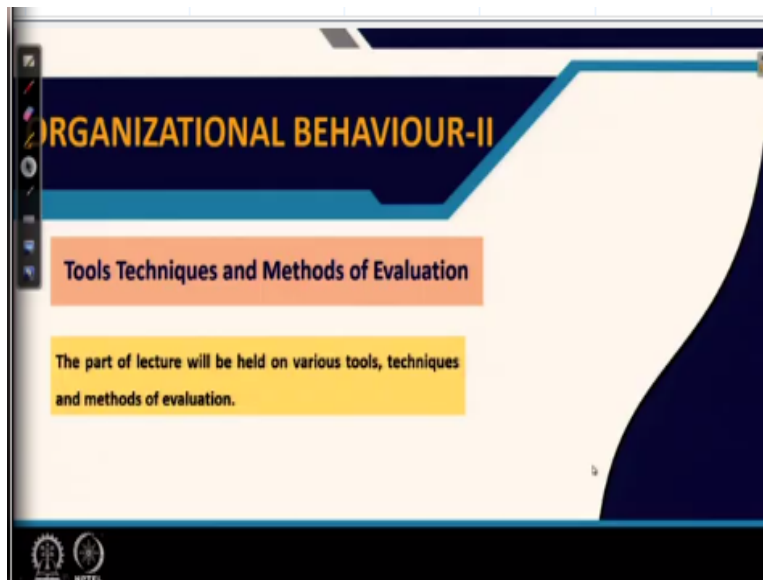


Organizational Behaviour-II
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Lecture-58
Tools, Techniques and Methods of Evaluation

Welcome to lecture 3 of our last module. The last lecture we discussed about no different stages of evaluation and steps involved in the evaluating a team performance. And today we are going to discuss about tools and techniques and methods of evaluations. This is primarily an important lecture because now we are talking about the steps involved. Now we are going to talk about what are the ways in which team performance or individual employee's performances are going to be assessed in an organizational setup?

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So, we will discuss on various tools and techniques, how to evaluate the team or an individual performance in an organizations?

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Meaning of Tools, Techniques and methods

An evaluation tool is a means of appraisal designed scientifically to evaluate or to measure what is required to be assessed.

Techniques of evaluation are the tests and other items used for measuring growth in particular outcomes of the individual/team performance.

Method is generally used to designate the process for evaluating impacts/outcome.

The slide features a video inset of a man in a blue shirt, a group of colorful penguins, and icons of a gear, a flask, and a brain. Logos for IIT Bombay and NPTEL are visible at the bottom left.

Let us try to understand some of the basic understanding about the terminologies we use, one is about evaluation tool and techniques and methods. So, what is this evaluation tool? So, evaluation tool is a means of an appraisal designed scientifically, this is a tools which are designed scientifically to evaluate or specifically measure what is required to be assessed.

So, the tool is in always at scientifically designed metric or a measurement system that is going to evaluate the performance of the employees or the team. Then, techniques of evaluation, the techniques are the test or other items used to measure the growth of a particular outcome of an individual or a team performance. So, the tool is the scientifically assigned metrics to measure the performance where the techniques are about the test.

What are the tests we are going to use to evaluate the individual performance? And method is nothing but how we are going to evaluate, how we are going to conduct this evaluation? That is a method. These 3 are important which is about a tool, technique and then method, how we are going to conduct these evaluation assets.

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Requirement of Tools and Techniques

These are essentials for the following reasons:

- To gather information. ✓
- To ensure that the information should be valid, reliable and usable.
- To make interpretation of gathered information in numerical scores, grades as well as in qualitative terms.
- To see that the judgement is made on scholastic as well as co-scholastic aspects.

Now comes why this tool and technique is important? Because these are essential to gather information, because when you are talking about evaluating a team or an individual employee, it is important that yes, we have to collect the necessary information. So, that we will be able to corroborate with the standards already set or the expectations of the company or an organizations to see whether they are able to meet or not, so to gather information. Then to ensure whether the information is valid and reliable and usable, this is very important. Any tool and technique has to be reliable and valid. Now let us say talk about valid, what is this validity?

