HR Analytics
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Lecture 57: Data Visualization of Performance & Compensation

Dear participants, in this session we will learn about data visualization of performance and compensation, right. So, before this session we have learned performance analytics and compensation analytics, right. So, few formulas that you have, that we have learned and how you can visualize those data that you have collected related to the performance and compensation. So, first we will understand how to assess the problems and then collect the data and then visualize it to understand better. So, I hope you can understand the steps for this data visualization. So, in first step what you have to do? You have to identify the problems.

So, as you, if you remember in the first session of the performance analytics and compensation analytics, in both sessions what I did, first I asked certain questions, what type of problems that manager is facing, right. So, that is how you can identify the problem. The moment you have identified the problem, in the next step you have to identify the data that you are supposed to collect. in order to address that problem, in order to understand that problem better.

So, the data that you need to collect in third step that you can do data. So, numbers that Excel, in the form of Excel that you have collected the data, now you can use certain tools that we have already discussed in previous sessions, tools like Tableau, Power BI and Excel that we already discussed in the previous session, how you can visualize the data by using those tools, right. So, now you have collected the data and now you can visualize it. So, in this session we will learn about the data visualization related to performance and compensation data. So, I hope these steps would be clear to you, how you have to visualize, what type data that you have to collect.

So, first step is the problem identification, what kind of problem is there. And then, you have to collect the data related to it, and then you have to visualize this data by using certain data visualization tools. So, those tools that I already discussed in my previous sessions. So, now let us understand this problem identification, how a manager can identify the problem. So, this is the content.

So, in a first case study one small case late that is what I will discuss. In this case late I will make you understand what are the problems that are there related to performance management in this case right and then we will understand the visualization of data related to various categories. Right gender wise, percentage-wise, PMS related data is there that is what we will understand and then finally we will talk about compensation-related data also. So now let us understand this case, so one small case that is what you can see this is a Ahuja cement which is 25 year old that has following the traditional method of performance appraisal. So to measure the performance appraisal the traditional method is there.

Due to the changes in the business environment, the CEO and promoters of the company perceived that companies should upgrade its performance management system. So, traditional the PMS they are having, now they have decided the way this market is changing, we should upgrade it. So, company's headcount is 1000 plus and implementing a PMS that caters to the business requirement across the different areas was a daunting task. So, employees where more than 1000 plus employees are there, now you have to implement the new PMS, performance management system. So, if you remember the objective of this performance and compensation function is to motivate the employees.

So, business environment is changing, employees needs are changing, nature of the people are changing, their demands are changing, the nature of relationship between employee and employer is changing. So, in order to tackle these all changes or in order to manage these all changes, you need to make some changes in your performance management system. If you will make a change, then you will be able to keep motivated these employees in your organization. So, that is what this Ahuja cement also have understood. If I have to keep motivated my employees, then I have to make changes in the existing performance management system.

So, PMS caters to the business requirement across different areas daunting tasks. HR convert a meeting of all departments and heads to the discuss the challenges and future strategies. So, HR department has conducted one meeting and discuss the various challenges related to the PMS and how it, how we can overcome these all challenges. So, meeting provided a forum for the leader to discuss the current PMS during which below are oversold. So, they discussed the PMS and then they decided there is a skill gap in the desired and existing level.

So, if you remember my performance analytics session in that I had discussed how to calculate the skill gap between desired and existing level of employee. So, that is the problem that is there. There is a skill gap between desired and existing level of employee. So, now how you will collect the data and how you will visualize this data? I hope you

are getting it. What is the problem? Problem is skill gap, desired level and existing level.

So, this is the problem. So, if you remember what I said before this slide, first you have to identify the problem. So, it is one of the problem that this Ahuja cement team has identified in a meeting. What is that first problem is? Skill gap. So, skill gap is there.

So, now you have to collect the data related to it and then you have to visualize this data. So, that is what we are that is what we will understand how this data will be visualized right and that matrix which is causing to the poor performance. So, now that is skill gap that is what you have to identify and the second thing that you have to identify you have to identify the relationship between skill gap and performance. So, a gap is there wherever that gap is there then you have to highlight poor performance is there . So, desired level of skill is not there.

So, because of that poor performance is there in the organization. So, that is what you have to highlight or showcase through the visualization tool. So, how you will do that that is what we will understand . Second thing, lack of manpower causing two productivity issues. So, number of people are less, right, as per the requirement of the people.

