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Group decision-making through Cognition, Conviction, Collaboration, Confrontation and Action-Participation

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Abstract

When social groups try to solve problems affecting their community, when they get to the process of making decisions, it is possible that conflicts arise, for which their perspectives and alternatives of solutions takes diverse approaches.

A methodology created to help to minimize these conflicts that arise in the moment of choosing possible alternatives of solution before problems of the communities is Cognition (Knowledge), Conviction, Collaboration, Confrontation and Action-Participation (4C-AP).

The 4C-AP, gathers some premises from other techniques of group decision making such as: Nominal group, Brains storms, The Delphi technique, Didactic interaction, Collective Negotiation, between others. Taking aspects of each of them it presents its five essential steps that it is to take to the group of decision for the stages of Cognition (Knowledge) of the problem, Conviction about possible alternatives, Collaboration in the construction of a better alternative, Confrontation as for promoting the best alternative and Action-Participation, in the sense that any decisions making process must lead to action.

This 4C-AP technique does not need any type of previous knowledge about decision making, for which it represents an important alternative to be applied in communities of low economic income, in order to choose alternatives of solution for the problems that normally affect them.

From everything previous the goal of this work arises: To show across a hypothetical case as the technique Cognition (Knowledge), Conviction, Collaboration, Confrontation and Action-Participation (4C-AP), can be used to search for alternatives of solution to problems that affect social groups of scarce resources.

Keywords: Social problems, 4C-AP, Group decision making.

1. Introduction.

When social groups try to solve problems affecting their community, when they get to the process of making decisions, it is possible that conflicts arise, for which their perspectives and alternatives of solutions takes diverse approaches.

A methodology created to help to minimize these conflicts that arise in the moment of choosing possible alternatives of solutions before problems of the communities is Cognition (Knowledge), Conviction, Collaboration, Confrontation and Action-Participation (4C-AP).

The 4C-AP, gathers some premises from traditional techniques of group decision making such as: Nominal group, Brains storms, The Delphi technique, Didactic interaction, Collective Negotiation, between others. Taking aspects of each of them it presents its five essential steps that it is to take to the group of decision for the stages of Cognition (Knowledge) of the problem, Conviction about possible alternatives, Collaboration in the construction of a better alternative, Confrontation as for promoting the best alternative and Action-Participation, in the sense that any decisions making process must lead to action.

This 4C-AP technique does not need any type of previous knowledge about decision making, for which it represents an important alternative to be applied in communities of low economic income, in order to choose alternatives of solution for the problems that affect them normally.

From everything previous the goal of this work arises: To show across a hypothetical case as the technique Cognition (Knowledge), Conviction, Collaboration, Confrontation and Action-Participation (4C-AP), can be used to search for alternatives of solution to problems that affect social groups of scarce resources.

To achieve this objective the scientific method apply to operations research its follow (Hernández y García, 2003; 2006), where the problem is first define, as it was done when establishing the objective, next data was gathered, which consisted in collecting information about group decision making methods

Then we move on to define alternatives, which on this case centred in which they would be the phases of the method, these alternatives were analyzed and those that allow a consented result were selected.

With the selection of the best alternative, that is to say the model to follow according to the different phases, the desired result was achieve, which in accordance with the methodology implies to follow the step of the implantation of the selected alternative, that is to say there was created a methodology that allows to improve the action-participation in a social group that acts as decision maker, before a problem of the community that it is analyzing.

For the last stage of the methodology, establishing controls, hypothetical presentations of stages were conducted, which allow concluding that the created method is appropriate to improve group decision making.

As a limitation we have that the developed methodology must be easy to understand and to implement, so that any social group, even those whose members do not have a high

academic preparation, be able to implement it without major disadvantages. In turn this limitation defines the scope of the work, which is to produce a methodology to improve group decision making useful for the social groups that integrate communities of low economic resources.

2. Group Decision Making.

In relation to the traditional techniques for group decision making, one of the textbooks that better treats this subjects is Moody (1990), which has become a classic on the topic, from there, a big part of the information that will be exhibited next is extracted, as well as from another textbook (León, 2001).

