Talent Acquisition and Management
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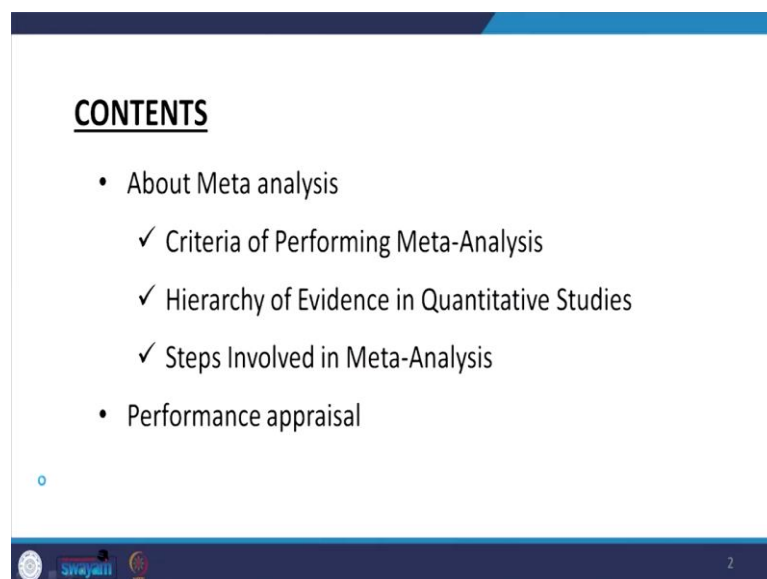**Indian Institute of Technology, Roorkee**

Lecture - 39
Meta-Analysis and Talent Analytics - I

Now, we will be discussing a very important aspect today, and that is the in the under the Talent Analytics during Meta Analytics. We have to understand unless and until we do not have the role of a researcher that is how to do the research, especially in the alleys, large enterprises.

However, this is also applicable to the medium, small, and micro-enterprises also; talent analytics is everywhere applicable, now but as naturally when there will be a large number of employees talented employees. Then this is becoming more useful. Otherwise, if there is a small group naturally, you will make the individual observations, and you will believe in those in your observations.

But when it is a multinational company, and large enterprises, global companies, so then definitely in that case how to do the talent analytics there will be thousands of employees how to identify the right candidate for the right job that succession planning of these talent management or the acquisition of the talent management for the internal acquisition. So, recruitment in the new position.
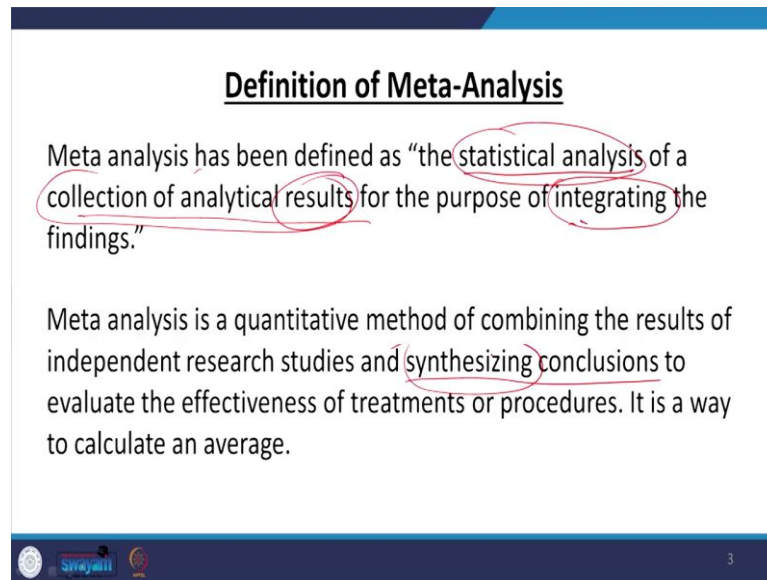
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So, about meta-analysis, it is the criteria performing the meta-analysis analysis, then the hierarchy of evidence in the quantitative studies, steps involved in the meta-analysis, and performance appraisal is there.

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Now, what is the meta-analysis? Meta-analysis has been defined as a statistical analysis of a collection of analytical results for the purpose of integrating the findings. So, whatever the findings are there, then first and foremost is this is the statistical analysis. So, statistical analysis means it is based on certain facts and figures. And then, it is a collection of analytical results.

Whenever we apply the statistical test on certain facts and figures, then definitely we get certain results, outcomes of those the application of the test is there. And these collections of analytical results for the purpose of integrating the findings. Now, what is the integration of findings? Integration of findings means we have collected data may be to understand any demographic variable, and then we are applying the certain test.

So, that will be the statistical analysis. And whatever the results we will get, and we will interpret, that is called the integrating the findings. So, meta-analysis is a quantitative method of combining the results of independent research studies. So, whatever the independent research studies are there, we are going for those the collection of the from the literature review and these independent studies, and then synthesizing this is important, synthesizing conclusions.

Synthesizing conclusion means that here when I say statistical analysis, then the collection of the results, and then integrating and then synthesizing. So, these results which we have received and when we are integrating this, the way we synthesize that is the intellectual input whatever we are integrating that is becoming the intellectual input is there. And that intellectual input to evaluate the effectiveness of the treatments or procedures.

We will take certain examples also in this particular meta-analysis process, and then we want to make the what is the solution or what we say practical implication. The practical effectiveness of the treatments of the procedures that we will be becoming a very important aspect.

So, it is a way to calculate an average. On the basis of the synthesizing, we will be identifying that is what our findings are, in general, are the average findings are there. So, meta-analysis is it is a statistical analysis; it is a result, it is the integration, and it is the synthesizing the conclusions. So, therefore, in that case, it becomes very important that is how we are going to do the meta-analysis for the purpose of talent analytics.