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The diagram illustrates the relationship between tool reliability and validity. It features a central Venn diagram with two overlapping circles. The left circle is labeled 'Tool Reliability & Validity' and 'Substantive Measurement'. The right circle is labeled 'Team Deficiency'. The intersection of the two circles is shaded and labeled 'Valid'. Arrows point from 'Tool Reliability & Validity' to 'Substantive Measurement' and 'Team Deficiency'. Another arrow points from 'Team Deficiency' to 'Valid'. Below the Venn diagram, there is a separate circle labeled 'Valid' with 'Inter-rater Reliability' written next to it. To the right, there is a box labeled 'Tool' with 'Reliability' and 'Consistency' written below it, and 'Measurement in performance' written below that. The diagram also includes the text 'Tool Reliability & Validity' and 'Substantive Measurement' written vertically on the left side.

So, when you talk about a valid, when I collect an information let us say I am talking about this is the information I collect. Now whether this information is sufficient enough to see whether this I am actually measuring what is being done by the employee. So, now sometimes what will happen when we talk about the validity? So, let us say I am going to draw another circle.

So, let us say in a organization context I am measuring, let us say call it this circle is what? I am using a tool to measure this. So, my tool is measuring this circle, imagine when employee is performing and I am measuring this. Now if you see other circle, let us imagine this is what been done, let us say these are the roles and responsibility. I am just providing why validity is important, to explain this.

This is an team, so this is what teams roles and responsibilities and day to day activity, imagine day to day today activity. Now this is what they are doing and what my tool is measuring this circle. So, what is the valid information? This is the only portions which are valid information. So, now you understand why valid it is important, now I am just presenting a scenario where tool may not be a valid tool.

Unless otherwise, if it is not measuring what is supposed to be done by the employee. So, this is what my team is performing. Now, my actual tool as to measure the same let us say one more circle on this. So, it has to measure what my employees are doing, it has to measure what are the roles and responsibilities of the team? What did the activity they do? Now in case if my tool is not sufficient to measure this whatever they do, what will happen?

See this portion of my measurement becomes contamination. What is it contamination? Becomes irrelevant or can be otherwise called as not useful. Because this is what they are actually doing, only this portion is useful by measuring the when I collect the informations, this is what usable, valid, this portion is called valid information.

And the whole portions of this become a contamination because this is not even relevant because they are not doing this. And what is happening? This portion becomes deficiency, deficiency in terms of the tool, the tool missed out to measuring their actual performance on this side. So, any

tool has to be a valid tool in measuring exactly what they are doing, that is why validity of the tool is important.

Now talk about reliability, so it is about reliability is always talking about a consistency. First with the consistency, let us say imagine a situation; I am having a tool, what does a tool does? It measures, measuring the performance, so that is a generally we do for a tool. Now the tool is measuring the performance, now let us imagine I going to use A and B, A is in one individual and B is another individual.

If I give a tool to A and I give the same tool to B, both of them has to measure the same because my tool should be in such a way that inter-rater reliability. So, even if 2 different individuals evaluate the performance of a team; let us say X is a team. So, my tool I am asking A and B independently measure the performance of my team, but the same tool is given to both 2 individuals, trying to measure the performance of the team X.

So, what we are expecting? Yes, outcome of the measurement should be same because we are using a same tool and we are assessing the same team. But if it is not a reliable tool both the assessment will be different, so any tool has to have a reliability. So, the reliability and validity is an important aspect or reliable and valid, your tool should be reliable and valid. So, as I said valid, what is this validity, why valid is important let us go back.

Now, this tools and techniques and why it is it have to make interpretations of the gather information maybe sometimes in a numerical score or a grade or in a qualitative terms. And why these tools and techniques is also to judgment is made on a scholastic as well as the co-scholastic aspects. So, that is why the tools and techniques are important for the evaluation of the employee performance.

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Some Specific Tools Used for Evaluation

Rating Scale: Used to classify opinions regarding situation which includes trait rating, job dimension scales, behaviourally anchored rating scales

Aptitude: used to measure potential performance and special ability of the team members.

Inventories: Used to assess the inner feelings of individual through questions. ✓

Leader made tests: used to measure in numerical terms.

Anecdotal records: It is record of some significant item of conduct, an episode of a team member's life.