So, that is what we also, we had discussed how to identify, right, so goal setting exercise if you remember, right, so then how many goals that people can set, average number of goals and how many goals they can achieve. and that focus time. So, these are the things that you can calculate and then you can tell us to the management how many people you required more. And third problem that you find the lack of motivation, right. So, these are the three problems that this organization identified.

Now, you have to develop the metrics related to it. You have to collect the data related to it and then you have to visualize. So, we will see how this company has visualized the data related to these three problems. So, I hope, so this is the first step, problem identification. So, that is how you can identify the problem in your organization, right, what are the problems that are there in your organization.

So, that is how you can identify. So, let us see how this company has visualized. So, this was the assignment which was given to one of my students. student in a classroom.

So, he has completed. So, let us see how he has completed this assignment. So, first assignment that is what you can see. So, first he has shown the demography, right. So, demography. So, here you can see this demography charts that is what he has mentioned.

So, you can write demographic profile, demographic data representation. So, any title that is what you can give it. So, here you can see. In this first graph that is we can see the gender ratio. So percentage of, percentages there 66 percent are male and 34 percents are female.

So what is the mistake that you can see in this graph presentation? numbers are not there. So, whenever you are visualizing the data in this format, so if you can add numbers also, whichever tool that you are using, whether it is Excel, whether it is Tableau, whether it is Power BI, in all three data visualization tool, this option is there. You can use this number along with percentage and that is how you can visualize. Let us assume if only 50 employees are there. You have visualized through, only through percentage, then you do not   know   the   numbers.

So, simple count if you do not know, then how you will understand the what is the extent of the problem. So, similarly that you can see had count department wise. So, this is the second graph that student has made. So, here you can see what is the problem with this graph. problem is the different colours are there, but that colour coding is missing, right.

which department represents the which colour, department wise it is written and colour coding is missing, but head count is there, okay, that is okay, in which department how many people are there and what else that you can add, that male and female that you have done it. So, similarly you can add here male and female also, right, you can select a bar graph only which will have two tabs together, then you can here one tab will present male, another will present and then the entire tab that you can give one department name, let us assume marketing department, that is what the name that you have given here. So, that is how you can improve the quality of presentation. So, I am not, that is why I have taken those graphs which are not complete, so we can discuss what is the incompleteness is there. So, initially we will use, whenever you will use these tools, you may also make such   kind   of   graphs.

there there is no issue. Why you are making such kind of graphs? Because you have not thought in advance which type of graph that you will make for which type of data, right. So, and whenever you will use this tools and you are not using, if you are not using these tools frequently then such kind of mistakes that you will commit. So, what is my suggestion to overcome such kind of mistakes while making the graphs? One suggestion is First thing, you see the list of variables that is there in the excel sheet, in your excel sheet, right, and based on these problems you can develop the list of the variables like, right, these problems that you identify, now you can make a list of variables like So, here you can make a skill matrix, desired level, existing level. So, if you remember, I had made such kind of matrix already in performance analytics and training and development

analytics also. So, you can go through those sessions and you can understand how to make, convert these problems into the variables.

And the moment you have converted into the variables, now you visualize for which variable which type of this graph that you are going to make so that these problems manager will be able to understand these all problems right through those chart right. So, this these are the two graphs that is what we have seen. So, here you so first graph through which you will understand the diversity, male and female and department wise also you can present it, although it is not there. Even here department name also not there. So, when you are using this different colours, for each colour you can give the name of the department also.

Now, let us see what are the other charts that he has made. So, he has made the role wise. So, role wise how many? people are there, how many people are there or how many employees are there. So, here only one colour is there, in this one more thing that can be added you can take two colours. and one colour may present male, another colour may present female.

So, here total number of like 14 are there. So, let us assume one colour is here blue presents the male, male number and red colour let us assume presents the female. So, here department wise, role wise more clear that you will have, right. So, job positions are there, roles are there and now you can add male and female in this, right. So, here you, what is, what we can interpret currently from this chart, how many number of people are there in which department, in, on which position, right.

So, officers, senior manager, BP marketing, general manager, junior engineer, assistant manager. So, highest number are interns are there. After that, second highest managers are there and then you can see senior executive and executives are there. So, that is how you have demo, that is how you have presented the number of various profile.