But when one speaks about group decisions, it is thought about a group, debating ideas, some opposite to others, on the topic to decide, as indicated in another textbook, Huber (1984), nevertheless this image is not necessarily true, since in any case, the decision making can be done under specific techniques, as the Delphi method (Gordon (1994); León (2001); Linstone and Turoff (2002)), where intentionally the members of the group are separated, and coincide neither in space nor in time, equally there happen to be cases of group decision making, where the different members of the group are in turn other groups, since it could be the case of an investigation, particularly of market, where different groups are contributing the necessary information, which will contribute to the decision making.

Now, in the majority of the cases, with the participation of groups what is wanted is to improve the decision making, although they, the groups, can represent certain inconveniences and disadvantages such as (León, 2001): Conformity, tendency to face his responses towards the average of the group; Polarization, aptitude to assume joint risks, over the individual risks; Thought-group, excessive optimism and illusion that everything is going to come out well for the group; on top of the traditional difficulties, generally, from the structure of the group (Dessler, 1979), already be in its homogeneity or heterogeneity, or for the clearly dominating presence of some of its members.

But over these disadvantages, one hopes to increase the information and the experience about the problem, improve the implementation of the decision (Weiss, 1987), increase the cohesion of the group, or its motivation, as pointed out in (Moody, 1990), obtain greater responsibility, and even to help to develop the decision making capacity of each one of the group members, among other advantages.

Among traditional techniques for group decision making, taking them principally, as stated before, of León (2001) y Moody (1990), the following stand out:

2.1 Non-structured groups.

As indicated in León (2001), and as his name indicates they are the simplest groups, which do not follow any particular structure, they are content for the normal work meetings, where there usually no transcendental decisions are to be taken.

2.2 Nominal group.

The strength of the nominal group technique is that it gives everyone a voice in planning while minimizing opportunities for a few individual to dominate the process. This technique can accommodate large numbers of participants as well as small groups (Siegenthaler and Riley, 2002). A nominal group procedure can be use to validate results from the Delphi method (Brad et alt., 2001). Structured meetings are conducted, combining the individual work with group work, aiming at guiding the process in a way that all the members are involve equally, its principal steps can be summed up in:

- Preparation. - Writing of the object to be treated and conformation of the group, and between the recommendations (León, 2001), is dividing the group if it overcomes nine members.

- Generation of ideas. - This process is done in silence, without perturbations, and in writing, every member in individual form must write down his ideas. The biggest difficulty is to avoid the rupture of the silence, on the part of some members of the group.

- Round of ideas. - Minimizing the spontaneity, it continues a rigid order of presentation of each of the ideas, every member contributing only one idea at a time.

- Discussion in series. - At last the discussion, more or less freely, of the ideas its allowed, although it is necessary to maintain the rigidity, so that all the ideas of the group are discussed and understood.

- Preliminar vote. - Every individual creates five cards, with which he considers the best ideas, then it arranges them, and finally they are specified in global form.

- Discussion. - It end with a new discussion of the ideas that turned out to be more favoured, and is necessary a definitive voting, meditating only these.

2.3 Brainstorming.

Brainstorming may be the best-know tool for group idea generation (Isaksen and Gaulin, 2005). From the indicated by Moody (1990) the brainstorming is an excellent method to gather information, where there is freedom for ideas to arise, and is more effective when the problem appears in a simple and specific form, although it can consume a lot of time, especially valuing the ideas, his success is based principally on the following four rules (Isaksen and Gaulin, 2005; Moody 1990):

- Criticism is forbidden. - All the ideas must be exhibited before the evaluation of them begins.

- Outrageous ideas are welcome. - It is easier to adapt or to discard an idea than to generate it.

- Quantity is looked and not quality. - Between more ideas are presented, it is easier that a very good new idea arises.

- Interchange between ideas is encouraged. - Across feedback and later discussions, the original ideas can be modified, integrate or complement, in order to produce a better idea.

2.4 The “Sinética”.

Following Moody, (1990), it is possible to say that The “Sinética” is similar to brainstorming, but more formal, especially in its starting point, where the idea to treat is studied as thoroughly as it is possible. It needs therefore a major training of the team, and the presence of an expert, who is discarding the meaningless ideas, but that simultaneously constitute two big disadvantages, in compensation, it reduces the time of discussion, with regard to the brainstorming, just as by attacking the problem by segments it allows a deeper analysis.

2.5 Decisions by consensus.

Continuing with Moody, (1990), the Decisions by consensus are characterized for having many common points with other traditional techniques of group decision making, it starts from the conviction that the combined knowledge of the persons is more useful when searching for a consensus, where all the members of the group handle all the information and come to an agreement that satisfies all of them, even though an entire agreement is not obtained.