SA. A N D S O

✓ Critical Incident Method

Now we are going to see about various tools used for evaluation, one is a rating scale.

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✓ Ranking

Simple Ranking

1	X
2	Y
3	Z
4	A
5	B

Performance
Employee Rating

Significance
Final
Teamwork

10% 20% 10% 20% 10%

Mean

Standard Deviation

So, before rating scale, let me also explain another very simple methods used in an organizations. Before rating scale, let me talk about a ranking, which is very common. Because the rating and all we are going to explain, but ranking is a simple ranking. So, what is simple ranking? So, let us say my organization has 5 teams based on their performance or outcomes I just rank team X, Y, Z, A, B.

So, I am just simply rank my teams based on their outcomes, this is a simple ranking. For sometimes organizations will also go for a forced distributions, what is that forced distributions? It is kind of a bell curve distribution. Organization does follow this for evaluating employees as well as teams, so what do they do? Let us say 10%, I am just simply making this distribution each organization will have different forms.

Let us say 40%, then another 20%, let us say another 10%, what is that forced distribution? So, here let us say it is excellent, let us call it very good, good, average, poor. So, what does an organization does in this method? They take all their employees based on them they try to put 10% of the employees here and they are excellent and another 20% of the employee here were very good and another 40% employee the large section on the centre where they are good, then another 20% average and another 10% were poor.

So, sometime organization will send these employees on a performance improvement plan or probably sometimes organization can fire them. Meaning that terminate if they are poor performer continuously. So, this is a forced distribution method, this is applicable for both for a team and employees they just try to fit all my employees on this. I have forcibly distribute all the employees on this distribution.

So, 10% of the employee as an excellent, 20% on very good, 40% on good irrespective of the size of the organizations they try to distribute employees on these distributions. Now come back to the rating scale, what is the rating scale? We have a behaviorally anchored rating scale. So, now what has happened every organization they will come up with a set of questions or statements?

So, each of the statements we would have saying that maybe sometimes they will go with an attitude rating or maybe the behaviours. Let us say behaviour, so I am coming up with a statements, there are statements. On the statements we would have seen agree, to strongly agree, agree, neutral, disagree, strongly disagree. So, based on the statements behavioural statements they write and then ask you to come up with the rating scale.

Then consolidately they are trying to reflect on a particular character or some parameters they tried to evaluate. So, based on that they will ask them to go on a rating scale. Sometimes maybe frequency scale also there, this kind of behaviour, how often you exhibit this behaviour in the workplace? So, very often, often, rarely, sometimes, very rarely, so based on this kind of frequency scale also he will evaluate certain behaviours of the employees.

Then aptitude, this is used to measure the potential performance special ability of the team members, specifically about specific aptitude, how often they exhibit this? Then sometimes they come up with the inventories used to assess the inner feelings through some questions. Maybe inventories based on psychometric assessments they do, understand through certain set of questions to understand the inner feelings of the team member.

Then leader may tests which are used to measure in a numerical term. So, leader will develop a test to classify all of my team members who is good and who is bad within the team? Then sometimes they go for anecdotal records, sometimes conduct about this call as well as in critical incidents method. So, there are this is called critical incident method, what did they do in this critical incident method?

A leader will observe some of the very positive performance of the employee and then completely described the whole situations. In that situation how an employee or a team member performed, how the team has actually performed? Similarly, it can also take a negative performance maybe poor performance, when the time they failed in performing an activity. Then choose and then talk about ok, what did they do? How the team did? What went wrong? All the detail they tried to see and then they come up with a critical incident method to evaluate the performance of the team.

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Some Specific Tools Used for Evaluation

Cumulative record: Used to maintain complete history of the employee/team members

Questionnaire: It is a device in the form of questions/statements used to gather information/opinion.

Check lists: A list of items for consideration which may be in the form of questions or actions to be carried out.

Tests: It is most popular tool for collecting data for evaluation through oral tests, written tests and performance tests.

Besides, autobiography, personal diary may be useful tools.

