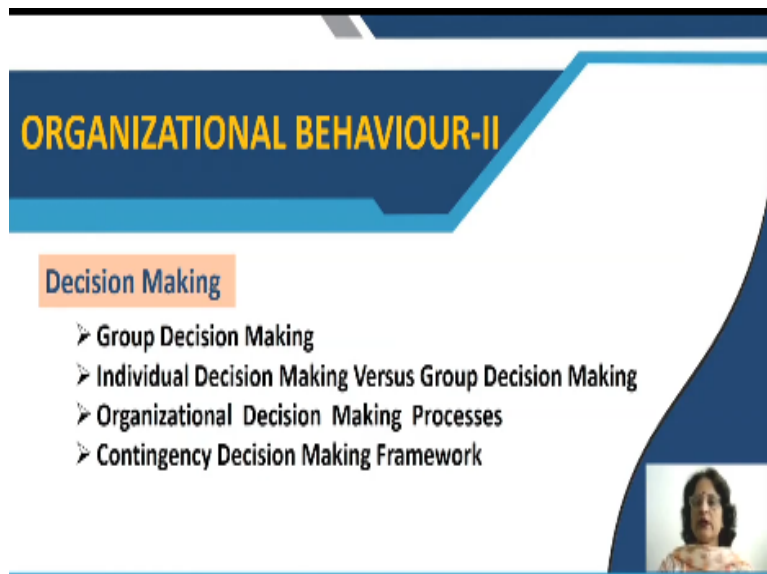


**Organizational Behaviour - II**  
**Prof. Sangeeta Sahney**  
**Vinod Gupta School of Management**  
**Indian Institute of Technology – Kharagpur**

**Lecture – 34**  
**Decision Making (cont.)**

Namaskar. We will be continuing with our discussion on ‘Decision Making’. In the previous lectures, we have discussed the Concept of Decision Making, the Definition of Decision Making, the Different Types of Decisions; We have also spoken about Organizational Decision Making, Employee Involvement in Decision Making, An Analytical Model of Decision Making; and in the previous lecture, we have discussed Individual Decision Making, where we discussed the various approaches - the Rational Approach, the Bounded Rationality Perspective, and Creativity, Heuristics; and we also, you know, said that decision making is not fully rational; people take decisions based on logic, facts, which may often be limited and so, it is also a gut feeling, intuition, creativity, and we also talked about Heuristics, and we said that the decisions which organizations or individuals arrive at in organizations is; or even in their personal lives is something which is a reasonable solution - a ‘satisficing’ one, rather than always an optimal one. So, this is where we had stopped, and in today’s lecture, which is Module VII, Lecture IV, we shall be covering a lot of things. We will be talking about Group decision making, Individual decision making versus Group Decision Making. We will discuss Organizational decision making processes, and we will be concluding with; concluding this lecture with a Contingency Decision Making Framework.

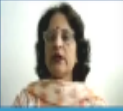
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**ORGANIZATIONAL BEHAVIOUR-II**

**Decision Making**

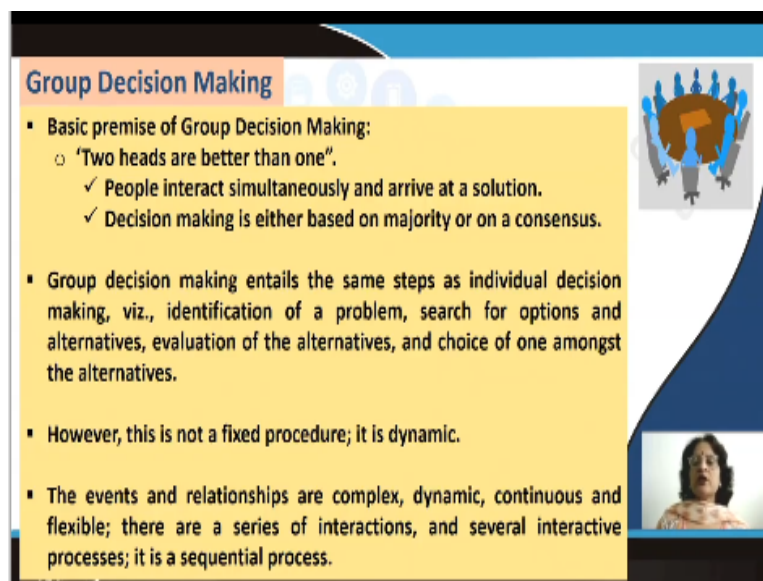
- Group Decision Making
- Individual Decision Making Versus Group Decision Making
- Organizational Decision Making Processes
- Contingency Decision Making Framework



So, let us begin with our discussions.

So, we will start with group decision making and we will not only define what group decision making is, but we will discuss some techniques of group decision making. Then we will compare individual decision making versus a group decision making; What are advantages? What are disadvantages? What is more effective and efficient; then we will talk about organizational decision making processes, where I will be speaking about four different approaches , you know. We will be talking about the Management Science Approach, the Carnegie-Mellon Model, the Incremental Decision Process Making, and the Garbage Can, and then we will be discussing a Contingency decision making framework.

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**Group Decision Making**

- Basic premise of Group Decision Making:
  - 'Two heads are better than one'.
  - ✓ People interact simultaneously and arrive at a solution.
  - ✓ Decision making is either based on majority or on a consensus.
- Group decision making entails the same steps as individual decision making, viz., identification of a problem, search for options and alternatives, evaluation of the alternatives, and choice of one amongst the alternatives.
- However, this is not a fixed procedure; it is dynamic.
- The events and relationships are complex, dynamic, continuous and flexible; there are a series of interactions, and several interactive processes; it is a sequential process.

So, to start with group decision making. Now, as I said in my previous lecture also, that in an organization, decisions are made both individually as well as in teams or in groups, and decision making happens in every level of the organization, whether it is the top management or the middle management or the lower level management. Everybody is taking decisions, and some of these decisions are individual decisions; some of these are group decisions.

So, when we talk about group decision making, we are actually, you know, building on a premise that two heads are better than one, you know, and in the case of group decision making people interact with each other simultaneously, and they arrive at a solution. Of course, whatever solution is arrived at, or whatever decision is taken, is either a based on a majority or on some kind of compromise and on a consensus amongst the members.

So, in the previous lecture, we spoke about individual decision making, and today, in this lecture, we will be emphasizing on group decision making. So, in group decision making people will interact with each other, and discuss with each other; there will be generation of ideas, you know, and the group would then choose one of the alternatives or one of the options to solve a particular problem, and the decision would be either based on a majority or on a consensus.

So, people interact simultaneously, and arrive at a decision choice; they arrive at a solution. Now, group decision making involves the same steps as, you know, we have in individual decision making, like identification of a problem, searching for alternatives and options, evaluating the alternatives and choosing one of the alternatives.

But, the in the case of individual decision making, it is done by a person. But in the case of a group decision making, a lot of deliberation, a lot of discussion happens with respect to the problem, with respect to the alternatives, and with respect to selection of one of the options and so, decisions are either based on a majority or on a consensus. And this process is not a fixed process, it is a very dynamic process. There are large number of people involved in decision making. It is a group decision making; so large number of people. People come from different backgrounds. Age-wise, they may be different. They differ with respect to age. They differ with respect to gender. They differ with respect to socio-economic, cultural backgrounds. They differ with respect to their experiences, their knowledge levels, their literary levels, their educational background and so many other things. And so, people come with their views and their diverse opinions; they have diverse perspectives and orientations. And so, the process is a very complex process; and the events and relationships are very complex, very dynamic, continuous and flexible. And there are a series of interactions, series of, you know, interactive processes, very sequential in nature to be able to finally arrive at a solution, which is either based on a majority or on a consensus.

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**Group Decision Making Techniques**

**Interacting Group**

- An interacting group is one in which people interact verbally and non-verbally with each other, generally face-to-face. Now of course, it is moving towards online interactions: **ELECTRONIC Meetings**.
- During interaction, individual members may be pressurized for conformity of opinion.

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So, there are certain group decision making techniques, which we will be discussing. The first is an interacting group. Now, an interacting group technique is one in which people interact verbally and non-verbally with each other, generally face-to-face. Of course, now, it is moving towards online interaction. So, we also have electronic meetings, and during this interaction, individual members share their ideas, share their opinions. They come forward with different perspectives to the problem. They bring to the discussion table, a large number of alternatives, options; large number of options, large number of alternatives to be evaluated and then, you know, there is huge amount of discussion, huge amount of deliberation and decision choices made. Now, during interaction, it may so, happen that individual members are pressurized for conformity of opinion so that they can actually arrive at a decision.

This is particularly so, when, you know, there are divergent views on the problem, and there is huge amount of discussion and debate, with respect to the alternatives under consideration and the best alternative. So, in this case, individual members may be pressurized for conformity of opinion.

