
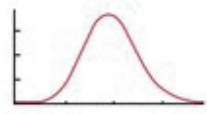

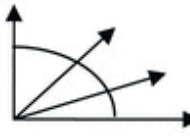
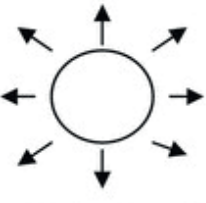


## 1.5 De onzekerheid levels van innovatiemanagement

Om de mate van onzekerheid te kunnen inschatten kan je de onzekerheid levels van Walker, Lempert en Kwakkel gebruiken. Dit is slechts een hulpmiddel om hier gevoel bij te krijgen. Het verschil tussen level 1 en 2 vs de andere levels maakt het echt spannend.

		LEVEL					
		Level 1	Level 2	Level 3	Level 4	Level 5	Total Ignorance
LOCATION	Context	A clear enough future 	Alternate futures (with probabilities) 	Alternate futures with ranking 	A multiplicity of plausible futures 	An unknown future 	
	System model	A single (deterministic) system model	A single (stochastic) system model	Several system models, one of which is most likely	Several system models, with different structures	Unknown system model; know we don't know	
	System outcomes	A point estimate for each outcome	A confidence interval for each outcome	Several sets of point estimates, ranked according to their perceived likelihood	A known range of outcomes	Unknown outcomes; know we don't know	
	Weights on outcomes	A single set of weights	Several sets of weights, with a probability attached to each set	Several sets of weights, ranked according to their perceived likelihood	A known range of weights	Unknown weights; know we don't know	

Reference for deep uncertainty: Walker W.E., Lempert R.J., Kwakkel J.H. (2013) Deep Uncertainty. In: Gass S.I., Fu M.C. (eds) Encyclopedia of Operations Research and Management Science. Springer, Boston, MA.  
[https://doi.org/10.1007/978-1-4419-1153-7\\_1140](https://doi.org/10.1007/978-1-4419-1153-7_1140)