2.6 The fishbowl.

Equal to the previous technique (Moody, 1990), the fishbowl is a traditional technique of consensus that presents different forms, but in general line its common characteristics are:

- All the members of the group sit down around a central chair, which will be occupied by the person who in the respective moment is going to present new visions about the problem.

- The remaining members can never speak to each other, but only with the one who sits in the central chair, but they can rise to him questions and cross-questionings on aspects which were raised by another member either to have been in the chair or at any time.

- It ends when a proposition made by the member who in this moment is seated in the central chair is accepted, with show of hands, by all the members of the group.

2.7 The Delphi technique.

The Delphi method is most often used to determine priorities, set goals or establish future directions (Siegenthaler and Riley, 2002), but the Delphi method technique was also identified as appropriate method to obtain professional consensus (Brad, et al., 2001). As point out in Gordon (1994), León (2001) Linstone and Turoff (2002) and Moody (1990), as already mentioned previously, its not needed that the members of the group are in the same locality, it can be thought as an advanced opinion poll, where the polled ones are expert about the situation to resolve; in general takes the following steps:

- A questionnaire on a very concrete situation is prepared and provided to the different experts.

- All the information is compiled, tabulated and send in a comprehensive manner to each one of the experts at the same time they are asked for their opinion in light of the most relevant facts.

- The procedure is repeated while it is considered to be necessary (beneficial in regard to the resources invested) for obtaining a consensus on the issues of interest.

It is important to stand out that although it is based on experts' judgment, the Delphi method is based on the anonymity of its participants.

2.8 Didactic interaction.

For this technique, tells Moody, (1990), which is used for binary decisions, one usually assigns to a group to look for the pro, and to other to analyze the con of the situation, the groups meet and discuss the information, and after a prudential time, changes rolls, allowing to come this way to a consensus in a simpler way, when it is necessary to understand and to defend the position of other.

2.9 Collective negotiation.

Like many problems of game theory, it is base in a zero-sum interaction, what one wins, the other loses. Although it is very difficult to reach agreement by this method, Moody, (1990), proposes the implementation of the theory of needs, which consist in that at some prior time the problems to discuss are carried to the negotiating table, then for every aspect of the problem, each of the parties involved made three proposals and explains how the acceptance of this point meets the needs of both sides. It is expected that some of

the proposals are similar to both sides and this will enable consensus, without resorting to arbitration.

Although, as noted above, there are other techniques and some variants of the mentioned here, it is a sufficient frame of reference to move immediately to review the methodology of interest in this work: Cognition (Knowledge), Conviction, Collaboration, Confrontation and Action-Participation (4C-PA).

3. Cognition (Knowledge), Conviction, Collaboration, Confrontation and Action-Participation (4C-AP).

Although this methodology was not inspired, in direct form, in any of the methods previously mentioned, undoubtedly, elements that give its shape have been taken from almost all of them, as it will be seen as 4C-AP is described. In the development of the methodology, one speaks about the general group, about the binomial, about the mini-group and about the group of confrontation, about the team for the confrontation and about the participation-action group, which actually is an entire group.

First, before trying to clarify the Action-Participation and each one of the four C of the methodology, and what its roll is inside it, the meanings of each one of these terms given by the Dictionary of Spanish language (DRAE, 2001) and its translation to the English language are presented.

Participación-Acción. “Acción. (Del lat. actĭo). f. Ejercicio de la posibilidad de hacer. // 2. Resultado de hacer.” (DRAE, 2001, 14).

“Participación. (Del lat. Participatĭo). f. Acción y efecto de participar. (DRAE, 2001, 1145).

Action-Participation. Action.- The process of doing something, the exertion of energy or influence. (OAD, 1980).

Participate.- v. To have a share, to take part in something. n. Participation. (OAD, 1980).

“Colaboración. f. Acción y efecto de colaborar. ...” ... “Colaborar. (Del lat. Collaborāre). intr. Trabajar con otra u otras personas en la realización de una obra. ... 4. Contribuir (|| ayudar con otros al logro de algún fin).” (DRAE, 2001), p. 395.

Collaboration.- Collaborate.- To work in partnership (OAD, 1980).