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**Brainstorming**

- The group leader or a moderator, shares the problem with the group.
- People deliberate and discuss the problem, and the alternatives.
- Open-discussion is encouraged so as to generate as many alternatives as possible.
- No criticism is allowed; one idea leads to another, till an agreement is reached.
- People are not pressurized for conformity.


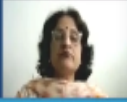
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The second technique is Brainstorming. Now, in brainstorming, the group leader or the moderator shares the problem with the group. People deliberate and discuss the problem, and the different alternatives and options. Open discussion is encouraged so that maximum options can be generated; so that maximum alternatives can be generated. So, open discussion is encouraged, so as to generate as many alternatives as possible. No criticism is required. One person speaks and presents his idea; that idea leads to another; he stops; another speaks, so that it leads to another idea; and this keeps on happening, and things keep on getting discussed till an agreement is reached, but no criticism is allowed. And people are not pressurized for conformity. In fact, while people are brainstorming, there are a large number of alternative getting generated; there are a large number of views, you know, a person presents his views, and building on that, another person presents his views, and another person presents his views. So, there is huge amount of open discussion that happens; a large number of alternatives are generated, and finally, after discussion and deliberation, an agreement is reached.

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**Nominal Group Technique**

- People meet face-to-face, but interpersonal communication is restricted.
- Referred to as a “paper group”, it is a group in name only as no verbal exchange is allowed.
- People pool in their individual judgments independently, in a systematic manner.
- The technique does not stifle independent thinking and judgments.


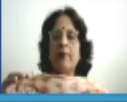



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The third technique is called a Nominal Group Technique. People meet face-to-face, but interpersonal communication is restricted. It is in fact, referred to as a paper group. It is a ‘group’ in name only, as no verbal exchange is allowed. So, it is referred to as a paper group. Why? Because it is a group in name only, as no verbal exchange is allowed. You cannot talk to the other person. People pool in their, you know, their understanding of a problem and their perspective, and their individual judgment independently in a systematic manner. And because the verbal exchange is not allowed, you know, the technique does not stifle independent thinking and judgment. People are noting down their own views about a problem, and they are generating their own alternatives, their own options, and they are writing it down on a paper.

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- The group leader/moderator shares the problem with the group.
- People independently write down their ideas; there is a silent generation of ideas in writing.
- Everyone is asked to present their ideas one by one.
- Feedback is taken from group members who record each idea on a flip chart or blackboard.
- Ideas are discussed for clarification and evaluation.
- Every member must prioritize the ideas by rank-ordering.
- Individual voting on priority ideas.
- The idea that gets the highest rank is chosen; solution is arrived at through rank ordering or rating.

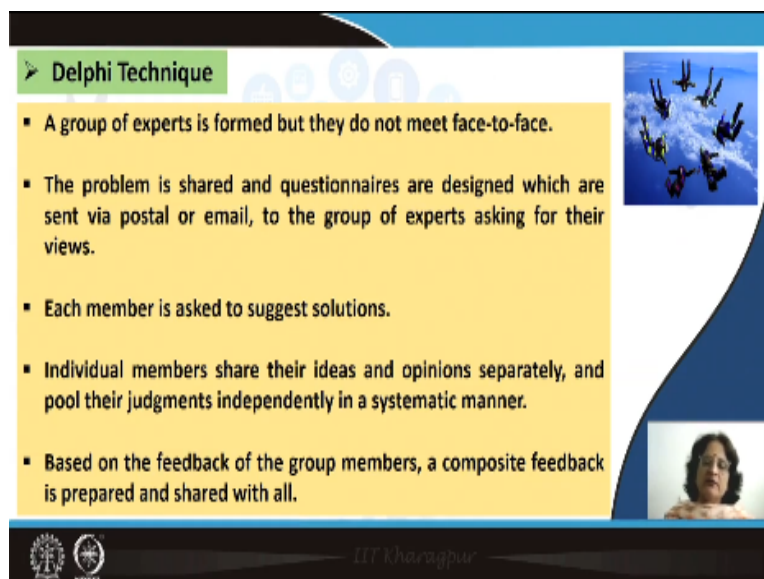
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And once they are done with it, they are asked to present their ideas one by one. So, the group leader, or the moderator shares the problem with the group. People independently write down their ideas. So, there is a silent generation of ideas. So, you know, once the group leader or the moderator shares the problem with the group, people or the group members make note of the problem. They start writing and making notes about their understanding of the problem, about the various alternatives or the options. they feel that they can be that can be considered. And so, they write down their ideas, and there is silent generation. No verbal exchange is allowed. And so, this process does not stifle individual thinking at all. After some time, people are asked to present their ideas one by one, and one while they are presenting their ideas, again nobody is allowed to talk.

So, person A will present his ideas, and person B presents his ideas; feedback is taken from the group members who record each idea on a flip chart or on a blackboard. After the process is over, the ideas are discussed for clarification and evaluation. Every member must prioritize the ideas by rank ordering; and individual voting on priority ideas is done. The idea that gets the highest rank is chosen.

So, a solution is arrived at through rank ordering or through rating. So, in this way, people meet face-to-face, but interpersonal communication is absolutely restricted. And it is a 'group' in name only, as no verbal exchange is allowed. So, we also refer to it as a 'paper group'. People pool in their individual judgments independently in a systematic manner. Ideas are discussed for clarification and evaluation. Every member must prioritize the ideas by rank ordering, and individual voting on priority ideas is done, and the idea that gets the highest rank is chosen. So, a solution is arrived at through rank ordering or through rating.

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**Delphi Technique**

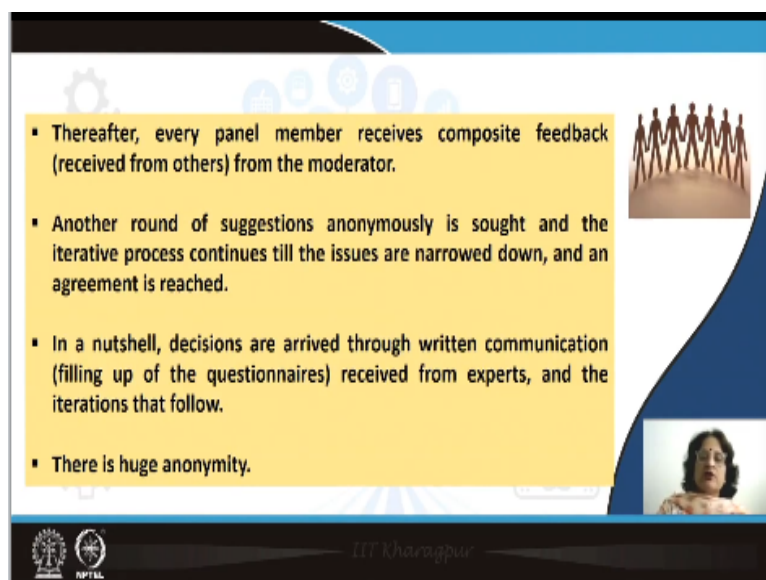
- A group of experts is formed but they do not meet face-to-face.
- The problem is shared and questionnaires are designed which are sent via postal or email, to the group of experts asking for their views.
- Each member is asked to suggest solutions.
- Individual members share their ideas and opinions separately, and pool their judgments independently in a systematic manner.
- Based on the feedback of the group members, a composite feedback is prepared and shared with all.

The slide features a blue header with the title 'Delphi Technique' in a green box. The main content is on a yellow background with five bullet points. To the right, there is a circular image of people in a circle and a small video inset of a woman speaking. The footer contains the IIT Kharagpur and NPTEL logos.



The fourth technique that we have is the Delphi technique. Now, in the case of Delphi, a group of experts is formed but they do not meet face-to-face. The problem is shared, you know, by the group leader or the moderator, through questionnaires, and these questionnaires are designed which are sent via postal mail or by email to the group of experts asking for their views. Each member is asked to suggest solutions. Individual members share their ideas and opinions separately, and pool their judgments independently in a systematic way. And based on the feedback of the group members, the composite feedback is prepared and shared with everybody. So, the group of experts is identified. They do not meet face-to-face. The group leader or the moderator shares the problem with the group of experts and, you know, through the questionnaire, and seeks their opinion and seeks their advice, through the questionnaires, and these questionnaires are either sent by post or by email. Each member is asked to give their solutions to the problem. Each member is asked to give their views on the problem and provide solutions. So, individual members share their ideas and opinions separately, and they pool their judgments in an independent manner. And based on the feedback of the group member, the moderator or the group member will prepare a composite feedback, and share it again with the people. So, based on the feedback of the experts, based on the feedback of the virtual group members or the experts, a composite feedback is prepared by the moderator or by the group leader, and it is shared by the with the experts again as a second iteration.

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- Thereafter, every panel member receives composite feedback (received from others) from the moderator.
- Another round of suggestions anonymously is sought and the iterative process continues till the issues are narrowed down, and an agreement is reached.
- In a nutshell, decisions are arrived through written communication (filling up of the questionnaires) received from experts, and the iterations that follow.
- There is huge anonymity.