Rating Scale
Objective Measures
Critical Incident Method

Then, cumulative record used to maintain the complete history of the employee or the team members based on the complete informations then they come up with the assessment of the come up with a rating for the team. Similarly, sometimes they go for a personal diary, diary method meaning that when the individual employee or the team they will maintain a diary, what did they do, how they performed, what went wrong, what went well? All that based on that also you will be evaluated.

Then comes questionnaire methods, which are more frequently used in many organizations, you will come up with a set of questions or statements or the opinions based on that you will ask you to respond to the questions. Maybe Likert scale agree to disagree or maybe important to not important scale.

So, then sometimes organization will go for a checklist. So, the list of items are being provided and ask them to provide tick, ok, I have done this ok, this team was able to do this, perform this, this not whichever way they are able to do, you go a checklist. Then sometimes there will be a test which sometimes based on the oral or a written test and organization determine the performance. And most often organizations use either rating scale or sometimes objective measures or critical incident method. So, these are the most widely used measurement tools for evaluating the teams and individual employees in an organization.

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Some Specific Techniques of Evaluation

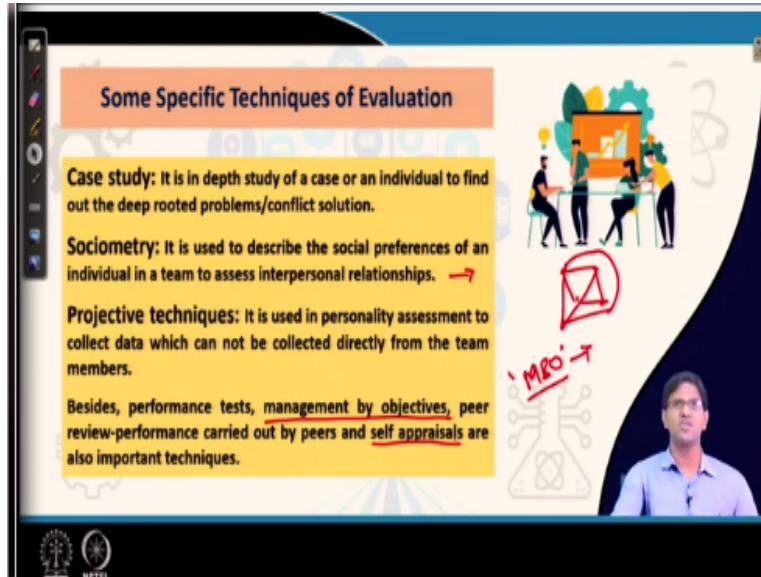
- Self reporting:** Used to capture reaction to items concerning behaviour of team members
- Testing:** Commonly used technique to measure cognitive traits such as skills, knowledge, intelligence, aptitude, etc.
- Observation:** It is the purposeful, goal oriented perception of an object or situation
- Interview:** used to gather information in a face to face session on the experience, opinion, beliefs, feelings, etc.

The slide features a blue header, a yellow text box, and various icons including a group of people, a DNA helix, and a brain. A small video inset in the bottom right shows a man in a blue shirt speaking. The NPTEL logo is visible in the bottom left corner.

And now we will also see some of the specific techniques of evaluation or self reporting used to capture the reactions of the individual or team members and sometimes testing to measure the specifically to understand the skill level of the team members, intelligence or knowledge and abilities of the team members or the overall team.

Observations whether maybe observing the specific performances of the team or team performances during the incidences, how did they do or interviews collect information on face to face sessions with talking about experience or opinion that believes and feelings, how you as a team to do and how the team members were doing, so, based on that they will also go for a interview method.

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Sometimes a case study method, in depth study about a case of a team individuals they will do or they may sometimes they go for a sociometry test; it is used to describe the social preferences of an individual in a team to assess the interpersonal relations. Because when you are specifically talking about teams, we are also understanding about what kind of a interactions pattern or interpersonal relationship they have, they will try to describe the social preferences of an individual in a team.

So, to try to understand develop a sociogram. Let us say A, B, these are my team members, who is interacting with whom, how they are interacting, who is the contact point, how there the interactions happens? So, this will also help organization to understand the interactions pattern or a interpersonal relationship pattern or another one is going to projective techniques, it is used in a personality assessment to collect data, which cannot be collected directly from the team members.

