

Games with a Local Permission Structure: separation of authority and value generation

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Abstract

It is known that peer group games are a special class of games with a permission structure. However, peer group games are also a special class of (weighted) digraph games. To be specific, they are digraph games in which the digraph is the transitive closure of a rooted tree. In this paper we first argue that some known results on solutions for peer group games hold more general for digraph games. Second, we generalize both digraph games as well as games with a permission structure into a model called *games with a local permission structure*, where every player needs permission from its predecessors only in order to generate worth, but does not need its predecessors in order to give permission to its own successors. We introduce and axiomatize a Shapley value type solution for these games, generalizing the conjunctive permission value for games with a permission structure and the β -measure for weighted digraphs.