So, again every panel member would receive a composite feedback which he has received from others, from the moderator, and another round of suggestions or another iterated process goes on, and the iterative process continues till the issues are narrowed down,



and an agreement is reached. So, in a nutshell, decisions are arrived through written communication, which is filling up the questionnaire, which is received from the experts and kind of iterations that follow, and there is huge amount of anonymity.

So, group of experts is identified. The moderator or the group leader, will share the problem with these experts through email, or through post and send them a questionnaire, and ask them to, you know, suggest a solution and give their views through the questionnaire. The questionnaire is sent back to the moderator who compiles the feedback, and shares it with the group members again and again, asks them for their opinions. And so, this iterated process continues till the issues are narrowed down and an agreement is reached. So, decisions are arrived through written communication received from the experts, and through the series of various iterations, and there is huge amount of anonymity.

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**Individual Decision Making Versus Group Decision Making**

➤ **Advantages of Group Decision Making:**

- More information and knowledge can be pooled together.
- Brainstorming can result in a broad range of views.
- Consensus and participative decision making lead to increased acceptance of a solution/decision, and greater commitment for implementation. It results in greater satisfaction.

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Now, these are the different techniques of group decision making.

Now, we come to, you know, contrasting individual decision making with group decision making. So, we will discuss the advantages of group decision making, and the disadvantages of group decision making, and then we will see what is it that makes decisions more effective and efficient.

So, advantages of group decision making is that because there are a large number of people, there is more information and knowledge that can be pulled together. Brainstorming can result in a broad range of views you know; diverse perspectives can be obtained, and consensus and participative decision making lead to an increased, you know, acceptance of the solution or of the decision, and greater commitment, you know, for the implementation of the same.

So, because people are participative in the decision making process or in the problem solving process, and because they have arrived at a consensus, there is an increased acceptance of the decision, or increased acceptance of the solution, and greater commitment for implementation. So, this leads to satisfaction of the people, of the workforce, of the group members, because it is they who have reached the solution, and it is they who have arrived at a solution. So, they will be more committed to implement the same, more committed to, you know, towards implementation of the decision and so, it results in greater satisfaction.

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**Disadvantages of Group Decision Making:**

- Few members actively participate, and other remain passive. There is a tendency towards domination by the few.
- There arise conflicting views which often leads to pressures to conform.
- There is diffusion of responsibility.
- Decision making can be time-consuming.

Group think and risky shift

The slide features a diagram of a group with one central figure and four surrounding figures, and a small video inset of a woman speaking.

What are the disadvantages of group decision making? Now, you know, it is seen that very few members actively participate, and others remain passive. So, there is always a tendency in the group to be dominated by a few people who are active or who are outspoken. Some people do not speak at all. They remain passive and they do not get a chance to voice their opinion, either because of their personality trait of being introvert, or because they do not want to participate actively. And because of this, you know, there is a tendency that the discussion gets dominated by a few.

Also, another disadvantage of group decision making is that conflicting views may arise which may lead to conflict and, you know, amongst the group members, and they may be pressures to conform and comply.

Also, when decisions are taken in a group, there is a diffusion of responsibility. So, nobody wants to take responsibility if something goes wrong, and there is a diffusion and of course, in the case of groups, decision making can be time consuming, because getting people on the discussion forum or discussion table, and then going through huge amount of discussion and, you know, deliberation can be time-consuming.

We have something called a groupthink and risky shift, which are again problems with respect to group decision making, which we shall discuss now.

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**Groupthink and Group shift**

**Groupthink**

- Groupthink is a phenomenon in which the desire to reach a consensus predominates a realistic appraisal of alternatives.
- It is an inclination of a cohesive group to bring individual thinking in line with that of the group; such group pressures for conformity stifle minority, novel, unpopular and critically assessed views.
- In other words, reaching an agreement becomes more important than arriving at a well-thought-out sound decision.
- It is also called the leveling effect.

So, talking about groupthink and group shift, we also call it risky shift. So, you have groupthink. Now, groupthink is a phenomenon in which the desire to reach a consensus predominates the realistic appraisal of the different alternatives or of the different options. So, it is an inclination of a cohesive group, to bring individual thinking in line with the thinking of the group.

So, such group pressures for conformity will stifle minority, novel, unpopular and critically, you know, assessed views. So, you know, so what happens is reaching an agreement, becomes more important than arriving at a well-thought out decision. So, we also call it the levelling effect. Now, what happens here is that, you know, people have diverse opinions, diverse views, and while they are discussing, you know, they realize that it is either getting dominated by a few, or they are losing out on time. So, very often people resort to groupthink. I repeat, when people deliberate or discuss in a group, there are diverse views, there are diverse perspectives. Now, we see that sometimes the discussion gets dominated by a few, and there is a lot of time which is getting consumed. So, for an easy way out and to, you know, reach out a solution in an amicable manner, or with lesser amount of time wasted on the discussion, or spent on the discussion, people you know, try to bring individual thinking in line with that of the group. So, while there are few dominating ones, who are presenting their views, even one person who has something different to this to propose; but this person who has something different to propose is gradually made to think in line with the others in the group; think in line with the other dominating members in the group. So, it

stifles individual thinking. So, the desire to reach a consensus predominates a realistic appraisal. It may so be that the person this individual who has been thinking out of the box, or thinking differently, may have actually proposed something which is a very, you know, practical solution or is a very good option to choose from, you know, is one of the best solutions to the problem, but because he has been thinking differently and he is 1 or 2 people, , you know, vis a vis the majority thinking. So, what happens? There is a tendency of the majority in the group to bring individual thinking in line with the group thinking. So, the idea or the solution proposed by this individual, may just get stifled because, you know, the tendency of the group will be to bring this individual thinking in line with the group thinking and this individual or one or two of such people may be pressurized for conformity. So, conformity to the decision taken by the other group members or by the dominating group member. So, groupthink is a phenomenon in which the desire to reach a consensus, predominates a realistic appraisal of the alternative so it is an inclination of a cohesive group to bring individual thinking in line with that of the group. So, such group pressures for conformity will stifle a minority view. This person who had a good idea, his idea gets stifled. This person had a novel idea that gets stifled. So, in other words, reaching out on an agreement by the majority, becomes more important than arriving at a well-thought off idea even if that idea was just proposed by one person and supported by maybe or one or two other people. So, we also call it the levelling effect.

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**Groupthink and Group shift**

**Groupthink**

- Groupthink is a phenomenon in which the desire to reach a consensus predominates a realistic appraisal of alternatives.
- It is an inclination of a cohesive group to bring individual thinking in line with that of the group; such group pressures for conformity stifle minority, novel, unpopular and critically assessed views.
- In other words, reaching an agreement becomes more important than arriving at a well-thought-out sound decision.
- It is also called the leveling effect.

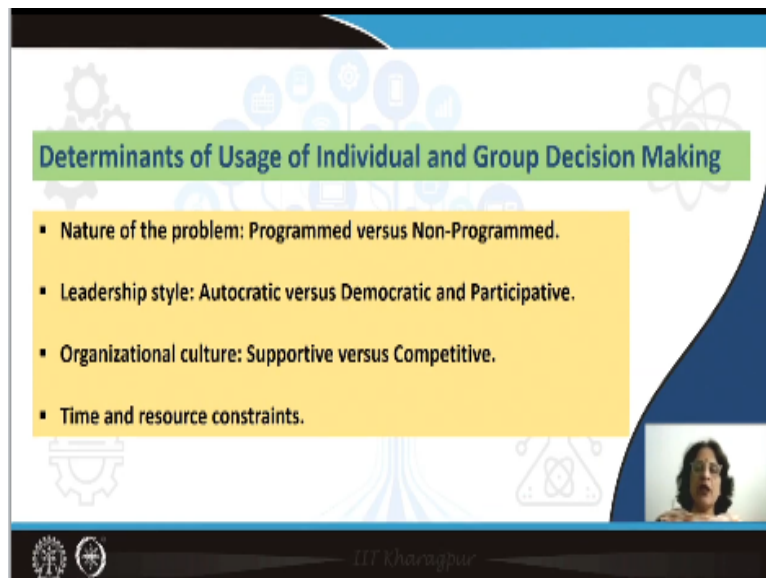
The next, we come to is Group shift. Now, group shift is a phenomenon in which a change in the amount of risk taken is witnessed between a group decision and an individual decision, and it can be either towards conservatism or towards greater risk. This is because in

case of failure, the responsibility can be diffused across members of a group. So, in most cases, people are willing to take risks as a group, rather than individually.

When it comes to individual decision making, they may not be ready to take that kind of risk which they are ready to take when they have to operate in a group, or when they have to decide as a group. So, there is a change in the amount of risk taken between a group decision, and an individual decision, and it can be either towards conservatism, or towards greater risk. So, why does this happen?