So, where personality assessment and there are projective techniques and beyond this organization will also go for a management by objective which is called MBO; where it is a participatory assessment where both the management and the team will engage in setting the goals. And based on that each level there will be participatory approach deciding the goal. And then they will fix the goal and then they themselves will reassess whether they were able to perform or not.

So, this is called a management by objective method it is where the participative approach of deciding the goal. And then both of them will evaluate whether they were able to evaluate or not? Then sometimes they will also do a self appraisal as a team you will assess or maybe the team member will evaluate individual performance as well as their team performance. So, each of them will decide about their own performances individually and also collectively about a team performance. So, these are the various tools and techniques are used in the organization.

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We are going to talk about some of the 3 different methods of team performance measurement. One is self report; observation and unobtrusive measurement, where less interventions of a people interventions in measuring the performance. Let us try to understand these 3 methods which are most widely used or most preferred evaluation system for a team performance.

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Self-Report

Self-report methods involves, team members to assess and provide ratings about his/her performance as individuals, the overall team performance and the entire organization.

It is well suited for capturing the attitude competencies (e.g., mutual trust, belief in the importance of teamwork, collective orientation, psychological safety) because these constructs are inherently subjective in nature.

Self-report methods are applied to measure the perceptions of teamwork as well (e.g., Wageman, Hackman & Lehman, 2005).

Handwritten notes:
 ✓ Task/Target
 ✓ Goal
 ✓ Sikap & Behavior
 ✓ Organisasi
 ✓ Team & Motivasi

What is the self report? Self report involves team members to assess and provides rating about his or her performance as an individual and also about overall team performance. So, what do they do in this self report? You assess your own performance, against what? Against these standards, so standards we mean maybe task or a target set or goal set or expected behaviour in our place.

So, based on this you have to self assess yourself and then assess yourself and then rate you as an individual, how well you are doing? Whether you are doing excellent, very good, average, bad, poor, whatever it is, then you also assess your own team performances. You as an individual assess your performance, then you as a team member as your overall team, then you also assess the overall entire organizations, so it is 3 levels.

So, individual, team and then organization; I, T and O, individual, team, organization, so you assess. So, this is well suited for capturing why the self report is important? Because this is well suited for capturing attitude sometimes competence when I talking about especially mutual trust because when we said in a teamwork trust is an important belief in importance of the teamwork and collective orientation, psychological safety in a team setups.

These constructs are inherently subjective in nature; it will be very difficult if you go for very objective tools to measure. So, in this self report method, it is very successful in trying to capture

informations with respect to trust within the team members, belief about teamwork or cohesiveness, collective orientations. So, these self report methods are applied to measure the perception of the teamwork as well. So, how do they perceive the teamwork? So, self report is one of the most preferred or most followed methods to evaluate the team performance.

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The slide is titled "Limitations of Self-Report" and contains two bullet points. The first bullet point discusses the "Lake Wobegon effect" where novices have inflated self-ratings compared to experts. The second bullet point mentions "Response rate and aggregating the overall team performance." To the right of the text, there is a cartoon illustration of a person at a computer with a speech bubble. Handwritten red notes include "Peer DFP", "Supper / Smack / Situation", and "→ Question 2/3".

- Tendency for self-perceptions of performance to be inflated (i.e., the "Lake Wobegon effect"), and this tendency is greater for novices in a domain than it is for experts. This means that respondents with lower levels of competence with teamwork behaviors will be more likely to have inflated self-ratings.
- Response rate and aggregating the overall team performance.

Next one is about observations.

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The slide is titled "Observation" and contains two bullet points. The first bullet point defines the observation method and lists indicators: goal achievement, interaction, communication, and climate of trust. The second bullet point states that observational measures are the gold standard because they avoid self-report biases. An illustration of a notepad and pen is in the top right corner.

- Observation method – Assessing the performance of individual and team through observation of different performance indicators. The indicators will range from goal achievement, interaction, communication, climate of trust, etc.
- Observational measures of teamwork are considered the gold standard because they avoid many of the self-report biases.

Before we go to the observations, there are some limitations of the self report, what happened? when organizations or your manager asking you to evaluate. So, it is always a tendency of for

each one of us to exaggerate, we inflate our own performance, when I asked you to rate yourself you are definitely not going to rate yourself as a poor performer.

