter is it is data; data into information, information into knowledge, knowledge into wisdom and wisdom into truth; data, information, knowledge, wisdom and truth. So, here you will find that is this is the pyramid is there.

This case study exercise; this case study exercise provides you with the information. And from this information, you have to let the analysis. Analysis that is the qualitative analysis content analysis is there. And when you do the content analysis, you are creating the knowledge. On the basis of this knowledge, you are making the decision which is wisdom.

A leader is required to be a knowledge worker, so he can reach wisdom, and then there is the conversion of information into knowledge and knowledge into wisdom, wisdom into the truth, which is ultimately the reality. So, here in this diagram, the case studies that help us to get the information.

Like in the previous session, I have talked about Google's case study. And in Google's case study, how Google created the talent was discussed, and then there was an answer.

So, we have taken different case studies earlier. Those were the talent acquisition management practices. So, those case studies are related to data, information, knowledge, wisdom, and truth is there. So, that will become the case study for analysis.

Then there will be the personality test. So, in the case of the personality test, you will find that the; MBTI is the Myers-Briggs Type Indicator. And what type of personality do

you have? You have the intuitive or sensing, thinking or feeling, perceiving or judging, introvert or extrovert.

(Refer Slide Time: 11:30)

**Example : Hewlett Packard (HP) Assessments and Aptitude tests for Talent Acquisition**

- Hewlett Packard uses, depending on the specific job profile, one or more of the following psychometric tests during their recruitment process:
- Numerical Reasoning
- Verbal Reasoning
- Presentation
- Group Exercise
- Case Study
- Personality Test

E - I  
N - S  
T - F  
P - J

16 Typ. (circled)  
ESTJ  
ENTJ

So, that is what we talk about that is the E I; extrovert, introvert, intuitive, sensing, thinking, feeling, perceiving and judging. So, according to MBTI, these are the pairs by which the person is either extrovert, introvert or intuitive, sensing, thinking, feeling, perceiving, judging.

There will be 16 typology personalities type of layer, 16 personality typology will be there. I would like to get an example. I have a sample size of more than 5000, and then it has been found those who are engineers, most of them are the ESTJ, extrovert, sensing, thinking and judging.

When we are talking about these; extrovert, sensing, thinking and judging the type of personalities, these type of personalities have to match a particular job profile. If that job profile is matching with the extrovert, sensing, thinking and judging perfectly, the person will be selected. But, the job profile requires the introvert, then this type of will be not required.

So, therefore, ESTJ, INTJ, and like this the 16 types of the personality TSAP, ISTP so, therefore, ESFJ, ENTP and all is a permutation combination of these four couples that are 16 personality types that can be developed.

So, in the recruitment process, when we were talking about the different companies, the most creative companies, the best employers, the number one brand companies right. So, what is important is the selection process should in such a way; so you would select the right talent person may be talented, but is it the right person for that particular job or not. For that purpose, these type of tests is to be used.

Now, here when we are talking about the following psychometric test right; so, I will discuss with you that what are the different psychometric tests which the companies are using.

(Refer Slide Time: 14:07)

| <b>Examples of Psychometric test exercise-HP</b>   |  |  |  |
|--|--|--|--|
| <b>Numerical Tests:</b>  | <b>Verbal Tests:</b>   | <b>Logical Tests:</b>  | <b>Simulation Tests:</b>   |
| <a href="#">Mental Arithmetic Test</a><br><a href="#">Number Sequences</a><br><a href="#">Numerical Reasoning</a><br><a href="#">Word Problem Test</a> | <a href="#">Antonyms</a><br><a href="#">Verbal Analogies</a><br><a href="#">Syllogisms Test</a><br><a href="#">Verbal Reasoning</a><br><a href="#">Vocabulary Test</a> | <a href="#">Diagrammatic Reasoning</a><br><a href="#">Abstract Reasoning</a><br><a href="#">Inductive Reasoning</a><br><a href="#">Spatial Reasoning</a><br><a href="#">Logical Reasoning</a><br><a href="#">Venn Diagrams</a> | <a href="#">In-Tray and E-Tray Exercises</a><br><a href="#">Situational Judgement Test (SJT)</a><br><a href="#">Watson Glaser Critical Thinking Test</a><br><a href="#">Error Checking Test</a><br><a href="#">Group exercises</a> |

Now, these are certain psychometric test exercises. There are four types; one is the numerical tests, the other one is verbal test, the third is a logical test, and the fourth is the simulation test.