This happens because in case of a failure or a wrong decision, you know, the blame can be, you know, diffused across everybody. The responsibility for the failure or a wrong choice can be diffused among all the members of the group. So, in most cases, people are willing to take risks as a group rather than as individually. We also call this as risky shift.

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**Determinants of Usage of Individual and Group Decision Making**

- Nature of the problem: Programmed versus Non-Programmed.
- Leadership style: Autocratic versus Democratic and Participative.
- Organizational culture: Supportive versus Competitive.
- Time and resource constraints.

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**Effectiveness and Efficiency of Group and Individual Decision Making**

- **Accuracy:**  
Group decisions are found to be more accurate as compared to individual decision making.
- **Speed of decision making**  
Individual decision making is faster as compared to group decision making.

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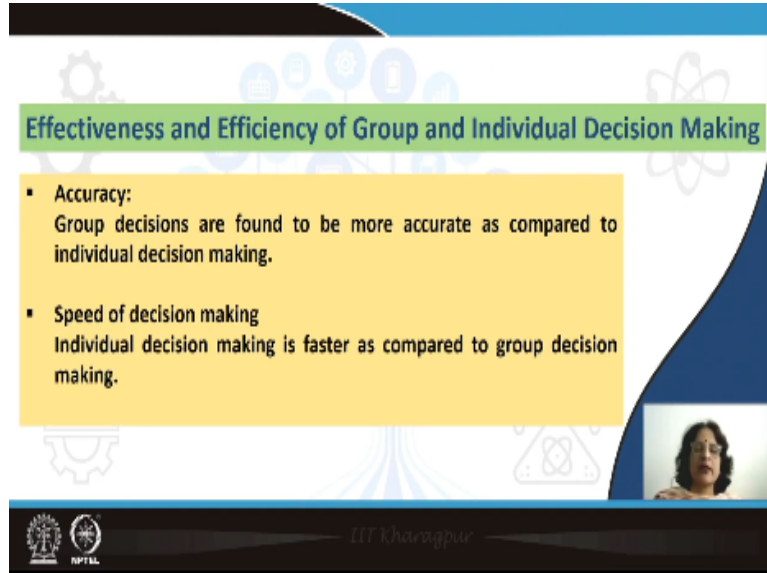
Now, what are the determinants of usage of individual, you know, individual decisions or group decisions. So, what are the determinants of usage of individual and group decisions? So, one, it depends upon the nature of the problem. Is the problem a programmed problem or a non-programmed one? Naturally, in case of programmed decision making, standard operating procedures are already there in the organization. Problem is clear, well-defined, repetitive, routine, and so, individual decision making can be resorted to but in case the problem is a non-programmed one, a complex, non-routine, a new, novel, for which there are no precedents, or standard operating procedures do not exist - in that case, such problems may be handled, or maybe dealt with through group decision making. So, both individual and group decision making, you know, are relevant. In the case of programmed decision making, individual decision making may be resorted to, but in the case of non-programmed decision making, the organizations would rely on, or the team or the group, would rely on group decision making.

Second is leadership style - autocratic versus democratic and participative. So, depending upon the organizational culture and the leadership style that is followed, you know, autocratic, you know, organizations would be inclined towards using individual and/or group decision making techniques. When it is more of an autocratic style that exists in organizations, decisions will be individual. On the other hand, when the culture is more towards democratic and participative, decision making or democratic and participative leadership styles, in that case, group decision making would be adopted.

Again the third determinant is organizational culture - a supportive culture versus competitive culture, and finally, the time and resource constraints.

So, all of these four determinants will actually help us in deciding which of the techniques of decision making should be used - should individual decision making be emphasized upon, or group decision making be used.

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The slide features a green header with the title "Effectiveness and Efficiency of Group and Individual Decision Making". Below the header, a yellow box contains two bullet points. The first bullet point, "Accuracy:", states that group decisions are more accurate than individual ones. The second bullet point, "Speed of decision making", states that individual decision making is faster than group decision making. A small video inset in the bottom right corner shows a woman speaking. The slide footer includes the IIT Kharagpur logo and name.

- **Accuracy:**  
Group decisions are found to be more accurate as compared to individual decision making.
- **Speed of decision making**  
Individual decision making is faster as compared to group decision making.

Coming through the effectiveness and efficiency of group and individual decision making, the first is accuracy. So, group decisions are found to be more accurate as compared to individual decisions, because when it is group decision making, there are large number of people involved, and there is a greater pool of knowledge, and huge amount of discussion, deliberation; people can discuss wide and divergent views, and then they arrive at a decision, either on majority or on consensus. So, these decisions have been found to be more accurate.

Second is speed of decision making. Of course, individual decision making is faster as compared to group decision making, because in group decision making, there is a huge amount of discussion, deliberation which would mean that a lot of time gets consumed and so, individual decision making is faster, as compared to group decision making.

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▪ Creativity:  
Group decisions are more creative in comparison to individual decisions.

▪ Degree of acceptance:  
The degree of acceptance of a solution by employees is higher in the case of group decision making.

All of the above, make a decision more effective,  
but effectiveness also necessitates efficiency.  
In terms of efficiency, individuals are more efficient as decision makers.

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Creativity. Group decisions are more creative, again because there are a number of people in the group, they come up with their diverse ideas; many of them have novel ideas, and so creativity is higher in group decisions as compared to individual decisions.

Fourth is degree of acceptance. A degree of acceptance of a solution again is higher in the case of group decision making, because in case of group decision making, the solution is arrived at through deliberation and discussion amongst the group members followed by a majority vote or a consensus. And so, if people are a part of decision making, there is greater commitment on their part to accept the decision and implement the decision. So, the degree of acceptance of solution by employees is higher in the case of group decision making.

Now, all of the above make a decision more effective, whether it is accuracy, whether it is creativity, whether it is degree of acceptance, whether it is speed.

So, all of them make a decision more effective, but effectiveness also necessitates efficiency, and in terms of efficiency, individuals are more efficient as decision makers. So, I repeat, whether it is accuracy, or whether it is, you know, speed of decisions, or creativity, or degree of acceptance - all of these make a decision more effective; but effectiveness also necessitates efficiency, and in terms of efficiency, individuals are more efficient as decision makers.

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**Organizational Decision Making Processes**

There are four types of organizational decision making processes:

- Management Science Approach
- Carnegie Model
- Incremental Decision Process Model
- Garbage Can Model

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Now, we come to the organizational decision making process and there are four types of organizational decision making processes. We have the Management Science Approach, the Carnegie Model, the Incremental Decision Process Model and the Garbage Can Model. So, we will be discussing each of these approaches, each of these processes subsequently. So, we first start with the Management Science Approach.

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**Management Science Approach**

- The Management Science Approach is equivalent to the rational approach of decision making by individual managers.
- It gained importance during the Second World War for military application, when quantitative techniques (mathematical and statistical) were used to solve military problems.
- Thereafter the approach was adopted by businesses for problem solving.

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Now, the Management Science Approach is equivalent to the Rational Approach of decision making of individual managers. Remember, when we did individual decision making, we spoke about the Rational Approach. So, the Management Science Approach is equivalent to the Rational Approach of decision making by individual managers. It gained importance during the Second World War for military application, when a large number of quantitative techniques, both mathematical and statistical quantitative techniques were used

to solve military problems. And thereafter, the approach was adopted by businesses, by organizations for problem solving.

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**Advantages:**

- Constructs and variables can be identified and measured, and problems are analyzed quantitatively.
- While the quantitative results that are derived can act as an input for decision making, there is also an element of the qualitative aspect; so it is a composite approach.

**Disadvantages:**

- Quantitative data ignores that part of knowledge which primarily deals with human experience and judgment; decisions based on pure quantitative data may not always be correct.

So, the advantages of the Management Science Approach are that the constructs and variables can be identified, can be measured, and problems can be analysed quantitatively. So, while the quantitative results that are derived can act, you know, as an input to decision making, there is also an element of the qualitative aspect. So, it is both qualitative and quantitative, and so, it is a composite approach. Disadvantages with a Management Science Approach is that the quantitative data, ignores that part of knowledge which primarily deals with human experience and human judgment, and decisions based on pure quantitative data may not always be feasible, or may not always be correct. So, this is the disadvantage of the Management Science Approach.

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**Carnegie Model**

- The Carnegie Model was proposed at the Carnegie-Mellon University. It is based on the works of Richard Cyert, James March, and Herbert Simon.
- The model is based on bounded rationality.
- According to the model, organization level decisions involve several people, and hence, management coalitions are needed.
- The final decision choice arrives out of a coalition among several managers.
  - Logic: "many heads are better than one".
- Coalition: A coalition is defined as an association among groups of people who have shared organizational goals and problem priorities.