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It is used to identify sources of variation among such findings and, when appropriate, to provide an overall measure of effect as a summary of those findings.
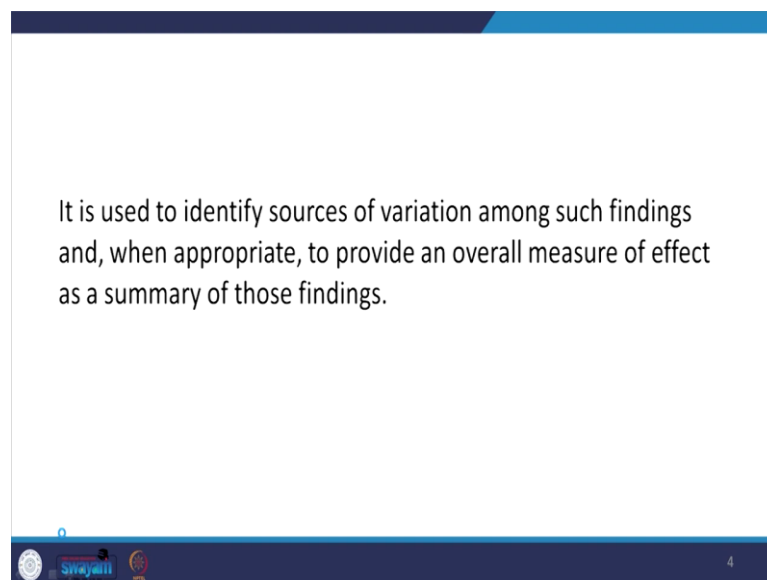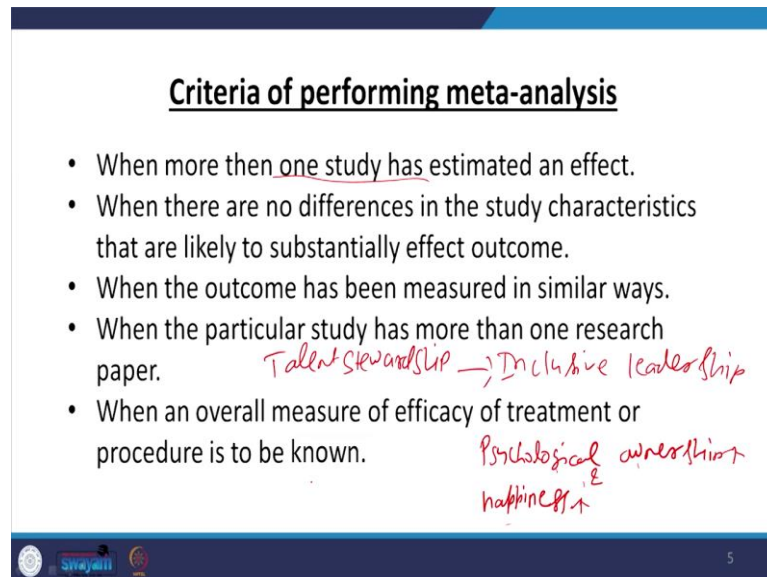
It is used to identify sources of variation among such findings. So, naturally, there might be certain similarities certain dissimilarities. This is they will be the variations will be there. When appropriate to provide an overall measure. So, why are we doing this?

We are doing this to identify treatment, a solution, a practical implication for that particular problem which we are exploring, and then that exploration of that particular solution for a particular problem that will be becoming the summary of our findings. Now, what are the different criteria for performing the meta-analysis?

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When more than one study has estimated an effect, already you know there has been a fire, fire I thought that is the there is a certain relationship between the x and y. So, we can take an example that is psychological ownership and happiness. So, when one study is showing a relationship, that is when we are having this psychological ownership and happiness, so more than one study has estimated an effect.

So, what is the effect? Higher is the; higher is the psychological ownership, higher is the happiness, right. When there are no differences in the study characteristics, data likely to substantially affect the outcome, and normally, when there are different studies are done, and then it has been observed there are no differences, right.

So, what happens? It is whatever hypothesis assumption which you have created it proves, right, that is these characteristics are likely to substantially affect the outcome. So, this will be the substantial outcome will be there when the outcome has been measured in similar ways. So, therefore, these outputs will not necessarily be measured in a similar way or dissimilar way.

But a particular pattern of study has been adopted. So, therefore, that outcome will be measured in similar ways. For example, we are finding out the regression analysis for this particular relationship of the independent variable that is psychological ownership, with the dependent variable that is the happiness.

So, how much is contributed to happiness? So, the outcome has been measured in similar ways when the particular study has more than one research paper. So, this particular topic may be being the more than one research paper, that is that easy when one study has already established and then further studies have been done. So, therefore, this has been a well-established concept slowly and slowly, it is making the best application.

Nowadays, then we talk about inclusive leadership and talent stewardship. So, this talent stewardship and towards the inclusive leadership then that particular study will be having the more and more in the relationship and establish that yes, there if the higher is talented stewardship which I have discussed with you in the previous sessions, that will effect the inclusive leadership is there.

When an overall measure of the efficacy of treatment or procedure is to be known, so, whenever overall measures of efficacy of treatment are there, right, naturally and this will be the solution for the happiness, this will be the solution for the successful leadership inclusive leadership. So, this will create a measure of the efficacy of the treatment of procedure, right.

So, this way. So, what are the criteria? Criteria are one study has been estimated. There is more than one paper are there; research papers are there, they are likely to substantially effect the outcome that the study is making this particular relationship. And finally, we talk about the efficacy of treatment or the procedure that is well known is there.

