

In DynRisk a model is represented by a graphical structure called an “influence diagram”. An influence diagram consists of two types of objects: “nodes” and “edges”. The nodes represent the variables in the model, while the edges represent dependencies between these variables. In order to build a DynRisk model, it is necessary to understand the “data flow” through the model during the simulations.

The data flow is essentially determined by the edges in the model. If there is an edge going from, say node 1 to node 2, then there will be a data flow from node 1 to node 2 during the simulations. This also implies that node 1 has to be calculated before node 2 in each simulation. More generally there is a data flow from one node to another if there is a “directed path” of edges going from the first node to the second.

As the values flow through the model, they may be transformed and combined many times. Transformations may occur as values flow through the edges by the use of “edge functions”. Furthermore, values flowing into a node are combined using one or two “operators”.

As an example we consider a model consisting of three nodes, called “Activity 1”, “Activity 2”, and “Activity 3”. The nodes represent activities in a certain project, and the output values are the points of time when the activities finish. Activities 1 and 2 start at time zero, while Activity 3 starts as soon as both of the first two activities are finished.