It is okay. Now, let us move to the next chart. and satisfied and dissatisfied. So, how many people are satisfied and dissatisfied? So, that is what it is written here, but it is not written which type of satisfaction, from which satisfaction, it is a customer satisfaction, it is employee satisfaction, it is job satisfaction, this is a which satisfaction, right, satisfied versus dissatisfied. right and now here you can see these are the various departments are there so at least we can interpret it is not the customer satisfaction right because it is the bottom various departments are mentioned okay that is what i clear but it is a job dissatisfaction or employees dissatisfaction because according to the literature, both things are different. People may be satisfied with their job in the organization, but they may be dissatisfied within the organization due to xyz reasons, because of the culture,

right, because of the salary that they are getting it, because of the supervisor, because of the   team.

because of the organization values that are there. So, because of n number of region they may be dissatisfied, but because of the job they may be may not be dissatisfied. So, clearly you should whenever you are making any graph or any presentation that you are doing it, clearly you should mention this is a which type of dissatisfaction, which type of. So, give a clear heading right to the each graph whatever graph that you are making it, right. So, this shows that in marketing department we are having the highly dissatisfied people, right and both things is there highly dissatisfied and highly satisfied also and maximum number of satisfied people there in a market marketing department and maximum number of dissatisfied people also there in the marketing department.

So, both type of that is what you can see it and here also it is showing satisfaction and dissatisfaction, but full form is not there. So, whenever so, but at the bottom or at the corner whenever you are writing DSS, then you should write the DSS equal to dissatisfaction, satisfaction somewhere on the top, on the bottom somewhere it should be there. Now, tooth versus tail right. So, that is what we can see that. So, here again this percentage   is   there,   numbers   are   missing.

So, what this percentage indicate whether it is number, whether it is dissatisfaction, what it is that is not clear. So, along with percentage try to represent the number and try to clearly write what this percentage is indicating because that is what you will see when I have discussed the criteria for the good matrix. Everything, although you feel it is very simple, everyone can understand, but still you have to define it. right because you have to assume that whatever the presentation that you are making nobody understand it in the in such a way you have to make a presentation. So, make the things clear if you are putting in   the   percentage   then   what   this   percentage   is   indicating.

If you are putting into the number, simple count is there, then also you should tell what it is. So, everything that you are putting either in graph or in table, everything you should define for the better visualization of that particular graph or particular table. So, here also you can see the same problem, this percentage is only mentioned. So, after various descriptive data presentation, now we have come to the problem. So, problem if you remember   as   I   discussed,   the   problem   was   skill   gap,   right.

So, now you can see employee distribution pre-training, right. Pre-training for skill level is there high, medium and low. So, what is the issue with this table? Here skill level is there. So, name of skill also we can mention, like high, medium, low that is what you are saying for which skill? That answer is not there. If I ask you skill level high, medium,

low for which skill, for which department? So, here two more things that you can add department if you do not want to at a department you want to give a organization level data,   then   at   least   try   to   add   the   skill,   right.

 So, you might have done the desired skill, you might have done the benchmarking for this organization, what is the desired level of various skills. So, that benchmarking that you would have done it. So, write the name of the skill, right and then see what is the existing level of skill in the employees. So, that is what you can see before training.

 20 people are having high, medium and low level of skill. So now you can take a decision to whom you have to give a training in order to increase the skill level. If you have written here the skill name, then you can add one more thing. What you can do? You can decide which type of training that has to be given, so that we have already discussed in the training analytics. So, that you can understand what is the problem with this table. Why I am discussing these all things? Because initially when you will make these graphs and these tables, so such kind of mistakes that will happen.

 So, it is better to correct. How you can correct it? You can go back to your data visualization tool and you can explore some of the options over there that as already I have discussed some of the options, you can explore some more and then you can add these charts and tables. So here you can see the solution training criteria of 45 hours included. So that problem that you had identified and related to the problem, how that visualization is done, right? I hope you are getting it. and through the visualization only that solution is presented. I hope you can understand what I am trying to make you understand   here.

 First you have to identify the problems, frame certain problem statement. identify the variables, after identifying the variables try to understand or visualize in your mind how you will visualize, which type of data that you will use, which type of graph that you will use to visualize, table, bar graph, pie chart, whatever you will use just think in your mind. go to the visualization tool, prepare that particular date or chart, see whether that chart is communicating the information which you want to communicate to the others. If yes, then make the another chart, right, problem wise. So, this is the problem, this is the chart, this is the problem, this is the chart and problem wise you can put a   solution also proposed solution also like training is completed or if you want to give a proposal to include   this   45   hours   training   in   order   to   enhance   the   skill   set.

 So, that is how also you can do by you can add how much time it will take, how much money is required how many people will be involved, how it will impact the productivity, if these many people will go for the training for these many hours. So, such kind of things

also you can predict and you can project and then you can add to your table or you can add to your graphs also. So, now let us move to the next problem, lack of manpower causing to the productivity. So, here you can see lack of manpower application received.