*Dr. Khuram*

The next is the Carnegie Model. Now, the Carnegie Model was proposed at the Carnegie-Mellon University. It is based on the works of Richard Cyert, James March and Herbert Simon, and the model is based on Bounded Rationality. If you remember when we discussed individual decision making, at that time, we mentioned about , you know, we spoke about Bounded Rationality and we said that all decisions may not be entirely logical as full facts and figures may not be available; people have limited cognitive capacities and capabilities; and so, decisions may not be purely and purely rational and logical and so, that gives importance to what we refer to as the concept of Bounded Rationality wherein decisions are based not only on facts and figures, but they are also based on, you know, intuition, gut feeling, past experiences and judgments. So, the Carnegie Model actually is based on the Bounded Rationality model which we discussed during individual decision making.

And according to the model, organizational level decisions involve several people and so, management coalitions are required, and the final decision arrives out of a coalition among several managers, the logic being that many heads are better than the one. So, you know, in one of my previous sessions, I spoke to you about coalitions also, and a coalition here is defined as an association among groups of people who have shared organizational goals and priorities. So, in the case of the Carnegie Model, the final decision choice arises out of a coalition among several managers, and the coalition is actually an association among group of people who have shared organizational goals and problem priorities.

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**Effects of a Coalition Formation**

- **SATISFICING:** Organizations tend to accept a “satisfactory” solution, rather than an optimum one.
- **PROBLEMATIC SEARCH:** This pertains to the immediate environment, with the aim of solving a problem quickly. The emphasis is upon speed rather than on perfection.
  - The search for solutions is restricted to producing a satisfactory solution acceptable to all; a satisfactory solution emerges.
  - Conflicting goals at the organizational and departmental levels may require negotiation (bargaining), so that problems can be identified and prioritized for solution.

IT Khargpur

So, what are the effects of a coalition formation. First is satisficing. Now, organizations tend to accept a satisfactory solution rather than an optimum one. If you recall, when we discussed the concept of Bounded Rationality in individual decision making, we said that individuals may not have access to full facts and figures, or they may not have access to the entire information, and they also are limited with respect to their cognitive capacities and thinking abilities. And so, an optimal solution may not be arrived at all the time, and people may not be able to reach an optimal solution all the time, and what they look for is a workable, reasonable, satisficing solution. So, organizations tend to accept a satisfactory solution, rather than an optimum one.

The second is problematic search. Now, problematic search pertains to the immediate environment with the objective of solving a problem quickly. So, the emphasis is upon speed, rather than upon, you know, perfection, and people are more driven towards solving a problem quickly. So, the focus is on the speed. Now, the search for solutions is restricted to producing a satisfactory solution, a reasonable solution, which can be acceptable to all and so, a satisfactory solution emerges. Conflicting goals at the department level, or the organization level, may require some kind of a negotiation so that problems can be identified for discussion, and can be prioritized for the solution.

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**Elements in the Carnegie Model**

- **UNCERTAINTY:**  
Manager face uncertainty: Limited information; Constraints.
- **CONFLICT:**  
Managers have diverse goals, opinions, values, and experience.

Uncertainty and Conflict lead to Coalition formation.

- **COALITION FORMATION:**  
Managers jointly discuss. They understand goals, share thoughts and opinions, prioritize problems, gain social support, and arrive at solutions.

Coalition formation leads to Search for information.

Now, the elements in the Carnegie Model are 1, uncertainty; 2, conflict; 3, coalition formation; 4, search for information; and 5, satisficing.

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- **SEARCH FOR INFORMATION:**  
A simple search of information is conducted. Already existing procedures are used, and a solution is arrived at.

Search for information leads to Satisficing.

- **SATISFICING:**  
Managers adopt the first option that is acceptable to all comprising the coalition.

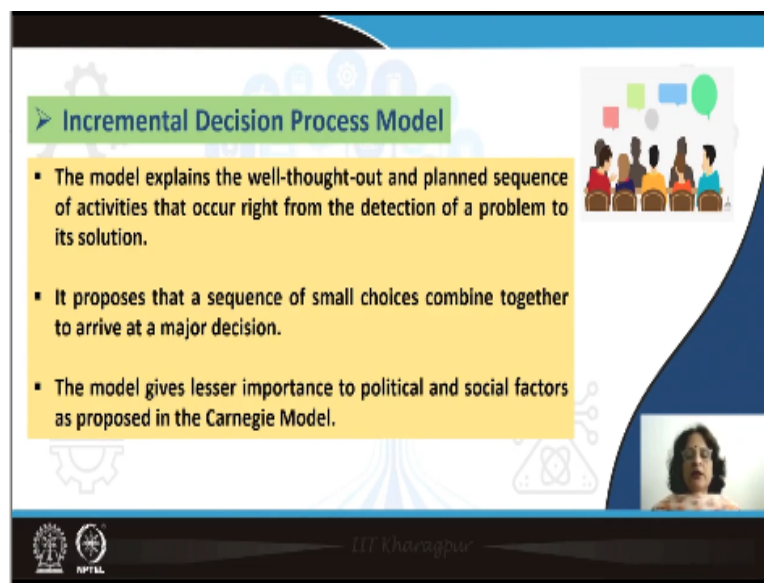
So, we will discuss each of these now. First is uncertainty. So, managers face uncertainty. There is limited information. They have their constraints of time, and of money, and of other resources. The second is conflict. Managers have diverse goals, views, opinions, values and experience. So, uncertainty and conflict lead to coalition formation. Now, coalition formation is the third element where managers jointly discuss. They form a coalition; they jointly discuss; they understand the goals; they share the thoughts and opinions, prioritize problems, they gain support, and arrive at solutions. So, the coalition formation leads to search for information. Now, the search for information here, meaning a simple search for information is conducted. Already existing procedures are used, and a



solution is arrived that. So, the search for information leads to satisficing, and satisficing here, is that managers adopt the first solution that is acceptable to all, comprising the coalition. So, we start with uncertainty and conflict which leads to coalition formation. Coalition formation leads to search for information and search for information, leads to satisficing, which is when managers adopt the first option that is acceptable to all comprising the coalition.

So, this particular model, the Carnegie Model which was proposed at the Carnegie-Mellon University, is actually based on Bounded Rationality and so, it believes that organizational level decisions involve several people and so, coalitions are required, and final decisions arise out of a coalition amongst several managers. Both uncertainty and conflict lead to coalition formation. Coalition formation leads to search for information, and search for information, leads to a satisficing decision, satisficing solution. So, managers adopt the first option, that is acceptable to all members in the coalition.

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The slide features a green header with the title 'Incremental Decision Process Model'. Below the title is a yellow box containing three bullet points. To the right of the text is an illustration of a group of people sitting at a table. At the bottom right of the slide, there is a small video inset showing a woman speaking. The slide also includes logos for IIT Kharagpur and NPTEL at the bottom left.

- The model explains the well-thought-out and planned sequence of activities that occur right from the detection of a problem to its solution.
- It proposes that a sequence of small choices combine together to arrive at a major decision.
- The model gives lesser importance to political and social factors as proposed in the Carnegie Model.

The third model which we talk off is the Incremental Decision Process Model. Now, the model explains a very well-thought out planned sequence of activities which starts from the identification of a problem to the solution. So, it proposes that a sequence of small choices combines together to arrive at a major decision and the model gives lesser importance to political and social factors as proposed in the Carnegie Model.

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- Rather than evaluating all the possible choices/alternatives and selecting one as is the case in the rational model, the Incremental Model lays emphasis on the sequence of incremental changes.
- The model proposes that organizations move through several decision points, and face barriers in the path, which are called decision interrupts.
- A decision interrupt means that organization has to go into a reverse gear, and go back through a previous decision and try something different.
- In case of relatively stable environments, the model is highly suitable.

Now, rather than evaluating all the possible options, all the possible alternatives, and selecting one, as proposed by the Rational Model, the Incremental Model plays emphasis on a sequence of incremental changes. So, small changes, small decisions, leading to a major one. So, the model proposes that organizations move through several decision points, and they face barriers in the path, and these barriers are referred to as decision interrupts. So, a decision interrupt means that the organization, you know, has to go reverse gear, and then go back to a previous decision and try something new. In cases of relatively stable environments, this model is highly suitable. Now, see what we are talking of is that unlike the Rational Approach, which said that identify all alternatives and choose one, and that alternative will help you solve a problem, the Incremental Model talks about a sequence of incremental changes. So, it basically means a sequence of small choices, combining together to arrive at a major decision. Now, in order to solve a bigger problem, some small steps are taken. As those steps are being taken, there may be a barrier; this is a decision interrupt. So, as the barrier or the obstacle comes in, the manager may have to take a reverse gear, go back, think differently, do the same thing again, and then move forward.