“Confrontación. (De confrontar). f. Careo entre dos o más personas. ... 3. Acción de confrontar (|| ponerse una persona frente a otra).” (DRAE, 2001), p. 421.

Confrontation. Confront- 1. to be or come face to face with ... (OAD, 1980).

“Conocimiento. m. Acción y efecto de conocer.|| 2. Entendimiento inteligencia, razón natural. ... 7. pl. Noción, ciencia sabiduría ...” (DRAE, 2001), p. 424.

Cognition. (Knowledge). Cognition.- The act or process of perceiving or knowing. (OAD, 1980).

“Convencimiento. M. Acción y efecto de convencer.”, y “Convencer. (Del lat. Convincere). tr. Incitar, mover con razones a alguien a hacer algo o mudar de dictamen o de comportamiento. U.t.c. pml. || 2. Probar algo de manera que racionalmente no se pueda negar. U.t.c. pml.” (DRAE, 2001), p. 437.

Conviction. Convince.- To make (a person) feel certain that something is true. (OAD, 1980).

Known the meaning of each of the terms that form the methodology Cognition (Knowledge), Conviction, Collaboration, Confrontation and Action-Participation (4C-AP), each of the five terms roll inside the methodology will be clarified, illustrating how they turn into phases.

3.1 Cognition (Knowledge).

In this first phase, every member of the general group will work individually, just as the introduction in the nominal group technique, what is looked for is the understanding of the problem. For it, each of the members of the group in separated form will receive the statement of the problem to treat in a prudential time, it is not recommended bigger than seven minutes, must have a possible solution of it, with the maximum of details that is possible, which must note down in his personal sheet.

3.2 Conviction.

The second phase, will allow that every individual reinforce his idea, on trying to convince other(s), that his idea is adequate for the desired decision, but simultaneously, every individual, will receive information of other(s) member(s) from the general group, that will try to convince him, that their idea is the one that works. Although here it is asked them to declare if there was any conviction this is irrelevant, since the target is that each one affirms his idea, on trying to explain it, and enrich it, on having heard the expositions of other members of the group. Actually the majority of the time all the members of the general group must listen to another member, nevertheless, considering the number of members of the general group, as already will be analyzed in another work, it can be necessary, that he has to listen separately to more than one, but in any case, will never interact with any more than two. Equally, here one recommends a prudential time, not bigger than ten minutes, for the majority of the problems, in any case the entire time must split into equal parts between the different members of the binomial or trinomial, if it is the case.

3.3 Collaboration.

With one, or more members, as already was said, depending on the size of the entire group, different from that of the previous interaction, one will interact, but now looking for collaboration, that is to say, they will form mini-groups, where every individual reads, his idea and between the members of the mini-group a more finished idea is looked for, that prospers of everything listened till now, for each of them, in such way of having what will be called a winning idea, which will compete with the ideas of other mini-groups, with the intention of being the group that proposes the best idea. Each of these mini-groups turns into the team for the confrontation.

The reached idea must be written down, with the biggest possible detail, by each of the members of the mini-group, since this will be taken to the next phase, where it is necessary to compete for imposing the idea, to the remaining members of the different mini-groups.

For this activity, it is possible to dedicate a little more of time, nevertheless any more than twenty minutes are not recommended. The first part of this time must devote only to hear each of the ideas, and the second part to write the final idea.

3.4 Confrontation.

Whenever the possible one member of every mini-group or team is chosen for the confrontation, and they will form the different groups of confrontation, and every member of a team for the confrontation, must try to convince the remaining members of the group of confrontation, in which he is to take part, that the idea of his team is the best.

Before initiating the confrontation, it is warned them that in every group of confrontation there must be a voting, where the representative of a team for the confrontation must vote only for the remaining $n-1$ proposals, different from his, giving them $n-1$ points to the one he had like the best, $n-2$ to next and this way successively, until one point is assign to the one that he had less liked.

For which during this phase, every individual, must fight so that the proposal of his team for the confrontation is the winner, convincing the remaining members of the group of confrontation.

Equally here will be given a prudential time, not bigger than twenty minutes, where the first part is so that each one presents his idea, without being interrupted, the second stage for questions and responses and a third part for the final argumentation, once this is completed, it moves to the voting.

The team for the confrontation that gets the greater number of points of the different groups of confrontation will be the winning team.