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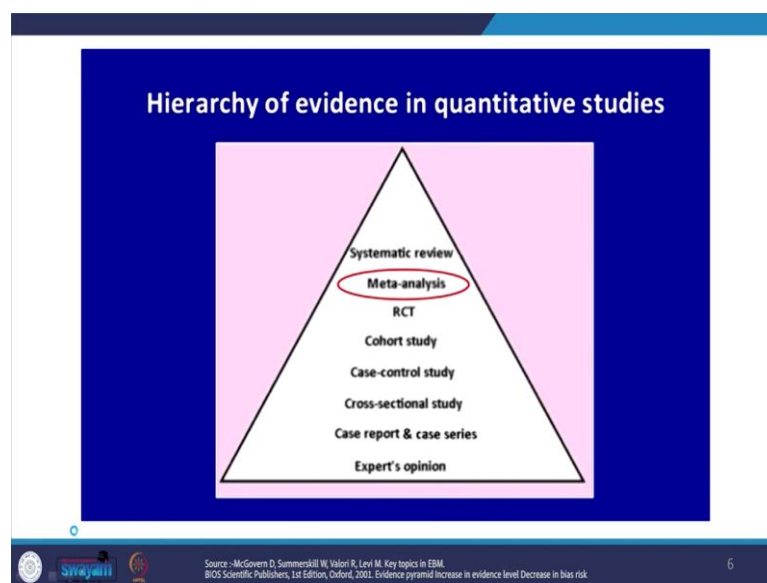
Now, what is the hierarchy of the evidence in quantitative studies? So, first and foremost is how it starts? It starts with the expert's opinion. Whenever you meet experienced people, so they are experts. The executives, when you meet the executives and experts then they will be giving their opinion, and on the basis of their experience, observations, they will say that yes there is a; there is a study between these relationships of the independent variable to the dependent variable.

Then case reports and case series are there, and so, they will share; they will share certain experiences, and those experiences will be the case studies. So, whenever the expert's opinions are there, and they share as case studies, that will maybe the cross-sectional study.

So, maybe on the basis of the geographical cross-sectional study, maybe the nature of industries cross-sectional studies will be there, and that will be identified it is the how they are the coming from the different or the contrast background, academically background. So, then, in that case, that can be the cross-sectional studies will be there.

Then, case-control study, that is keeping in mind the dimensions of the certain parameter, the constant, and then you are developing the certain case studies. So, that will call the case-control study is there. Then, there will be the cohort study is there. So, that cohort study will be having the relationship between the different types of case studies or the data.

Then, there will be the RCT, and if there is this type of this relationship is there. Then we will identify by keeping this cohort study and case-control study whether there is any relationship is research is based is there or the literature review based is there, and then meta-analysis which we are talking about today.

And finally, that will be the systematic review, that is the first slide which was talking about the synthesizing, and if the synthesizing is there, then that will be the findings.

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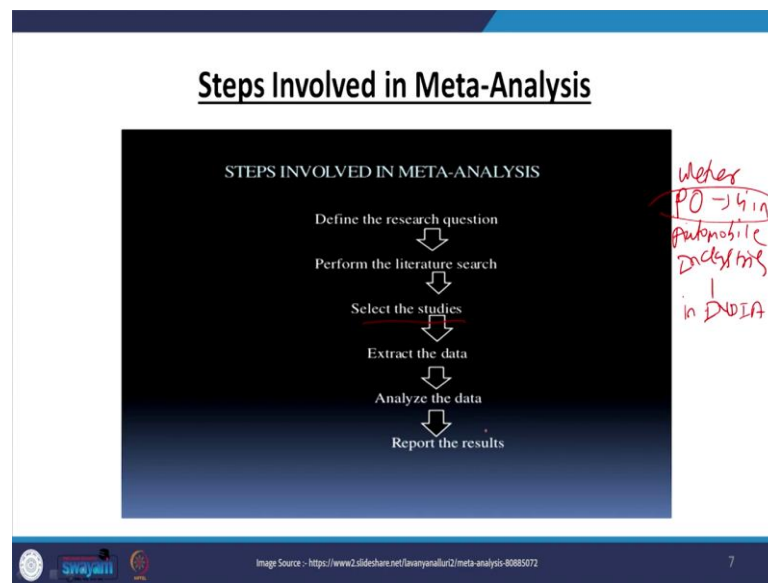
So, we will discuss in detail now this is a hierarchy. So, steps involved in the meta-analysis define the research question. So, here we can design a research question that is the whether there happiness, whether the psychological ownership, right that creates the happiness this will be the defined the research question.

So, we have to identify whether the psychological ownership in the organization does it create happiness, then perform the literature search. So, we will refer to the different journals nowhere, I will just like to mention that is the, and there are certain benchmarking practices, parameters, right. And then you have to see that is the source, source of your literature, and that is being authenticated and well accepted in the academia.

So, it does not mean that is your if your source is other than this particular database, then it will not be acceptable. It will be acceptable, but it has to be that particular impact

factor; impact factor those citations if it is there then definitely you will say that there is a literature search is there, literature is well accepted is there. So, normally we talk about this literature search; the literature search is from this Scopus, social science because we are from the HRM.

So, that is a social science, and so SSCI, these journals it is a database; Scopus, SSCI, and ABDC, Australian Business Deans Council that is also well appreciated in academia and the SJR database from the Scimago Journal Research, SJR. So, that particular literature search will be done on this particular topic that is psychological ownership and happiness; what type of studies have been done.

And then, we will find certain, and I will go through some research papers also in later in subsequent sessions. So, then we will go the select the studies. Now, how to select the studies? Actually, when we are designing this research question, we have to narrow down this research question.

So, whether psychological ownership is the independent variable for happiness as a dependent variable in wherein automobile industries. But in automobile industries where? In India. In India, in North-India, South-India, central India is in India. So, when we have to select the studies, these studies have to be relevant, the relevant studies know.