As he moves forward, again, there may be an obstacle or a barrier. This again becomes a decision interrupt. So, he comes back, thinks differently, takes another small decision, moves forward. So, a decision interrupt means that the organization has to go in the reverse gear. So, the model proposes that organizations move through different decision points - small, small, small decisions are taken. As they begin to implement those decisions, they get barriers in the path. This is a decision interrupt. Decision interrupt would mean the person would have to go one step back, and again try out something different. And then go

forward, as he moves a little forward, he may face another barrier, and then you will have to take a step back again.

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This slide, titled 'According to the model, that there are three major decision phases:', details the first two phases. The 'Identification phase (Recognition and Diagnosis of the problem)' includes 'Recognition' (managers become aware of a problem and seek a solution) and 'Diagnosis' (gathering information to define the problem). The 'Development phase (Searching, Screening and Designing alternatives)' includes 'Search' (finding options within the organization's database), 'Screen' (screening options), and 'Design' (arriving at a solution step-by-step if no precedent exists). The slide features a yellow background for the text, a silhouette of a head with question marks, and a small video inset of a woman.

- According to the model, that there are three major decision phases:
  - Identification phase (Recognition and Diagnosis of the problem)
    - ✓ Recognition: Managers become aware that there exists a problem and that they must look for a solution (a decision).
    - ✓ Diagnosis: Additional information is gathered so that the problem situation can be defined.
  - Development phase (Searching, Screening and Designing alternatives)
    - ✓ Search: There is a search for options/alternatives within the organization's database of solutions.
    - ✓ Screen: This involves screening of options.
    - ✓ Design: If there is no precedent and the problem has arisen for the first time, then a solution has to be arrived at, step-by-step, incrementally.

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This slide details the 'Selection phase (Evaluation, Choosing among alternatives)'. It states that this is the stage when a solution is arrived at and that the choice involves a customized solution rather than one among several alternatives. It lists three sub-phases: 'Judgment (evaluation – choice): single decision maker', 'Analysis (evaluation)', and 'Bargaining (evaluation – choice): several decision makers either as persons or as a group of people'. It also notes that 'Authorization: when a decision is accepted, authorization by someone higher in the organization is done'. The slide features a yellow background for the text, a silhouette of a head with various icons, and a small video inset of a woman.

- Selection phase (Evaluation, Choosing among alternatives)
  - This is the stage when a solution is arrived at.
  - The choice involves a customized solution and not one which is a solution amongst several other alternatives.
- Judgment (evaluation – choice): single decision maker
- Analysis (evaluation)
- Bargaining (evaluation – choice): several decision makers either as persons or as a group of people
- Authorization: when a decision is accepted, authorization by someone higher in the organization is done

So, according to the model, there are three major decision phases - the identification phase, the development phase and the selection phase. And when we talk of the identification phase, it is the recognition and diagnosis of the problem; the recognition here meaning that the managers become aware that there exists a problem, and that they must look for a solution to the problem; So, this is the recognition. The diagnosis is that additional information is gathered, so that the problems situation can be better defined. So, you have the identification phase, which is recognition of the problem and the diagnosis of the problem; recognition here meaning the manager becomes aware that there is a problem and so a solution is needed. The

diagnosis here is with respect to the fact that additional information must be gathered, so that the problem can be defined.

The second step is the development phase. In the development phase, we are talking about searching of alternatives, screening of alternatives and designing. So, search is that there is a search for alternatives within the organizations database of solutions, in case there are precedents. Screening means it involves screening of options and design; if there is no precedent and the problem has arisen for the first time, then a solution has to be devised; a solution has to be arrived at step-by-step incrementally.

The third phase is the selection phase, which is evaluation and choosing among alternatives. So, this is the stage when the final solution is arrived at, and the choice involves a customized solution, and not one which is the solution amongst several other alternatives. It has to be typically customized to suit the needs of the hour or to suit the nature of the problem, or to solve the problem. So, you have the three phases - identification phase which is recognition of the problem and diagnosis of the problem; then you have this development phase, which is searching, screening and designing alternatives, when in the search stage, there is a search for options, alternatives within the organizations database; in the screening stage, there is a screening of options; and in the design stage, in case there is no precedent, then a solution has to be arrived at step-by-step; you have to design a solution, step-by-step incrementally, and the third stage which is the selection stage, you evaluate and choose amongst alternatives, and this is the stage when a final decision is made and the choice will involve a customized decision, a customized solution, and not something which is, you know, one amongst several alternatives. So, selection here could be as a judgment; could be as an analysis; could be as a bargaining, you know, in the way that, you know, the judgment here is something which pertains to, you know, a single decision maker. And analysis is when things are being evaluated. Bargaining is when there are several decision makers either as individuals or as groups, and they all must negotiate and arrive at a compromise, and reach a solution to the problem, or conclusion to the problem, and when once a decision is accepted, authorization is done by somebody higher in the organization.

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**Garbage Can Model**

- The Garbage Can model was proposed by Michael Cohen, James March and Johan Olsen.
- The model explains organizational decision making in situations of high uncertainty, as happens in a learning organization.

Dr. Kharegaur

So, this is what the Incremental Decision Process Model is.

Now, we move to the fourth model, which is the Garbage Can Model. Now, the Garbage Can Model was proposed by Cohen, March and Olsen. It was proposed by Michael Cohen, James March and Johan Olsen. And this model explains decision making in situations of high uncertainty, something which happens in most learning organizations.

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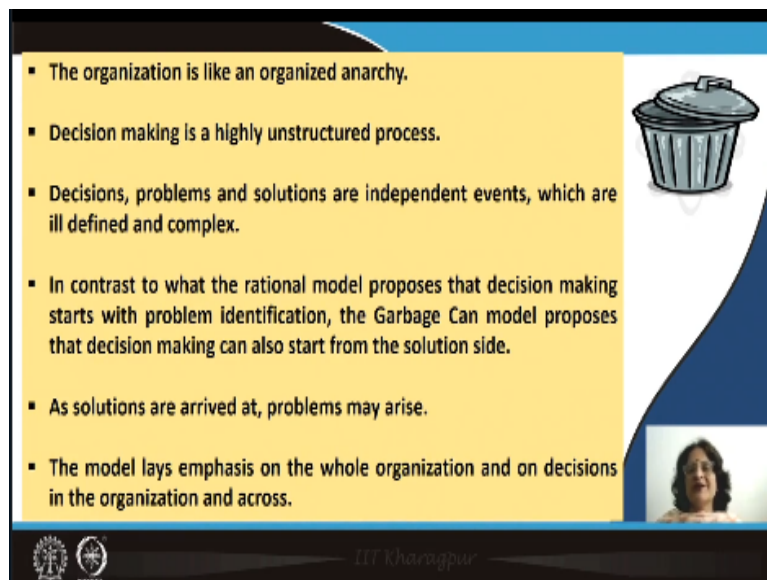
- The proponents termed the highly uncertain conditions as 'organized anarchy'. Such organized anarchies arise when problems, options/alternatives and solutions to the problems are ill-defined.
- According to the proponents, in case of organized anarchies, the standard vertical hierarchy of authority and bureaucratic decision rules is not followed.
- In the case of organized anarchy, there is vagueness at each step of the decision making process.
- Repertoire of decisions made in the past is not available.
- Cause-and-effect relationships are unclear.
- Employee turnover is high.
- Employees have limitation of time with respect to decision making and there is a limited participation in decision making.

So, the proponents of this theory - they term highly uncertain conditions, as organized anarchy and they say that such organized anarchies arise when problems, when alternatives and options to the problem are all ill-defined. So, according to the proponents of the theory in case of organized anarchies, the standard a vertical hierarchy of authority and bureaucratic decisions is not followed. So, in case of an organization anarchy, there is vagueness at every step in the decision making process. The record of past decisions is not available. Cause and

effect relationships with respect to the problem are not clear. Employee attrition rate is very high, and employees have limited time with respect to decision making, and there is very limited participation in decision making.

So, the Garbage Can Model, you know, was proposed for conditions of high uncertainty and the proponents of this theory termed highly uncertain conditions as organized anarchies, and such organized anarchies occur when the problems, as well as the alternatives or options to resolve the problem, are all ill-defined. So, according to the proponents, in case of such uncertain conditions, and in case of organized anarchy, the standard authority relationships always cannot work out. The standard vertical hierarchy of authority cannot or may not be workable, and bureaucratic decisions cannot be followed. So, in case of organized anarchies, there is a vagueness; there is ambiguity at each step of the decision making process because problems as well as the options and alternatives to solve the problem are all ill-defined; you know, past data is not available; a repertoire of decisions made in the past is not available. Cause-and-effect relationships with respect to the problem are not clear. Employee attrition rate is very high. And there is limitation of time with respect to decision making, and there is limited participation of people in decision making as well.