So, when we talk about the numerical test, there is the mental arithmetic test, then the number sequences numerical reasoning and the word problem test is there. When we are talking about the verbal test, that is, the antonyms verbal analogies, then the syllogisms test verbal reasoning vocabulary test is there.

The logical test is diagrammatic reasoning, abstract reasoning, inductive reasoning, spatial reasoning, logical reasoning, and Venn diagrams. In the simulation test, there are the In-Tray and E-Tray, then the exercises, situational judgment test, that is the SJT,

Watson Glaser critical, thinking test, then the error checking test, and the group exercises.

Now, we have to see what type of personality or what type of job profile and what type of employee or a potential employee is required. For example, if we go for the HRM, human resource management there. So, in human resource management, what is most important; the interpersonal dynamics tests.

So, you will go by the group exercises, whether the person is able to work in the group or not or the way the person thinks, thinking test is also there. So, I remember, when I went to shanghai university, there I found one department that was the neuroscience department, so I went and asked that professor exactly what he was doing.

And then he said that is he has done the brain mapping, next time I will show you those pictures of my brain mapping, which I have done. And in that, they try to find out whether you are a left-brain worker or the right brain worker, and it is a grey matter.

So, they put one machine and then they did the exercise, and they tried to find out whether the left brain is working, or the right brain is working. So, they told me that it is his right brain; I will show you as I mentioned in the next class. When the right brain works, a person is more active as compared to the left brain.

However, the right brain describes the more creative characteristics, and the left brain is more about diligence. So, I told them that I believe I have the left brain type of personality. So, then they said that according to the test which has been conducted, and you have photographs which are of the grey matter, and it shows that you have not used your right brain, but yes, you have the high potential to use your right brain.

So, in the group exercise, the brain type test can be done to identify. That is whether the person is having what type of thinking test that can be used. Then when we are talking about the exercises, so there are many exercises. And the one exercise is that you are going through the deep forest, and your plane is landed into the deep forest, an emergency landing is done. And now you have certain items, and you can take three items out of that.



So, you can also note down those items and then think that is which items you have selected. So, there is chocolate, there is a compass, there is a rope, there is water, there is a knife, there is a tent, then there is a mobile, there is a laptop, right, and there is a matchbox. So, these are the items that are with you. So, which three items would you like to take with you?

And you do that exercise, then the note down in your notebook, that is, which three items you have taken. So, if you have taken the chocolate and all those items, so how do you justify those items? Basically, how I will justify the right answer?

Now, you see you are going by plane, and your plane is landed in a deep forest. So, as a result of which what is required. First is Maslow's theory of the hierarchy of needs we will follow; the theoretical model will be Maslow's theory of the hierarchy of needs.

So, the first one will be that it will be survival, physical safety, physiological needs. Physiological needs mean that will be the water and food. So, in the deep forest, you will get water.

So, then you can take the chocolate. The second will be a safety need. So safety need is the knife so you will take the knife also. And third will be the rescue. You have to go out of the forest, and therefore, you may use the compass.

However, different persons will select different items, and by selecting those items by observing those items you can, identify the type of personality. There is nothing right and wrong answer as such, but rather than it identifies the needs.

But in general, traditionally, physiological need, safety needs and social needs are there. Then self-esteem need and self-actualization need; so that pyramid we have. In this case, through common sense, you will go for the physiological and safety need and survival and rescue. But somebody will say that is no sir; I would like to have a tent.

So, is it right or wrong? Now it is his need, but does it make the rescue. If he is taking the tent in place of the compass, then that is the wrong decision. So, the wrong decision for rescue, but he says fine I will live here, and I will take the tent with me, so then you cannot say it is a wrong decision. It is up to him, that is what he takes, but he has to justify. If he wants to go out, then he can not say that I will not take a compass.