So, these studies will be relevant when they are related to psychological ownership, they are related to happiness, they are related to the automobile industry, and they are the of the companies, company's organizations in India. And now here, not necessarily Indian organizations, please understand. It is an organization in India.

So, therefore, the organizations from Germany or Japan, or Korea. So, when those organizations are working in India, those automobile industry companies will also be will be the sample for this particular study. From these studies, whatever the studies are there, we will extract the data, relevant data, and their findings related to this.

And then what will we do? Analyze the data which we have seen in the previous slide that is the analyzing the data and synthesizing the data, results, synthesizing the results. So, this analysis of data that is your meta-analysis and report the results that are the synthesizing is there. An individual's original work, right because this is from where
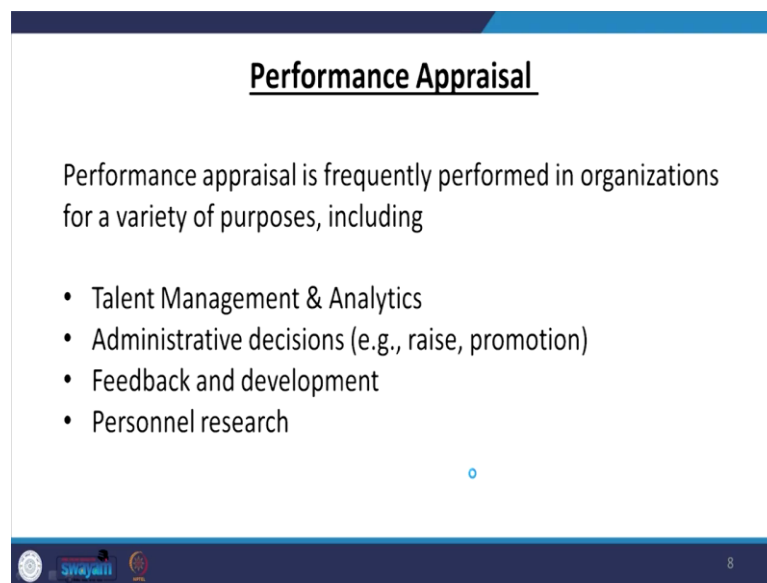
literature searches secondary data. We are taking from certain journals from the Scopus, SSCI, ABDC, or SJR.

Then studies, these studies are also from those journals. So, therefore, it is also secondary data. Extract the data the technology does like you are making the SPSS use of SPSS or excel or tableau as a dashboard and this we have discussed, and we will see in further sessions also. So, extracting the data.

Then, analyzing the data that is also by technology as I mentioned this all this technology. But then, where is your work? Where is my work? Where is the originality? Originality is to report the results. When we report the results, that will be the involving my contribution. What is your contribution? My contribution reports the results, synthesizing the results.

Now, there we see another function of HR in talent analytics, there is a performance appraisal.

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Performance appraisal is frequently performed in organizations for a variety of purposes. So, for the talent management and analytics, then identifying the needs, right if the in the HRM, HRM you have studied it is how to identify the needs. Administrative decisions are the raise and promotion.

Then, the feedback and development, feedback and development of this particular process of these meta-analyses or that appraisal performance appraisal which we have done for the employees. Then, we tell them that where you are strong, where you are required to improve upon, and what potential do you have, what your strengths are, and where are the areas where you have to work more.

And the personal research is there, and HR research will be done. And this way, we identify new research areas. So, therefore, this is becoming a very important research aspect which we will talk about, that is how these HR is in emerging nowadays.

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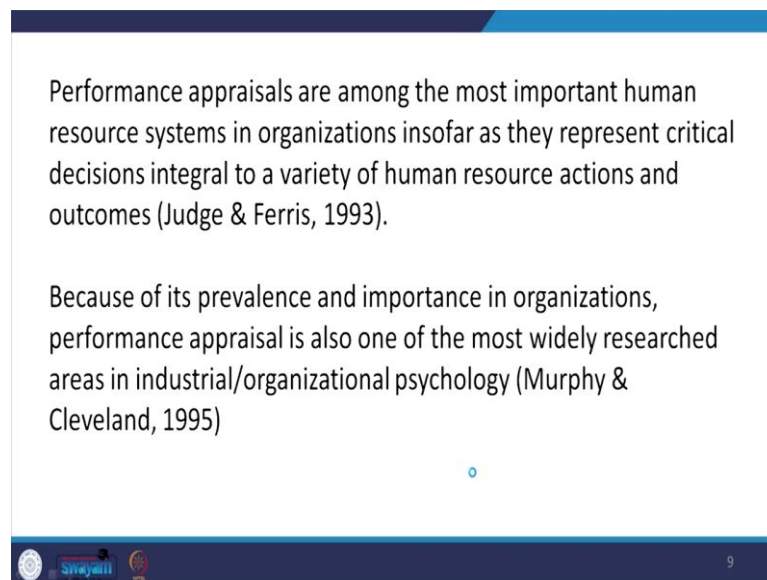
Performance appraisals are among the most important human resource systems in organizations, in so far as they are, they represent the critical decision integral to a variety of human resource actions and outcomes are there. Naturally, when you identify the performance appraisal, strength weaknesses of your employees. Then, you decide about that is what decisions are to be taken, resource actions are to be there.

Because of its prevalence and importance in organizations of the appraisal system, performance appraisal is also one of the most widely researched areas in industrial-organizational psychology. So, you will find that is there are a number of research papers are there on these performance appraisal systems, performance appraisal rater, performance appraisal ratee, that is the employee, that is the boss, that is how they are doing this particular process.

On the basis of this performance appraisal, we are going for the potential forecasting. As I mentioned, this performance appraisal will give us the strengths of the employee also.

