

8.2: Mutually Exclusive vs. Independent Projects

Mutually Exclusive Projects

Mutually exclusive projects are any set of projects in which choosing one makes the other projects no longer possible. For example, we are considering upgrading our printing press and have the choice of two alternatives. The first is a low-cost model that will need replaced in 3-years and the second is a more expensive model that will need replaced in 5-years. We can only choose one of these options, so they are mutually exclusive. When we have mutually exclusive projects, our decision rule needs to not only decide if a project is good or bad, but needs to be able to rank which project is the best.

Independent Projects

Independent (sometimes called stand-alone) projects are any set of projects in which choosing one has no impact on our decision to choose another project from that set. For example, McBurger Inc. may have the following capital budgeting projects to consider. The first is a new deep frying system for their french fries. The second is a new order placement system for the drive-thru. McBurger could choose to take the new deep fryer or the new order placement, or it could choose both. Taking one project does not influence the other, so they are independent. When we have independent projects, our decision rule does not need to rank which project is the best, but merely identify if the project is good or bad.

Many decisions made by the firm are neither independent nor mutually exclusive, but are instead interdependent. In this case, the decision to take one project impacts our decision to take another, but they are not mutually exclusive. For example, VideogamesPlus may decide to introduce a new video game machine along with some games for the new system. The two projects are not independent (the game machine will sell better with more games available) nor mutually exclusive (producing the games does not preclude producing the game machine). However, they are interdependent in that each project will perform better if both are produced. Some interdependent projects are compliments (like the example above) in which the cash flows from both projects taken together are greater than the cash flows from each project on a standalone basis. Other interdependent projects are substitutes in which the cash flows from both projects taken together are less than the cash flows from each project on a standalone basis. While we will not be evaluating interdependent projects in this class, the procedure is to look at each project individually as well as in combination.

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