That compass is needed for going out. Somebody might take the matchbox also so that one can show the fire and then get the rescue, so you have to justify. And actually, what you are justifying shows your need.

So, what the examiner and instructor are interested in. The instructor is interested to know your needs; that is, what type of needs you have. You see, there are freedom fighters; when we go through Maslow's theory, physiological need and safety need and social needs, all these needs are rejected by the freedom fighters. They are working for the country; they want freedom.

So, therefore, in that case, that theory will not be applicable, so what it means? It means that you can identify the need of the person by giving them the exercises. So, you can go by those exercises.

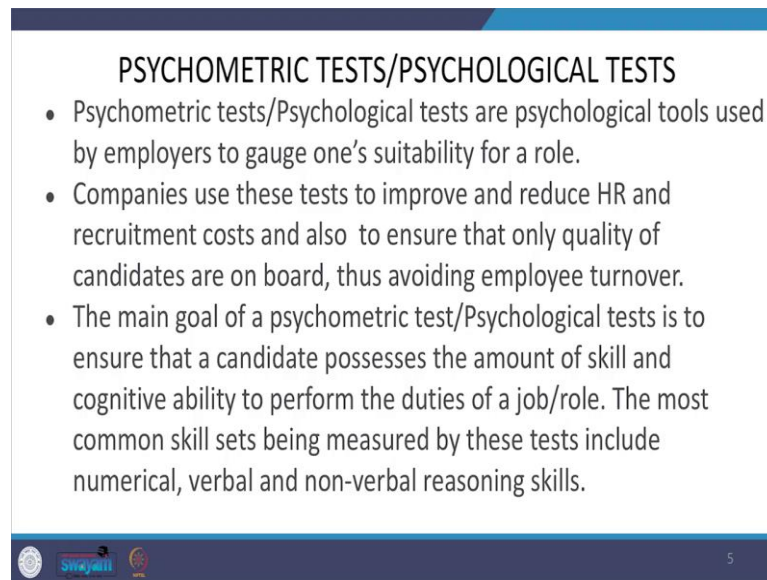
Then there is a situational judgement; a situation is given. So, therefore, like they are in, you know the one song is there that is [FL]. So, that is situational judgement, that in a given situation, what judgement do you take. It is a very hypothetical situation; otherwise, normally, the person will say [FL], But this differs from individual to individual.

So, the situation is like this. Once, there was one question by the teacher, that is, your brother is having three apples and two oranges. So, therefore, if he eats one orange and one apple, so how many are left?

So, he said that there would be no oranges. The teacher asked him that you do not know maths? He said I know maths, but you do not know my brother. So, therefore, in that case, it is a situational judgement that we have to see.

Now, these are very common need because most of you might have already appeared in the CAT test and different competitive examinations. And therefore, you have gone through the verbal reasoning test, vocabulary test, logical reasoning, especially the inductive reasoning, and we will take certain examples for the different tests.

(Refer Slide Time: 23:57)



**PSYCHOMETRIC TESTS/PSYCHOLOGICAL TESTS**

- Psychometric tests/Psychological tests are psychological tools used by employers to gauge one's suitability for a role.
- Companies use these tests to improve and reduce HR and recruitment costs and also to ensure that only quality of candidates are on board, thus avoiding employee turnover.
- The main goal of a psychometric test/Psychological tests is to ensure that a candidate possesses the amount of skill and cognitive ability to perform the duties of a job/role. The most common skill sets being measured by these tests include numerical, verbal and non-verbal reasoning skills.

Swajati 5

But, the common tests are used by employers to gauge one's suitability for a role. So, for a given role, whether the person is suitable or not, if the person is suitable for that particular role, then definitely that person will be selected by HR; that is by understanding the psychology.

Companies use these tests to improve and reduce HR and recruitment costs. So, therefore, you filter like in the case of the global companies, multinational companies, you will find thousands of application. And nowadays the software's are there; software's are putting certain keywords. And that is why I always say it is not the eligibility criteria that is minimum which you have to fulfil, but you have to fulfil the screening criteria.

Suppose you want to get the interview call, then the screening criteria becomes very important. And for this purpose, you have to understand what are those screening criteria. So, the psychometric tests done by the companies will not only reduce the cost by putting these type of test, but they will also save time.