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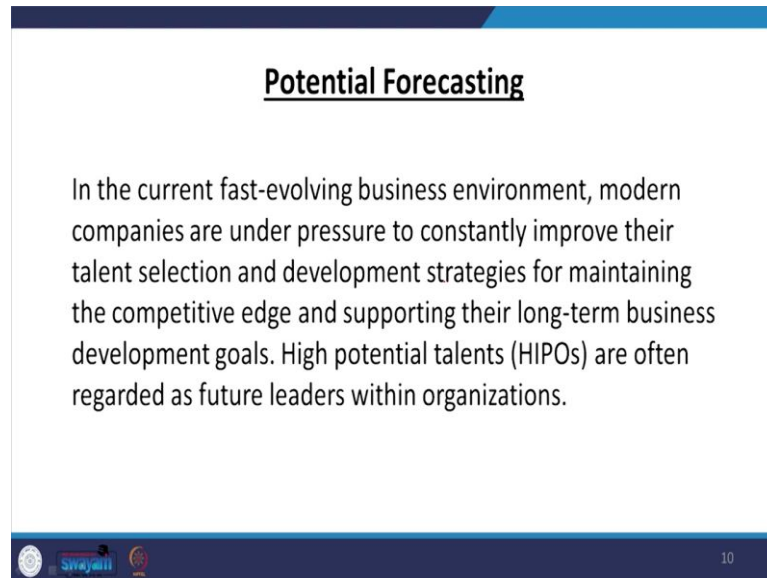
So, when we know the strengths, what would we like to do? That once we know the strength is that is a good analyst, this is a good synthesizer, this is also a very very important, right. So, on one side the somebody may be only a good synthesizer, synthesizing the results, somebody will have the potential as an analyst, he is a good analyst is there.

So, in the current fast-evolving business environment, modern companies are under pressure to constantly improve their talent selection, and development strategies that are what they are going to develop the talent selection are to be there. So, naturally, every best company would like to have the best manpower.

So, because of this competitive environment, what are companies looking for? Companies want to improve their talent selection, and that is how to select the best talent, how to identify because there are so many applicants. But one should not throw the baby with the bathwater. So, therefore, it becomes important not under pressure to constantly improve their talent selection and development strategies. Not only the selection, once the acquisition is made, how to develop them.

For maintaining the competitive edge and supporting their long-term business development goals, organizations long-term business goals with the proper talent selection and proper talent development. So, that the company moves fast, higher potential talents that are HIPOs, are often regarded, right, as future leaders within the organizations.

Naturally, those employees who are the highly talented employees are there, and then they will be the future leaders in the organization that we have to see. Compared to their peers, they have the leadership ability business acumen that is to be a leader in the business, and the desire for success and usually advance at a faster pace.

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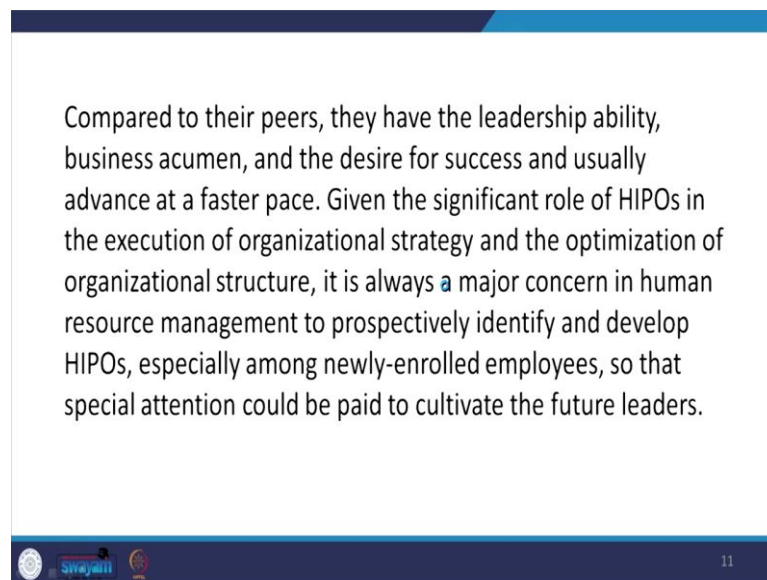
So, this talent selection and talent development. So, whenever we are talking about talent, it means that we will have the leadership ability and if there is leadership ability. So, definitely, they would like to be the business acumen. But important is a desire for success, right and usually advance at a faster pace, that is how there will be having the that the faster pace for the development.

Given the significant role of the high potentials in the execution of the organizational strategy and the optimization of organizational structure. So, unless and until these high potential employees that are talented employees will not going for the organizational strategies properly, then definitely that will not be the going to be the optimization of organizing structure.

So, talent might be there, but unless and until organizations will not go in and create a strategy for that will not be you will not be able to identify the talent there might be; there might be so many employees. But a strategy is required, a focus is required, and efforts are required by the HR department, and a process is required, which will be created through the organization structure.

