Deciding within a competition
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Abstract
In this paper we describe the ways through which the competing sets $D_1$ and $D_2$ of decision makers can interact within a dialectic iterative decision process in two paradigmatic cases:

(1) where the members of $D_1$ present a project $p_1$ that the members of $D_2$ refuse contesting the presented costs set $C$/benefits set $B$ analysis;

(2) where the members of $D_1$ present a project $p_1$ whereas the members of $D_2$ present a competing project $p_2$ under the constraint that only one project can be implemented.

In the case (1) we propose an iterative procedure through which the members of $D_1$ and $D_2$ can negotiate both the composition of the set of (even non monetary) costs $C$ and the set of (even non monetary) benefits $B$ and the ways to share their elements. The aim of the members of $D_1$ is to have the project approved and that of the members of $D_2$ is to obtain the most as a compensation for approving the project. Both sets aim at getting the highest benefits and the lowest costs under the constraints represented by the sets $B$ and $C$.

In the case (2) we modify the preceding procedure so to allow the interplay between the two competing projects. Also in this case each project has its sets $B$ and $C$ that form the constraints of the decision process.

Both decision processes are characterized by a coarse grain phase during which the sets $B$ and $C$ are negotiated and agreed on and a fine grain phase during which the sharing of the elements of the two sets is negotiated between the members of $D_1$ and $D_2$. Such phases may be repeated until a satisfactory agreement is reached from $D_1$ and $D_2$ or both decide that no agreement is possible so that the final decision may depend from a third party arbitrator or from voting procedures such as a referendum.

The paper describes the roles of stakeholders $S$, experts $E$ and possibly mediators $M$ within the proposed iterative decision processes whose best outcome is the reaching of compromise solutions between the members of $D_1$ and $D_2$ with the help of $M$ and the involvement of $S$ ad $E$.

Bibliographic references