3.5 Action-Participation.

Regardless of that in the previous stage a clear winner existed, or a tie, or a very closed voting, it passes to the last phase, where all members of the group promise to all the members of the general group to take part in the writing of the final idea, which is enriched by all the previous experience, but more important that the writing of the idea is the enumeration of the actions to continue and to define how will it be the participation of every one.

Since it was up to every member of the general group, in some moment, to defend his initial idea, and surely also to defend part of the ideas against which he competed, his understanding of the problem and his knowledge of the actions to continue, as well as the measurement which his future collaboration can be, must be sufficiently clear.

As every member of the group has understood his possible participation and that of the remaining members, it is hoped that it should go over to a better agreed solution, with a much deeper analysis, and with a great commitment of action-participation better adapted to the future reality.

4. Operation and field of application of the methodology (4C-AP).

The basic idea of how does the application of the method work can be visualized from the previous definition of each one of the terms, Cognition (Knowledge), Conviction, Collaboration, Confrontation and Action-Participation, there it was possible to see how and what is done in each one of the phases.

Having said that, the most important thing now is to see the scope of the methodology (4C-PA), where you can stress that their first major utility is to present ideas for solving social problems, because the method requires to have a better understanding of the problem to solve, and different ideas can be measured and integrate with other suggested solutions, up to coming, by consensus to a final answer, which contains the best solution.

But saying that we reach a consensual solution does not imply that it is formed by a single idea, quite the contrary, it may be the addition of several partial solutions, which are integrated in a natural way, in a macro solution, that manages to give a better answer to the problem.

Continuing with the scope, and although there is no doubt that generating solutions to problems will be its biggest application, the Cognition (Knowledge), Conviction, Collaboration, Confrontation and Action-Participation methodology, also presents a great help to analyse causes of problems and evaluate possible implementations of solutions, in those cases where the starting point would be to generate ideas about who may be causing a potential problem, and to generate ideas of what may be the most efficient way to

implement a certain solution already preselected to solve a particular problem, respectively.

Equally the methodology Cognition (Knowledge), Conviction, Collaboration, Confrontation and Action-Participation, can turn out to be an excellent tool to analyze the portfolio of projects or of problems, in order to evaluate which project or problem will be attack primarily, when the resources do not allow facing all of them simultaneously.

Before presenting a summary of the methodology that consists Cognition (Knowledge), Conviction, Collaboration, Confrontation and Action-Participation, which to simplify his name has been denoted 4C-AP, it's good to clarify that at all times when presenting the phases mention was made of certain lengths of time at each stage of the phase, it is important to emphasize that the values suggested there are a didactic exercise, and that in practice, the experience of the moderator, the problem in itself and the size of the group, will define those times.

As a summary, for any of the applications earlier suggested, or some other one that has not been presented here, the methodology would be:

- The moderator begins the phase of **Cognition (Knowledge)**, speaking on the situation, individually, or preferably collectively, to each member and providing some means so they could write their ideas. At this moment allowing questions regarding the problem itself, but not accepting comments regarding the ideas that each one is presenting, since it is necessary to work, so as not to disturb the later stages, individually and in secret.

- The binomials of discussion are form (in some cases it is possible that they are trinomials), and it passes to the phase of **Conviction**, emphasizing that each one must convince the other that his idea is what works best for the situation under review and should base their arguments mainly on how to achieve its objectives

- The moderator does the review of whom provided winning ideas, but independently that they did not existed, since none has allowed itself to be convince, it passes to the phase of **Collaboration**, forming the teams for the confrontation, to which they must instill a sense of belonging, and emphasizes that they are now a team that will compete to win, that the idea generated by them should be a compendium of everything they have discussed so far, then give instructions on how to operate, so that at the end every member of the team has written down in his respective way, the idea and all its components, and if possible a strategy of presentation.

- When the time of the collaboration phase is up, it comes the **Confrontation** phase, this one is usually the one that causes greater enthusiasm, as every member wishes to defend the colours of his team and take the victory, the moderator here must give the rules and emphasize that in the end there will be a vote where the other members of the group will be the ones who can vote for each of the ideas and not who presents it, who in turn must vote for ideas foreign to his own. When time runs out and the voting is done the scrutinies must take place, and the winning group must receive at least an ovation as a reward.

Before starting the **Action-Participation** phase, the moderator should soothe the moods and congratulate everyone for their participation, but insist that now come the most difficult work which is the work of the commitment and to prepare themselves to participate and carry out concrete actions.