In the thousands of applications, a keyword is given, and then there is no human interface, and the technology itself will identify who is who and then they will screen out. So, a number will be filtered at the first level only.

And that is why it is always mentioned that you never use the negative term in your resumes. If a negative term is there, and that term is put into the keywords for the filter, your CV will be filtered, and you will not be called for an interview.

So, therefore, it reduces HR and recruitment cost. And also to ensure that only the quality-candidates is on board. Those who have fulfilled your needs are on the board, thus avoiding employee turnover. Naturally, we have discussed earlier, that is when the talent has the job satisfaction talent likes the job which has been given to him.

Then definitely in that case that will be making a high level of contribution by the employee. Because that is the personality fit, there is a job interest, and there is job satisfaction, there is job enrichment, there is job enlargement. So, all things will come there because the employee is deeply involved and engaged.

However, Schaufeli has given the formula for employee engagement that is; vigour, absorption and dedication. So, here we may talk about employee engagement in this context. So, if the personality is matching, there will be more employee engagement; a personality is not matching; there is no employee engagement. So, therefore, only the quality of candidates are on board, thus avoiding employees turnover.

The main goal of a psychometric test is to ensure that a candidate possesses the amount of skill and cognitive ability. The amount of skill that what type of skills are required to do this particular job. Now, you see, for the analyst job nowadays, we see that is only an SPSS (Refer Time: 27:30) is not enough you know the python also, you know the other software also.

And those will be having the skills development to a particular employee. And when there is skills development as there then definitely the employees will be successful in doing that particular job. And the cognitive ability to perform will improve; cognitive skills means attitude and behavioural skills.

So, I would like to take an example that is for the project; you know if somebody is a project director. So, in the project, there will be three factors; cost, quality and time, and then you have to control the cost, quality and time. And in this cost, quality and time, the person's cognitive ability will be important.

So, what he will do? He will create the CPM PERT critical path method and program evaluation review techniques. And in CPM PERT, he will be designing which path is taking the minimum time, minimum cost and maximum activities.

So, therefore, in that case, these cognitive abilities will be very important to perform the duties of a job and role, the attitude and behaviour. The most common skill-sets being measured by these test include numerical skills, as we have seen in the psychometric test also.

In psychometric tests, the numerical test is becoming very important. So, that the person is using logical reasoning; a person has the analytical skills also. If these type of issues are taken care of, then most of the common skill sets are being measured, and the verbal and non-verbal reasoning skills also.

Now, you see in the managerial skills of interpersonal dynamics it becomes very important that how do you communicate? You have verbal skills. They are becoming very important. So, if you are a positive speaker, you always speak good, you always try to find out the solution, you are not the person who will try to find out the weaknesses of others because every personality has strengths and weaknesses.

But those people who fail, they do not have any weakness, and others have so many weaknesses. And therefore, in that case, it becomes very, very critical. So, that is becoming an important aspect. In that important aspect, this is your verbal skills ability; how do you communicate? And therefore, you find that is if a negative message is to be communicated, how do you communicate that negative message?

So, that requires a particular pattern, and if there is a positive message, that also requires a particular pattern. So, you are supposed to follow that verbal and nonverbal reasoning skills are very important. Nonverbal reasoning skills are that there are the pictures, and there are the symbols.

So, how with the help of the symbols and pictures, you are going to explain those reasoning skills. And if you are using those non-verbal reasoning skills, then definitely you are able to find out a person with the cognitive ability. So, what is required in the workplace? At the workplace, two things are very important. First is, we should be able to sit on the table and chair and do the job and think creatively.

The second is communication skills. If he knows his job skills, that is fine, but if he does not know his job skills, how he communicates with the boss and how he informs. Because the boss may provide the training and the training will be making him the perfect person or the complete person.

So, here I would like to end this session by saying a few things. That, in the psychometric test, there is a measure by these tests, whether it is the numerical or it is a verbal or it is a logical or it, is a simulation test. Please use this test and then try to identify the right person, a talented person for the right job.

So, this is all about the introduction of the psychometric test.

Thank you.