

Figure 3. Arbitrarily selected, 5-node subset of the causal-loop diagram in figure 1. In this case, we have (a) four operational nodes or variables (blue) and (b) a single state-variable node (red) that represents, for example, a sustainability or system-performance index computed from several of the values of the operational variables.

	V1	V2	V3	V4	SV
V1	0	0	1	1	1
V2	0	0	1	1	0
V3	0	0	0	1	0
V4	1	1	0	0	1
SV	0	0	1	0	0

Figure 4. Directional connectivity matrix C(I,j) representing the causal-loop diagram in figure 3.



Figure 5. Decomposition of the whole-system CDL in figure 1 into internally commensurable layers corresponding to the TBL dimensions of sustainability. Also shown are causal linkages involving shared variables and transitional processes (purple) between otherwise incommensurable variables in different dimensions of sustainability.