It starts by drafting a general idea, as complete as possible, which does not necessarily have to match the winning idea, and it even can be that elements that were essential to it disappear completely, and it should be emphasized that given the rich experience that everyone has on the aspect being discussed the consensus must be achieved without major setbacks, where everyone will contribute aspects to be included; although it is not a general recommendation, depending on the difficulty of the group, it is possible to name a drafting committee and then they all take part in a discussion and final approval.

Having written the idea it is necessary to go on to the commitments stage, where every member of the general group must make clear which will be his participation expressed by the actions to follow, which must be measurable and be clearly scheduled in time, as should be clear the necessary resources and wherefrom and when would they come, for thus to achieve the desired result.

5. Conformation of the teams and groups in the methodology (4C-AP).

Although this article is not going to analyze possible variations depending on the number of participants, since that would constitute material for a forthcoming work, it is clear that the skill has no sense if they are less than three persons, since in the case of being two, only the first three stages could happen: Cognition (Knowledge), Conviction and Collaboration and with the aggravating circumstance that the one who it is trying to be convinced is immediately the collaborator. In practice, the minimum number necessary to apply the methodology will be six (6) individuals.

Equally it is also not recommended, because the different phases would become unmanageable, to apply it to groups larger than sixteen persons, although it is possible to extend it up to twenty, being this a maximum ceiling, which should be used only in cases of extreme necessity. If possible it is preferable to split the initial group to handle in every meeting between six and twelve individuals.

In case of more than six individuals and up to a maximum of twenty, which is considered the maximum desirable number that could participate, individuals will be organized in each phase to avoid repetition. Next, the figures 1, 2, 3 and 4 as an example show the arrangements to follow when the total number of participants is eight, where everyone is identified by a number, which is simply an indication to facilitate understanding but does not mean they can not be rotated with other numbers, provided that the rules previously established are respected.

Cognition (Knowledge) Phase.



Conviction Phase.

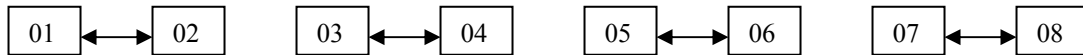


Figure 1. - Arrays for the Cognition (Knowledge) and Conviction phases with eight participants.

In Figure 1, at the Cognition (Knowledge) phase, each participant works on an individual basis and at the Conviction phase with a single partner.

Collaboration Phase.

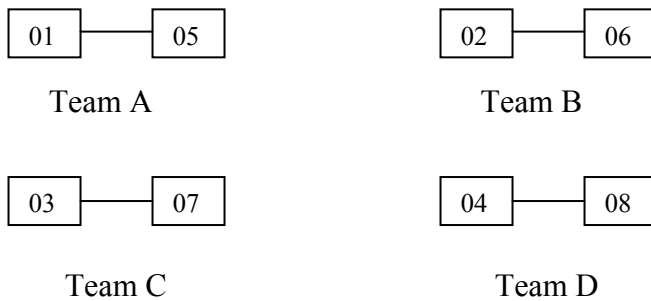


Figure 2. - Formation of teams at the Collaboration phase, for eight participants.

In Figure 2, at Collaboration phase two teams are form, each with four members, who will face individually a member of another team, at Confrontation phase, as shown in Figure 3.

Confrontation Phase.

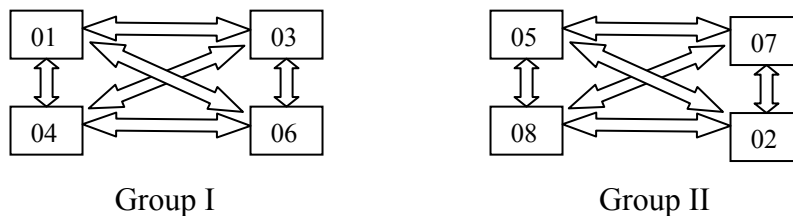


Figure 3. - Two groups for the Confrontation phase, with eight participants.

Once Confrontation phase has been completed, all members are group together as one team in the Action-Participation phase, working to achieve consensus (Figure 4).