Even though if you are a poor performer, let us say poor to excellent, this is the continuum. If I ask you to rate even if you are a poor performance maybe you will put yourself in a average performer. So, there is a tendency, there is a limitation or a bias that it is called Lake Wobegon effect, where people try to inflate the performance. We always perceive that we are doing really well.

This tendency is greater for novice and domain which is for an expert. So, and it is response rate and aggregating the overall team performance also maybe sometimes relatively low. These are some of the limitations of the self report because there is likely to have biases. Because when you evaluate your own or you are appraising your own team, you will never go into rate your team poor compared to the other teams.

You will eventually inflate these are some of the limitations but if an organization can take an objective measures or provide a sufficient training to support the fact. Why? Let us say if an individual is rating somebody is an average, then have to provide a support or an evidence, why you are able to rate yourself average performer based on the evidence. Let us say the last quarter, your performance is this. I have able to achieve this, maybe sales volume is this and my behaviour is this because of that I am rating.

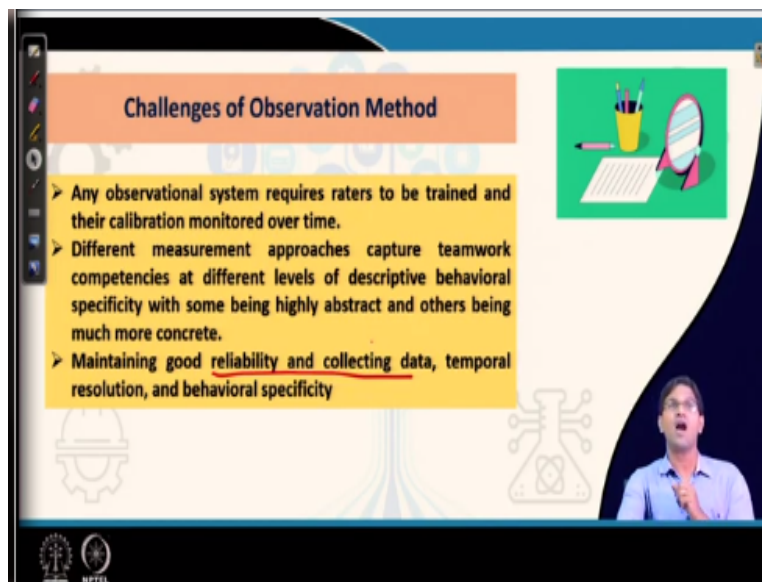
So, when you are able to support this, this way you will be able to control this limitation of the self report method. Then comes an observations. So, observation method is what do they do? In this observation, we are able to assessing the performance of the individual and team by through perform various performance indicators. So, which will be ranging from goal achievement just by the observations, interactions, how individual members are interacting, what is the pattern of interaction, communication or a climate of trust?

So, through these observations method you will be able to measure the performance of your teams specifically on indicators. Unless otherwise you do not identify the indicators, it will be

difficult to observe, I can just simply go on observe a team and see whether the team is performing well or not. I need to come up with indicators and that with an indicator you observe and see whether the team is able to perform well or not. And this is one of the advantages of avoiding the self-report biases.

When you are able to observe, the experts can observe and evaluate, based on their goal achievement and interactions, communication or climate of trust how can be any many more indicators, you can pick when you want to evaluate the team.

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Challenges of Observation Method

- Any observational system requires raters to be trained and their calibration monitored over time.
- Different measurement approaches capture teamwork competencies at different levels of descriptive behavioral specificity with some being highly abstract and others being much more concrete.
- Maintaining good reliability and collecting data, temporal resolution, and behavioral specificity

So, some of the challenges of this is, requires you need a person who are really trained and their calibration monitored over time. So, there is a calibration how they are assessing it have to be monitored over time. And different measurement approaches capture team work competencies at different descriptive levels. Sometimes will be really challenging and there is also a little challenge; maintaining good reliability and collecting data and behavioural specificity.

