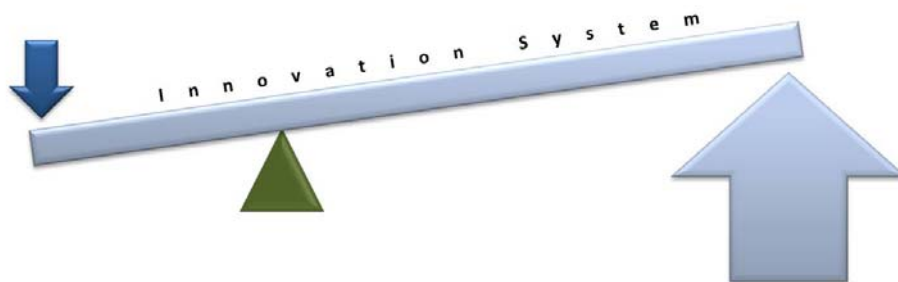


Leverage points¹

Leverage is the ratio of change in output to change in input. A **leverage point** is a place in a system where force can be applied. A **low leverage point** is a place in a system where a small amount of force causes a small change to system behavior. A **high leverage point** is a place in a system where a small amount of change force (the effort required to prepare and make a change) causes a large amount of predictable, favorable response. The formula for calculating leverage is:

$$\text{leverage} = \text{change in output} / \text{change in input}$$

Table 1: The leverage concept



As conceptually illustrated in the diagram, the choice of the correct high leverage point allows a small problem solving force to have a large effect on system behavior. This requires choosing the right lever and its application point. In a complex social system, leverage is the use of indirect force, rather than direct force.

An example of a low leverage point would be pushing on the side of a ship to change its course. This would require a large amount of force to have the intended effect. But if the high leverage point of pushing on the rudder is used instead, it takes only a small amount of force to achieve the same effect.

At a favorable high leverage point a small structural change to a system can cause the system to behave much more favorably. Only the use of the correct high leverage points can solve a

¹ www.thwink.org (2009)



difficult complex social system problem, because if a low leverage point is used, system resistance cannot be overcome.

For example, environmentalists have long been pushing on the low leverage point of [more of the truth](#). But they do not have enough force, in terms of numbers, influence, and wealth, to make pushing there work. Instead, they must find the high leverage points in the system and push there instead.

The concept of leverage points is so powerful that Peter Senge, in *The Fifth Discipline: The Art and Practice of the Learning Organization*, devotes an entire chapter to the subject. This chapter, titled The Principle of Leverage, opens with these words:

"The bottom line of [systems thinking](#) is leverage—seeing where actions and changes in structures can lead to significant, enduring improvements. Often leverage follows the principle of economy of means: where the best results come not from large-scale efforts but from small well-focused actions. Our nonsystematic ways of thinking are so damaging specifically because they consistently lead us to focus on low leverage changes: we focus on symptoms where the stress is greatest. We repair or ameliorate the symptoms. But such efforts only make matters better in the short run, at best, and worse in the long run.

"It's hard to disagree with the principle of leverage. But the leverage in most real-life systems, such as most organizations, is not obvious to most of the actors in those systems. They don't see the 'structures' underlying their actions."

Peter closes the chapter with this observation:

"The essence of mastering systems thinking as a management discipline lies in seeing patterns where others [see only events](#) and forces to react to."