So, due recruitment and selection yield ratio is mentioned here. So, lack of manpower. So, here you can see that mismatch is there. Problem is lack of manpower causing to productivity issue. But what is presented here? what is presented? Present is here recruitment and selection, recruitment and selection data is presented. So, how it will give you an idea how manpower, shortage of manpower is lacking to the productivity.

So, what you should do? You should have done said this is the target that we have to achieve, to achieve this target these many people we required for example, 30 people you required, how you can count right by identifying the KPI one person can do this much job in this organization. So, these are the KPIs for do this to achieve this target we need 30 people right. So, let us assume target is to hire the 20,000 employees. right, and one, one employee is able to hire 6000, able to hire 6000, right. So, how many people you will be required, approximate, right, 30 people you may be required, approximate, right, 30 people.

So, that is how you can calculate what is the task and what is the KPI and you can divide it and then you can identify how many people is required and how many people you have, right. And the task is this, this much you have to divide it and then you have to hire 10 more employees because 30 is required to complete this task, currently you have 10. So, you need to hire 10 more people. So, immediately you inform to the HR manager and then after that this statistics you will present it. So, here you can see the problem and presentation   is   mismatched,   it   is   not   matching   it.

So, these are the issues that you have to be very very careful while making your presentation. So, let us move to the next. So, hiring 10 management trainee. Yes, to some extent that 10 that you have identified if you are hiring this training many trainees, management trainees then what is their skill level, high, medium and low. What is their skill level that also you can mention and that is skill gap analysis that you have already done,   high,   medium,   low.

So, this different percentage that is calculated, so always suggested mention the number also along with the percentage. So, this is in the form of pie chart, again percentage are there, there is no title, what this colour represent, this campus size. these numbers, title, nothing is there. So, these are the things that you can add it and this is the performance matrix that is what we have discussed like potential and performance, right.

So, how to measure the potential and how to measure the performance, right. So, performance through performance rating and potential rating also there, performance rating also there and then you can visualize the all employees, so that you can understand the skill gap. So, through this you can given through this by using this nine box grid you can tell these many people are having this level of potential and performance but we required this level. So, this skill gap also you can present through this one. So, here this average performer, core performer, high performer, so that is the nomenclature of this 9 box is there and category wise you can write the number of employees.

So, here you can see 33, 33, 22. So, these are the numbers of employees and here 7, 5, 6. So, these red colours are presenting you, these are the people who are having the low level of skills. yellow colour represents the medium level of skills and green colour represents the high level of skills. So, that is not mentioned here. So, you can write green represents high, yellow represents the medium and red represents the low level of skills.

So, that is how you can make it. So, what you can see here, yes. So, initially I was saying about this, this two color that you can say male and female and region for leaving, right. So, why people are leaving the organization that at recent analysis that you have done it. So, region for living is there and male and female is there. Here percentage is mentioned.

So, again along with the percentage I would suggest you can mention the number also. And count of absence and average performance employee rating. So, here you can draw the correlation like performance rating and number of days. So, if performance rating is high, those people are absent on a workday or people who are having the low level of performance rating, they are not coming to the organization. So, if that is what you want to do understand it to go in depth in order to understand the motivation right that is what you can see. And second thing the reason for leaving also that motivation you can check why do people are leaving the organization.

And then you can check the motivation and what you can do it for them. So here you can see employee turnover, recruitment, retention, the various function related to the recruitment and then you can see their representation. This is the process of the performance management system in any organization and then performance score gender wise. So here you can see the department and then performance scores are there. So, here you need to write out of, it is out of 1000, it is out of 100, right, it is female, it is male, so male are performing better, that is what you can see, that is what it includes, males scores are better and now here you can see the department. So, in all department, males are performing better than the females and then you can see this colour wise different departments are there, so best performing department for a male this production and for female if we go by this number this color that you can see R and D.

In R and D females are having the highest number of scores and in production males are having the highest number of scores right. So that is what you can see with this graph performance analysis department wise, right. So compensation also, in a compensation also you can analyze year wise, right. So this is the year operator and staff that you can compare.

Again with this graph problem is this numbers are there. but there is no title of this graph, right. There is no title what this graph is talking about. So, these kind of mistakes you will make it whenever you will make the graph first time, right. So, when you are making the graph first time, so be careful about this title, numbers, percentage, have an idea before   opening   these   softwares.

If you will have it, you will not make such kind of mistakes. So, I hope you would have learnt various type of data visualization chart, various types of data visualization through the graphs, charts, tables and that process how you have to visualize the data related to the performance and compensation problem. So, thank you.