It is always a major concern in human resource management to prospectively identify and develop high potentials, especially among newly enrolled employees. Because those who are already working with you, so you know their potential, you know have their database you have their appraisal reports, so, therefore, there is nothing like there will be something new.
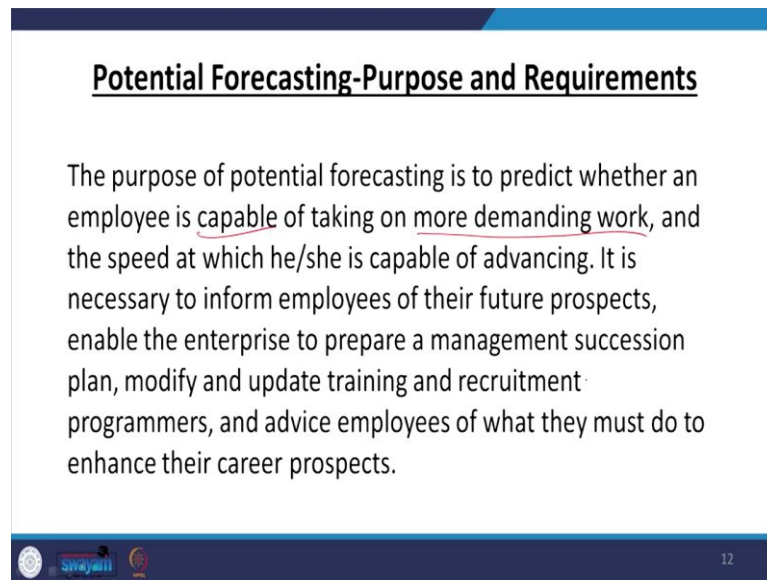
What is important is this, there are those who are new we are not; they are like a clean slate, but a very strong and effective slate. So, therefore, in that case, it will be becoming important that is how you are going for this particular development of the talent. So, in human resource management, to prospectively identify and develop the high potentials of newly enrolled employees.

So, that special attention could be paid to cultivate future leaders. So, dear friends that is the overall emphasis is the business growth and in the business growth from the thousands of employees, hundreds of employees, right; that high potential employee, if you delay. What will happen? They will get trusted they may leave the organization. And later on, you will come to know.

I meet many executives by saying these things that are this employee now who is working there as a such a higher position with higher responsibilities I never realized that is he is having the so much of potential. So, why was it so? It was so because there was no organizational strategy. So, we have to create that organizational strategy to cultivate future leaders.

So, potential forecasting purposes and requirements are there. What type of potential forecasting requirements are there?

The purpose of the potential forecasting is to predict whether an employee is capable of taking on more demanding work; like here is that is we say the initiators, who are the initiators. So, is taking the more demanding work. He is capable; he is capable of taking the more demanding work, what type of the work is given to them and therefore, they will like to see that is the yes, I want to do this particular work.

So, this type of the employees, they are always, they will not hide, whenever they will be the responsibility, they will not feel happy, it is oh my boss asked me to do these things, and I very smartly shifted this job to another one because I am highly loaded. They will never say this.

Even if they are highly loaded, they will seek more, and they will have the delegation of authority, they will have the decentralization, they will have the planning, they will have the organizing, they will behave the controlling, they will have the coordinating all functions of managers they will use management, right. But they will be the capability of taking the more demanding work.

And the speed at which he or she is capable of advancing. And it is not like that it will take the work and then no delivery, no and the speed at which she is capable of advancing. And therefore, you will find that is you that is why in the organization you find a particular employee is present everywhere. Because why? Because the
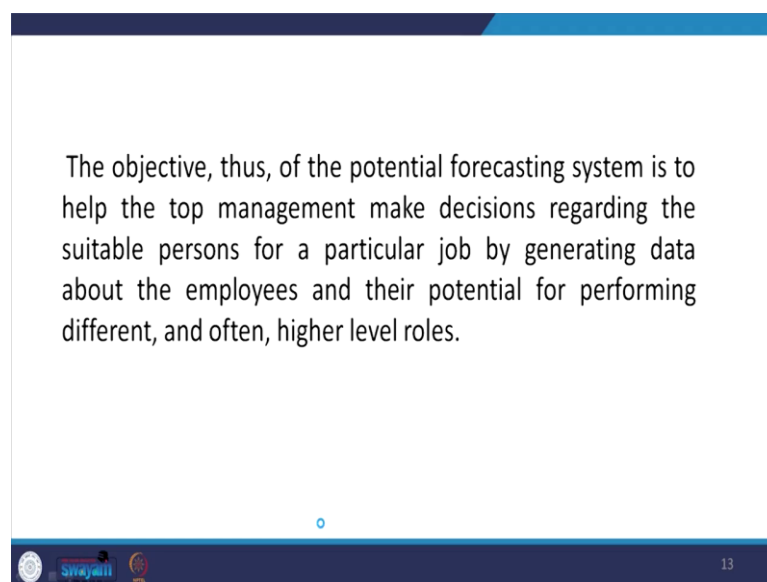
management wants that employee because he is contributing, he is delivering, right. So, that is the identifying.

But then what is the use of meta-analysis? Meta-analysis is making you faster to identify that employee, otherwise with the period of earlier was it done the talent identification. Yes, earlier, it was also done. But how was it done? With the experience, no statistical analysis, no data collection, no methodology, no meta-analysis. But now, it is the to inform the employees of their future prospects and, therefore, enable the enterprise to prepare a management succession plan. So, future.

So, therefore, what happens? As a result of which, you select a successor because you are having as a strategy. So, you know x is there, x will retire, x may go. So, then who will take charge of x? y is there. The organization is stable. People come, people go, but it does not affect the growth of the organization.

Modify and update the management succession plan, modify and update the training and recruitment programmers, right. This advises employees on what they must do to advance their career prospects. So, naturally, this type of employee what they will be looking for? They are looking for career prospects. So, they want to make growth faster.

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The objective, thus, of the potential forecasting system is to help the top management make decisions regarding the suitable persons for a particular job by generating data about the employees and their potential for performing different, and often, higher level roles.

The objective, thus, of the potential forecasting system identifying the potential and forecasting the system to the new, especially newly enrolled employees. To help the top

management make decisions regarding suitable persons. So, matching the personality job fit for a particular job by generating data about the employees; who is good in what? Every employee is good; every employee has a certain potential.

