To add value to project performance and help obtain project success, a new framework for decision making in projects is defined. It introduces the project decision chain inspired by the supply chain thinking in the manufacturing sector and uses three types of decisions: authorization, selection, and plan decision. A primitive decision element is defined where all the three decision types can be accommodated. Each task in the primitive element can in itself contain subtasks that in turn will comprise new primitive elements. The primitive elements are nested together in a project decision chain.