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The slide features a yellow background with a blue border. On the right side, there is a blue curved shape containing a trash can icon and a small video inset of a woman. The text is as follows:

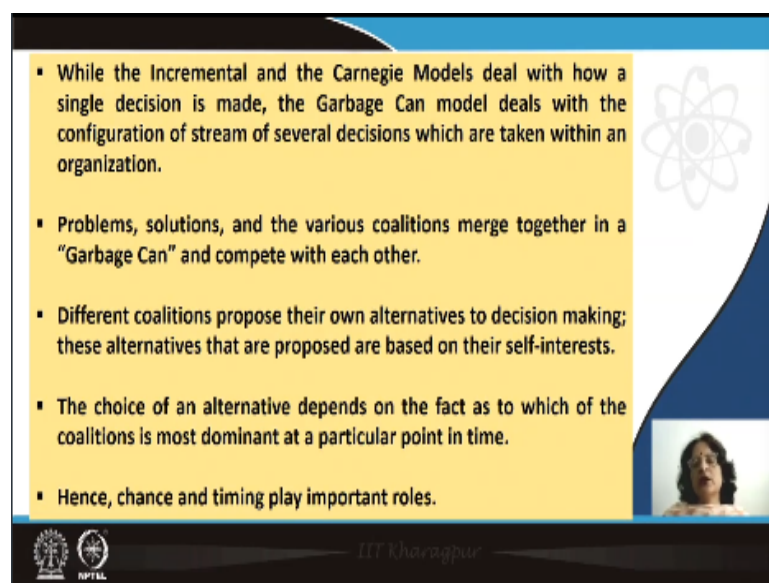
- The organization is like an organized anarchy.
- Decision making is a highly unstructured process.
- Decisions, problems and solutions are independent events, which are ill defined and complex.
- In contrast to what the rational model proposes that decision making starts with problem identification, the Garbage Can model proposes that decision making can also start from the solution side.
- As solutions are arrived at, problems may arise.
- The model lays emphasis on the whole organization and on decisions in the organization and across.

At the bottom left, there are logos for IIT Madras and IIT Chennai. At the bottom center, the text 'IIT Chennai' is visible.

So, the organization is like an organized anarchy. Decision making is highly unstructured. Problems, solutions are all independent events, vaguely defined, ill-defined complex. So, in contrast to what the Rational Model proposes that decision making starts with problem identification, the Garbage Can Model proposes that it can also start from the solution side, because everything is unclear; everything is vague; and as solutions are arrived at, problems may arise, further problems may arise. So, the model lays emphasis on the

whole organization and on decisions in the organization and across. So, because of conditions of high uncertainty, the organization is like an organized anarchy - ill-defined problems, vague, alternatives, ill-defined, you know, alternatives for problem solving, decisions problems, and solutions are all independent events very ill-defined and complex. And the decision making is highly unstructured, and in contrast to a Rational Model where, you know, problem is identified and then you move towards solution, in the Garbage Can, decision making can also start from the solution side. So, as solutions are arrived at, problems may further arise. So, the model lays emphasis on the entire organization, and all the decisions which take place in the organization and across.

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The slide features a yellow background with a blue header and footer. A white atom-like symbol is on the right side. A small video inset in the bottom right corner shows a woman speaking. The footer contains the IIT Kharagpur and NPTEL logos.

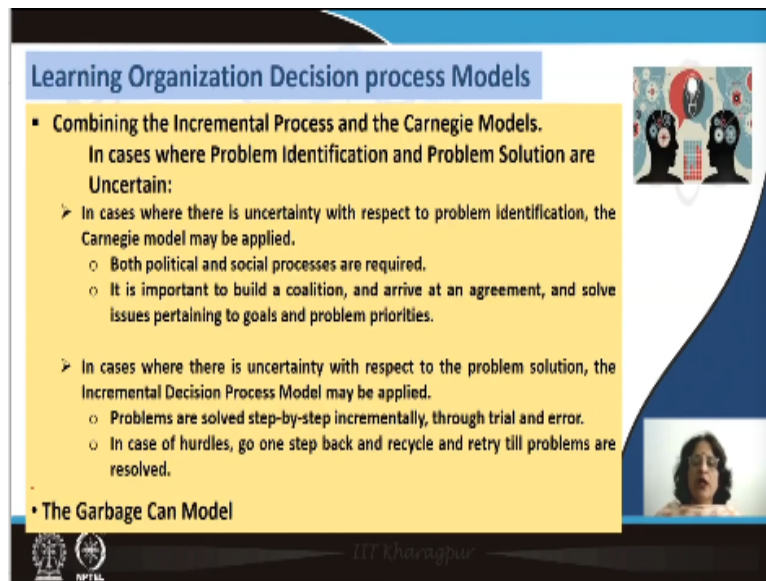
- While the Incremental and the Carnegie Models deal with how a single decision is made, the Garbage Can model deals with the configuration of stream of several decisions which are taken within an organization.
- Problems, solutions, and the various coalitions merge together in a "Garbage Can" and compete with each other.
- Different coalitions propose their own alternatives to decision making; these alternatives that are proposed are based on their self-interests.
- The choice of an alternative depends on the fact as to which of the coalitions is most dominant at a particular point in time.
- Hence, chance and timing play important roles.

So, while the Incremental and the Carnegie Model deal with how a single decision is made, the Garbage Can Model deals with a whole stream of several decisions; a configuration of stream of several decisions, which are taken in the organization, which is an organized anarchy. So, problem, solutions and various coalitions merge together in the Garbage Can. Different coalitions will propose their own alternatives to decision making, and these alternatives are based on the interests of the coalition. They are based on the self-interest of the coalitions, and the choice of an alternative depends upon the bargaining power of the coalition, which means that it depends upon the fact as to which of the coalitions is most dominant, most powerful at a particular point in time. So, chance and timing plays a very, very important role. So, your problems, your solutions, and the various coalition merge together in the Garbage Can.



They compete with each other. Different coalitions will propose their own alternatives to decision making. All of these alternatives which they propose are for solving this self-interest. And these alternatives that are proposed are based on self-interest, and the choice of the alternative will depend on the fact as to which of the coalition is most powerful at that point in time, most dominant at that point in time. So, chance and timing have a big role to play.

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**Learning Organization Decision process Models**

- **Combining the Incremental Process and the Carnegie Models.**  
In cases where Problem Identification and Problem Solution are Uncertain:
  - In cases where there is uncertainty with respect to problem identification, the Carnegie model may be applied.
    - Both political and social processes are required.
    - It is important to build a coalition, and arrive at an agreement, and solve issues pertaining to goals and problem priorities.
  - In cases where there is uncertainty with respect to the problem solution, the Incremental Decision Process Model may be applied.
    - Problems are solved step-by-step incrementally, through trial and error.
    - In case of hurdles, go one step back and recycle and retry till problems are resolved.
- **The Garbage Can Model**

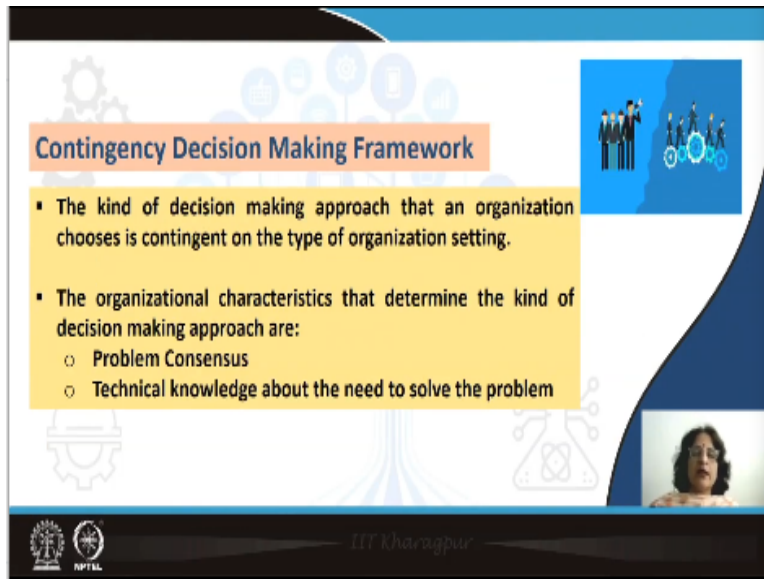
NPTEL

Now, coming to the Learning organization decision process modelling. So combining the Incremental process and the Carnegie Models, in cases where problem identification and problem solutions are uncertain, we will see what is workable. So, in cases where there is uncertainty with respect to problem identification, the Carnegie Model may be applied. Both political and social processes are required. And it is important to build a coalition and arrive at an agreement, and solve problems pertaining to goals and to problem priorities.

So, in cases where there is uncertainty, with respect to problem identification, the Carnegie Model is used. In cases where there is uncertainty with respect to the problem solution, the Incremental Decision Process Model may be applied, which talks about problem solution as a step-by-step process. So, problems are solved step-by-step incrementally, and through trial and error, and in case of an obstacle, or in case of hurdles, you know, it involves going one step back, and then recycling or re-planning, and retrying till the problem gets resolved. And then of course, learning organization also involves the Garbage Can Model. As we just said that learning organizations operate in huge amount of uncertainty, and so, the Garbage Can Model can be immensely useful.