There will be no employee who is not having the potential. But who is having the potential that is to be identified for performing the different and often higher-level roles are there? So, that career prospects and a higher level of roles and that will be only possible whenever we are talking about this performance of the different types of the employees.
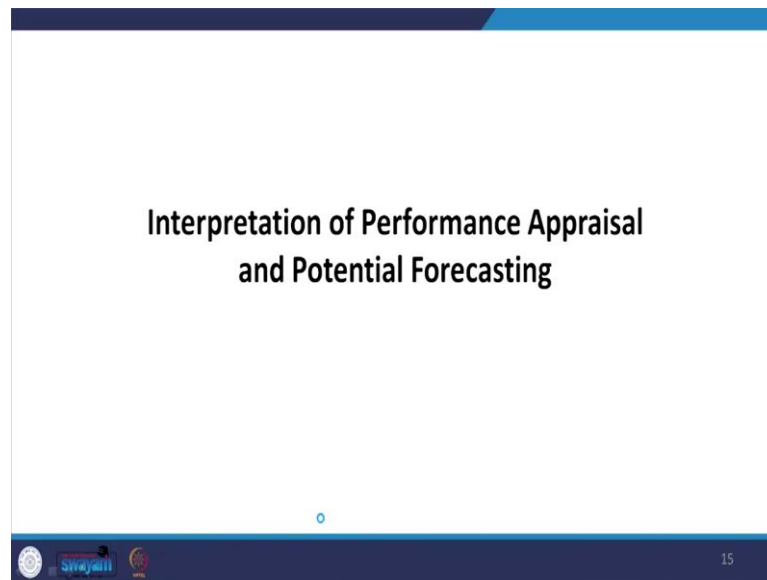
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Meta-analysis of Performance Appraisal and Potential Forecasting

| S.no.	Topic	No of Papers	Year
1	Performance Appraisal	41	1986-2018
2	Potential Forecasting	30	1987-2020

So, material analysis of the performance appraisal and potential forecasting is there now exactly how it is done that I will discuss with you, the process which I have talked about. The performance appraisal number of papers is 41 from the period of 1986 to 2018. Performance appraisal, and potential forecasting, identifying the potential and then forecasting the potential for assigning the higher roles in the future. The number of papers is 30 from 1987 to 2020.

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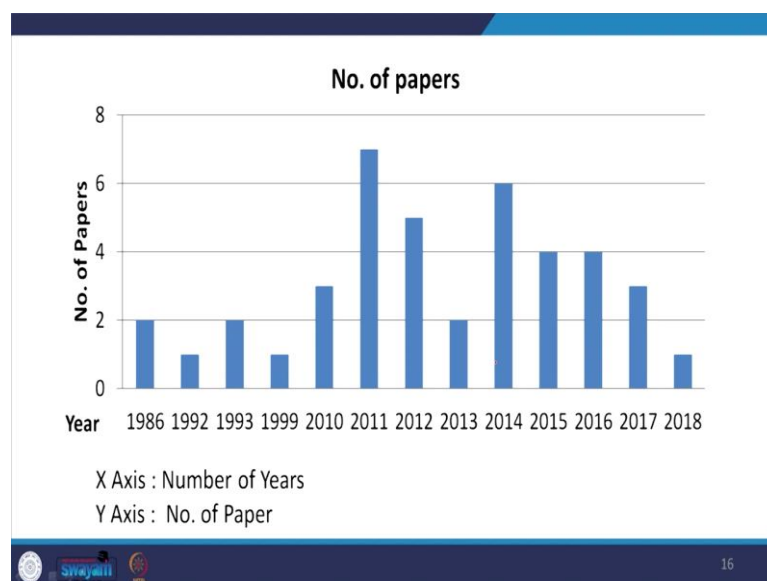
So, how these interpretations of these papers have been made? Here we see this particular graph from 1986 to 2018 the number of papers. The number of papers they that here we will find how is increasing, decreasing and this graph is there, ok. Now, this is one result. How do you synthesize this result?

On the performance appraisals, if this is the graph from this 86 to 2018, what do you interpret? That synthesizing, right, that is your own capability, talent identification. Here if I have given a chance, I will explain about 2011 to 2014, that is the number of papers

published in 2011 to 2014 where the average in the average of these four years was the maximum number of papers that you have been published in the performance appraisal, right.

Why has this period been taken from 2011 to 2014? Because 2008 to 2009, there was an economic recession that went up to 2000, early 2010. So, therefore, the question arises about the main power utilization because, during this period, the bench management practices also started.

What is the bench management practice? Bench management practice means the employee is not retrenched, he has not been separated, but he has been asked to sit on the bench and trend. So that in future, whenever there will be the employee requirement, these employees will be used because they are highly potential employees.

So, therefore, in this year we will find that high potential employee, they have been studied, and then they have been retained, and they have been given the higher responsibilities. But before this and after this, if you take the average of 4 years, then you will find that it is because of the 2011 and 14, rest of the average that will be very less. So, here is the point that is the how do you synthesize and what you study.
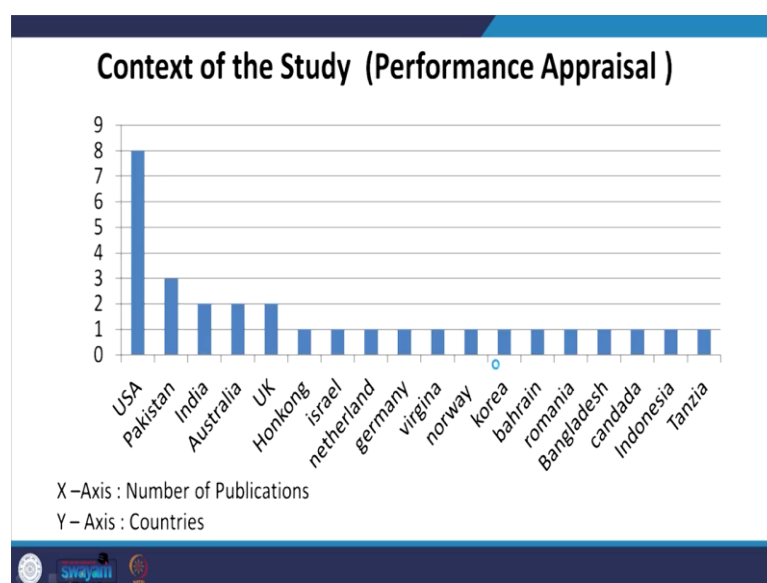
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The data-based or used to explore the performance appraisal is between the year of 1986 2018, and then that was a context.