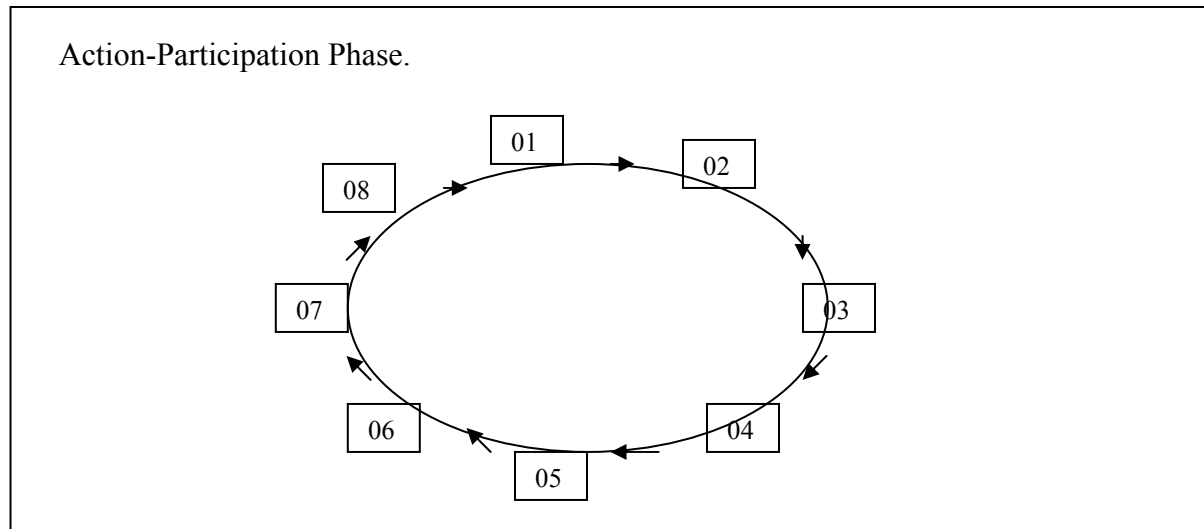


Figure 4. - Integration of the eight participants, during the Action-Participation phase.

As stated earlier, according to the number of participants, different arrangements will be made, but at all times in compliance with the five phases of the 4C-AP method, hence with the vision gained for eight participants we are able to obtain some general conclusions on the method.

6. Conclusions and Recommendations.

The first conclusion is the creation and presentation of the methodology Cognition (Knowledge), Conviction, Collaboration, Confrontation and Action-Participation, denoted for further simplification 4C-AP.

This method, 4C-AP, seems to have great potential for use in improving social decisions, especially when it is a question of obtaining consensus on solving a particular group problem, or to provide ideas about how to deal with a problematic situation.

Although in the methodology Cognition (Knowledge), Conviction, Collaboration, Confrontation and Action-Participation, you can see some elements which could also be found in some other methods of group decision-making, for the way of using them, and for the way of contemplating each of its phases, the methodology 4C-AP, becomes a totally new tool that could be a good complement to existing techniques.

The advantage that you can see in the 4C-AP method, compared to other methods or models of group decision-making, is that the participants are changing roles as it moves through the different phases of the model, and in some occasions they could be defending ideas to which they were opposed, which allows them to take a broader view of the situation and therefore generate more comprehensive and robust solutions, with a major commitment on the part of each of the participants.

Also, this need to play different roles while developing the different phases of the method has the advantage of making virtually all the participants work together in small groups, for which one manages to improve communication, especially in the final stage, when it must reach a consensual solution.

In addition, each participant, through the arguments he has put forward, or has disputed of other participants, must end quite clear of the necessary resources to implement the solution.

The above mentioned would allow him in the last phase to describe what his action-participation will be in view of what will be decide to do in the future, and acquire commitments that actually it could confront, thus ensuring a better and safer solution to the problem.

On the other hand, and with regard to the possible applications of the method, it was observed that it can be very useful, when it is a question of evaluating implementation of selected solutions, and for the choice of project portfolios, or portfolio of problems to solve, in situations of scarce resources, which is constant in the majority of the problems faced by social groups of lower income.

Moreover it is important to recommend that a study is made of how to implement the 4C-AP method, when they have numbers of participants, so that the interaction are maximize, without the different participants always shaping the same groups or teams.

Finally, it is recommended further deepening of the study of the methodology Cognition (Knowledge), Conviction, Collaboration, Confrontation and Action-Participation, making practical applications in different fields, which could broaden its scope and allow seeing how it is possible to carry out its best implementation.

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