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**Contingency Decision Making Framework**

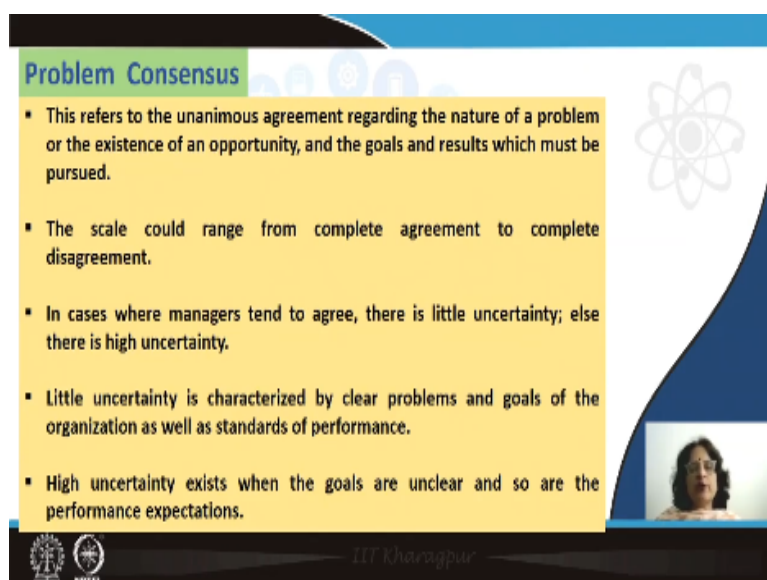
- The kind of decision making approach that an organization chooses is contingent on the type of organization setting.
- The organizational characteristics that determine the kind of decision making approach are:
  - Problem Consensus
  - Technical knowledge about the need to solve the problem

IIT Kharagpur

Finally, we come to a Contingency decision making framework. So, the kind of decision making approach that an organization chooses is contingent on the type of organization setting, and organizational characteristics that determine what kind of decision making approach must be used depends upon two things - problem consensus and technical knowledge about the need to solve a problem.

So, what we are trying to say is that while all kinds of decision making approaches have their advantages and have their disadvantages, the kind of approach that an organization chooses is contingent upon the type of organizational setting, and organizational characteristics which determine the kind of approach to be used will depend upon two things - one is problem consensus, and other is technical knowledge about the need to solve a problem.

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**Problem Consensus**

- This refers to the unanimous agreement regarding the nature of a problem or the existence of an opportunity, and the goals and results which must be pursued.
- The scale could range from complete agreement to complete disagreement.
- In cases where managers tend to agree, there is little uncertainty; else there is high uncertainty.
- Little uncertainty is characterized by clear problems and goals of the organization as well as standards of performance.
- High uncertainty exists when the goals are unclear and so are the performance expectations.

IIT Kharagpur

So, when we talk about problem consensus, it refers to the unanimous agreement regarding the nature of the problem or the existence of an opportunity, and the goals and results which must be pursued. The scale could range from complete agreement to complete disagreement. In cases where managers tend to agree, there is little uncertainty. In cases where managers tend to disagree, there is huge uncertainty.

So, in cases where managers tend to agree, there is little uncertainty; else there is high uncertainty; and little uncertainty is characterized by clear problems and goals of the organization, as well as the standards of performance. And high uncertainty exists, is characterized by unclear problems and goals, and unclear performance expectations. So, the first determinant is problem consensus. It refers to the unanimous agreement regarding the nature of the problem and/or the existence of the opportunity, and the goals and results that must be pursued. There could be complete agreement or complete disagreement. In cases where managers agree, there is little uncertainty; in cases where they do not agree, there is a high amount of uncertainty. And little uncertainty is characterized by clarity of problems and goals, as well as standards of performance, and high sensitivity is characterized by ambiguity and vagueness with respect to problems and goals, and as well as performance expectations.

**(Refer Slide Time: 51:42)**

The slide features a blue and white background with various icons including gears, a lightbulb, a network diagram, and a chemical flask. A green header box contains the title 'Technical Knowledge about Solutions'. Below it, a yellow box contains two bullet points. A small video inset in the bottom right corner shows a woman speaking. The bottom of the slide has a black bar with logos on the left and the text 'IIT Madras' in the center.

### Technical Knowledge about Solutions

- This deals with understanding and agreeing about the manner in which problems can be solved.
- Once this is done, suitable options/alternatives can be recognized within some degree of certainty. Else there is uncertainty.

The second is technical knowledge about solutions. So, this deals with understanding and agreeing about the manner in which problems need to be resolved. Once this is done, you know, appropriate or suitable options or alternatives can be recognized with some amount of certainty; else, there will be uncertainty. So, technical knowledge about solutions deals with, you know, understanding and agreeing about the manner in which the problems need to be

resolved. And once this is done, suitable options and alternatives can be identified with some degree of certainty; otherwise there will be uncertainty.

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a) When problem consensus is certain, and solution knowledge is certain:

- At an individual level: Decision making must be Rational.
- At the organization level: Decision making may be based on the Management Science approach.

b) When problem consensus is certain, and solution knowledge is uncertain:

- At an individual level: Decision making must be based on Judgment, and Trial and error.
- At the organization level: Decision making may be based on the Incremental Decisions Process Model.

So, when the problem consensus is certain and solution knowledge is certain; when the problem consensus is certain, and solution knowledge is certain, at the individual level, decision making must be rational, but at the organization level, decision making may be based on the Management Science Approach. So, when the problem consensus is certain and the solution knowledge is certain, decision making may be rational at the individual level, and decision making must be based on the Management Science Approach at the organizational level. When the problem consensus is certain, and the solution knowledge is uncertain so, at the individual level, decision making must be based on Judgment; must be based on Trial and error. At the organization level, it may be based on the Incremental Decision Process Model. So, when problem consensus is certain and solution knowledge is uncertain, a decision making maybe based on Judgment and Trial and error if it is at the individual level, and it must be based on the Incremental Decision Process Model, if it is at the organization level. When the problem consensus is uncertain, and the solution knowledge is certain, so, decision making must be via bargaining and coalition formation at the individual level, and it must be based on the Carnegie Model at the organization level. Again I repeat, when the problem consensus is uncertain and solution knowledge is certain so, at the individual level, decision making may be via Bargaining and Coalition formation, but at the organization level is based on the Carnegie Model. And when the problem consensus is uncertain and solution knowledge is also uncertain, in that case, at the individual level, decision making will be based on Bargaining, Judgment and Imitation. And at the

organizational level, it may be based on the Learning organization, the Carnegie and the Incremental Decision Process Model evolving to the Garbage Can. So, when both problem consensus and solution knowledge is uncertain, so decision making may be based on Bargaining, Judgment and Imitation at the individual level, and on the Learning organization, which is the Carnegie, and the Incremental Decision Process Model evolving to the Garbage Can in case of the at the organizational level.

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**REFERENCES**

- Rawatshappa, K. (2014). *Organizational Behaviour: Text, Cases, Games*. Himalaya Publishing House, Mumbai.
- Cohen, M. D., March, J. G., & Olsen, J. P. (1972). A Garbage Can Model of Organizational Choice. *Administrative Science Quarterly*, 17(1).
- Cyert, R. and J.G. March (1963). *A Behavioral Theory of the Firm*, Second edition (1992), Oxford: Blackwell.
- Delbecq, A. L.; VandeVen, A. H. (1971). "A Group Process Model for Problem Identification and Program Planning". *Journal of Applied Behavioral Science*, 7: 466-91.
- Greenberg, J. (2013). *Behavior in Organizations*, Tenth Edition, Prentice Hall of India, Delhi.
- Norman, D., and Olof, H. (1963). "An Experimental Application of the Delphi Method to the use of experts". *Management Science*, 9 (8): 458-467.
- Luthans, F. (2011). *Organizational Behavior: An Evidence-based Approach*, Published by McGraw-Hill/Irwin, Twelfth edition, New York.
- Mintzberg, H., Raisinghani, D.; Theoret, A. (1976). The Structure of "Unstructured" Decision Processes. *Administrative Science Quarterly*, 21(2):246-275.
- Praasad, L.M. (2020). *Principles and Practice of Management*, Sultan Chand & Sons, Delhi.
- Robbins, S.P. and Judge T.A. (2017). *Organizational Behavior*, Seventeenth edition, Pearson Education UK.
- Robbins, S.P., Judge T.A. and Vohra, N. (2018). *Organizational Behavior*, Eighteenth edition, Pearson Education India.

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**CONCLUSION**

This brings us to an end of the fourth lecture on the topic "Decision Making".

We shall continue with the topic in the next lecture.

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So, with this, I come to an end of this lecture. We shall continue with the topic in the next lecture. Thank you.