These are some of the challenges if your expert is not well trained then observations method will be really challenging. So, that is why as I said self report method, maybe good one, as long as your organization able to moderate with providing support or evidences. The last one as you say there are some limitations or challenges with respect to self report because there can be potentially Lake Wobegon effect of an inflating your own performance. Then probably there are

some challenges in the observation method, the training of an expert's ability to assess the team performance.

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Unobtrusive Method – Sensor Based Method

“Measures that do not require the cooperation of a respondent and that do not themselves contaminate the response” (Webb, Campbell, Schwartz, & Sechrest, 1966, p 2)

Recent advances in embedded and mobile technology, as well as the computing power needed to quickly analyze large amounts of data, have created a renaissance of sensor-based measurement (e.g., Vinciarelli, Pantic, & Boulard, 2009).

sensors/sensor-based technology for human and team performance to describe automated data collection tools including radio-frequency identification tags, infrared sensors, video and audio recording devices, and accelerometers implemented for the purpose of capturing real-time sociometric data (e.g., behavior, speech analysis, and proximity to other team members, devices, and workplace location).

Handwritten notes:
- Image Analytics
- AI
- Trust / Communication

Now comes an unobtrusive measures, what is the unobtrusive measures? Without the interventions of a people or a trainee. So, where we are trying to go with? Measure that do not require a cooperation of a respondent, either a respondent or they do not themselves contaminate the response. So, we are trying to create a tool or observation system or the measurement system which do not require the support of a respondent or the training capacity of the experts.

So, here when we talking about the technological advancement companies are able to come up with sensor based measurements. So, in a team performance, I am trying to measure now we may be you say that artificial intelligence and machine learning has come up into a picture, where organization is able to image analytics using the image analytics. Image analytics and AI been widely used to see how good the teams are performing when I wanted to talk about the trust or interaction or communication.

For that I will be able to just with the technological advancements with image analytics or the observations or the sensor based, you will be able to identify the sociogram, speech analysis, how proximity analysis, how well they are functioning within the team, how often they smile at

each other, how often the conflict arises in the team then you also able to measure their performance indicators in terms of sales volumes.

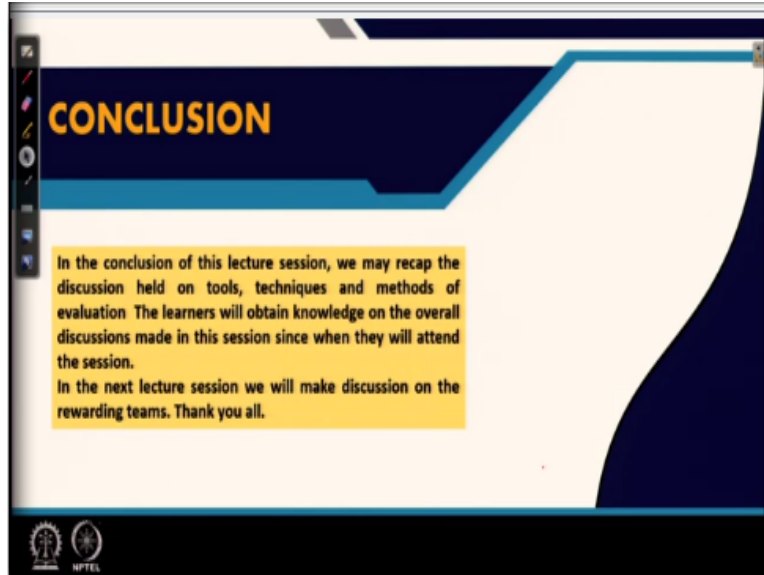
Now collectively without involving people to assess, you can use the technology as a support to evaluate the team performance. So, this is more of very objective without having giving roof for biases or influences of the people. Maybe the trainer or the evaluator, this unobtrusive method of sensor based or technology based assessment he is also coming up technology which are been widely used in a technology enabled organization to evaluate the performances of the team members and the team.

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So, with this now we are concluding this lecture.

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In today we are able to discuss about various tools and techniques used for evaluating the performance of the teams and now we also measured discussed about 3 important methods, self report, observations and unobtrusive method, which is about using the technological advancement in measuring the team evaluations and team performance. Then next lectures we are going to discuss about the rewarding and how we can reward the team performance? So, see you in the next lecture, thank you.