Now, I would like to take one more slide, and in this slide, we will talk about the performance appraisal. In the performance appraisal of these different countries, in the different countries here the number of publications, right, and the number of publications in the USA in the performance appraisal that is becoming the highest.

While when we are talking about the rest of the countries, the number of publications has been becoming very small. The research has been done very small. So, it means that in the first 4 countries I would like to take 5 countries we can take. Because the last 3 countries India, in the top, in top 5 countries the last 3 countries India, Australia, and the UK are having the same number of research performance appraisal number of publications, right.

So, it means that is in this study in which these papers were selected, and it has been observed that is the USA was highly concerned that is how to create that performance appraisal system. So, here so when we combined both the graphs, right this way shows the number of publications in the context of the study.

So, the database of this potential forecasting the performance appraisal and potential forecasting, again from the number of papers from 1987 to 2020, here it is 2009, 2013, 2019, right, that is becoming the highest number of the papers are there.

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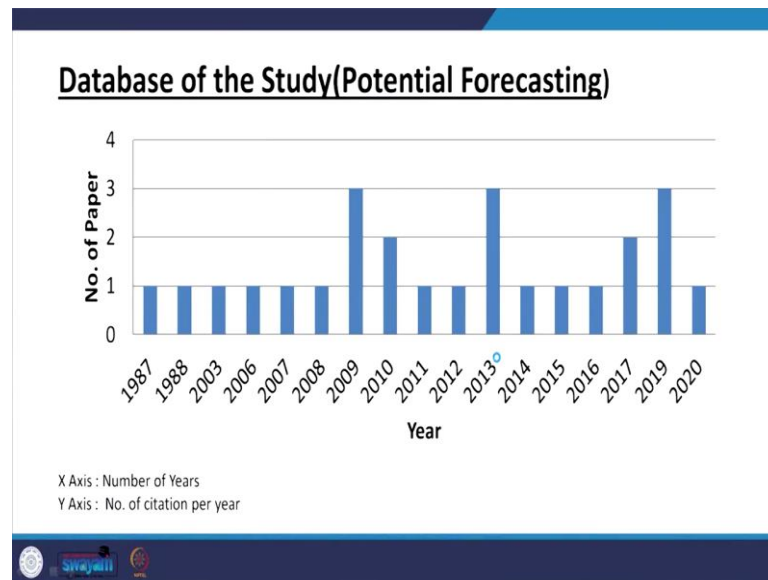
In 2009, it is becoming the if we take I would like to take 2009, 2010, and 2011, 3 years, right and 12, 13, and 14, if I will compare 9, 10, 11 with the 12, 13, and 14, the average will be 19, 11 will be higher. So, again it has been that it has been started that is the as I mentioned this performance in the years which are talking about, they are talking about the economic recession 2008, 2009 which is early into 2010.

So, therefore, that identification of the employees who are doing, but this is not for the retrenching them separation or termination of their services, no, this is for the identifying that is how the potential employees are there.
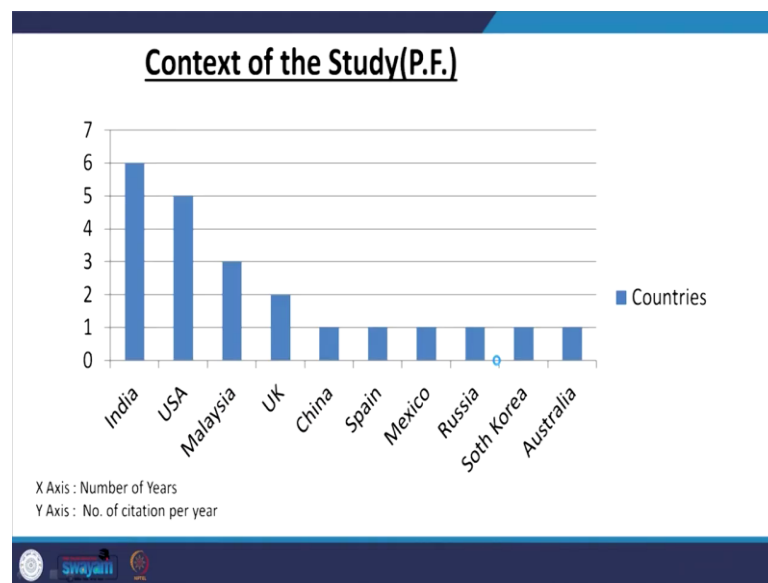
Between the years 1988, truth is there. When we talk about the context of the study in context to countries. And then we find that is it is India is having the number of years, the citation, number of citations per year, number of citations per year in the y axis that is India is having the highest citations in the potential of forecasting that is an India is having the highest number of the citations are there.

So, here India, USA, Malaysia and other countries we find. So, why is it so? So, the interpretation figure shows the number of publications in the context of the study. So, all these aspects which we will be talking about that are how we are doing the analysis finding these data and making the analysis—the rest of this interpretation and application of meta-analysis that we will see in the next session.

Thank you.