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Time and Requisite Variety: Lessons from Project Management

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The law of requisite variety was first proposed by Ross Ashby in 1952. Usually it is described in a game theory context where a regulator must be able to cope with each state that the system being regulated can generate. Or, the regulator needs information to perform selection. For Ashby, time was a different dimension than variety. However, taking additional time, for example by extending a deadline, is one way to increase the capacity of a regulator. This strategy, so well-known to project managers, has rarely been discussed in the cybernetics literature. In contrast, much of the project management literature focuses on methods and strategies for completing projects within time, cost, and other constraints. Using examples from project management, this paper will describe how taking additional time increases the capacity of a regulator, but at a price.

A theoretical consequence of this discussion is improved understanding of the difference between cybernetics and behavioral science. Whereas in cybernetics time and requisite variety are different dimensions, in most social sciences behavior occurs in time. Hence, cybernetics lends itself to mathematical formulations while behavior can often be described in terms of stories.