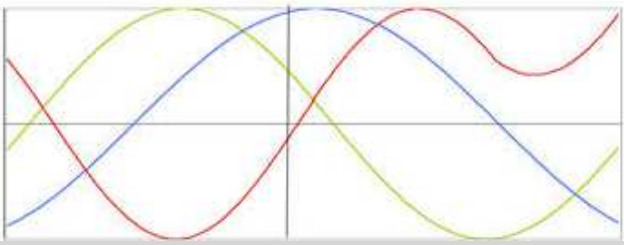


Generalized Problems with Metric-Based Incentive Plans

"The more any quantitative performance measure is used to determine a group or an individual's rewards and punishments, the more subject it will be to corruption pressures and the more apt it will be to distort and corrupt the action patterns and thoughts of the group or individual it is intended to monitor."

- Darley's Law

Businesses create incentive plans, e.g. stock option grants, to reward positive performance and to drive owner-like behavior. Yet, the human psyche is such that it can misinterpret signals from improperly framed plans, or worse, respond to such plans in subversive, even destructive ways. Poorly designed compensation and incentive plans are an under-appreciated operational risk facing today's corporations.

In 2001 the Risk Management Group (RMG) of the Basel Committee on Banking Supervision defined operational risk in a causal-based fashion: 'the risk of loss resulting from inadequate or failed internal processes, people and systems…'

Princeton psychology professor John Darley has described compensation and incentive programs as being 'criterial control systems'. We set criteria for people's performances, measure, and reward or punish according to a process or system. The general intent of criterial control systems is to develop calculations or, in the business vernacular, "metrics" of how individual contributions have helped the organization to reach corporate goals. By inference, the corporate goals are metrics like share price, earnings and market share, expecting that the company will be rewarded by "the market" for making goals and punished for not doing so. Such systems are designed to pay off those who make their numbers and punish those who do not.

Darley's Law, as it applies to incentive systems, has a cousin in Behavioral Finance called Prospect Theory. Daniel Kahneman and Amos Tversky started their research in the 1970's by investigating apparent anomalies and contradictions in human behavior around choice. Subjects when offered a choice formulated in one way might display risk-aversion but when offered essentially the same choice formulated in a different way might display risk-loving behavior.

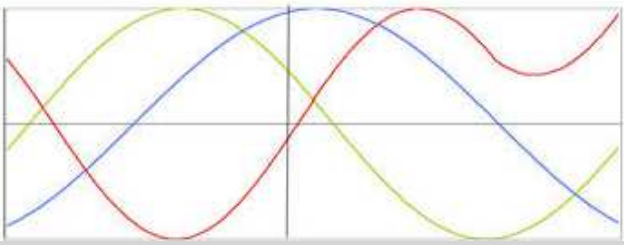
Incentive systems, simple or complicated, are based on objective measures upon which all parties agree, ex ante. Employers

Irrational Prospect Selection

Would you rather:

1. Take a bet in which you lose $4,000, 80% of the time and $0, 20% of the time, or
2. Take a bet in which you lose $3,000 every time

Despite the fact that the expected value of #1 is -$3,200 versus -$3,000 for #2, 92% of respondents asked this question chose #1.



formulate a choice and employees respond to the potential outcomes perceived and the risks with which they associate them.

The appeal for the employer of such systems is in the perception that they provide more predictable budgeting, they may make employees behave more like owners and they help to retain attractive human capital.

Such systems, though, may inadvertently attract a concentration of a certain type of human capital. Employees who are averse to subjective systems under which they perceive less control are more likely to be drawn to highly objective or criterial control systems. The cause of their preference may be related to a level of trust in organizations, or something deeper in the personality of the employee. Whatever the source, the more rigidity there is in a criterial control formula; the more tightly defined will be the personality attracted to it and the greater the potential impact of concentrated misalignment.

Tying this back to Prospect Theory and Darley's Law, if the behavior that an organization is seeking to stimulate through criteria-based incentives provides the employee with a choice in an 'incorrect' manner, the organization might be creating risk of which it is not aware, or, in fact, exacerbating risk that it thought the incentive system was reducing. Further, this risk might be highly concentrated in places where its realization it is also likely to have high impact, like trading desks, sales teams or business line management.

Darley also suggests that a highly objective

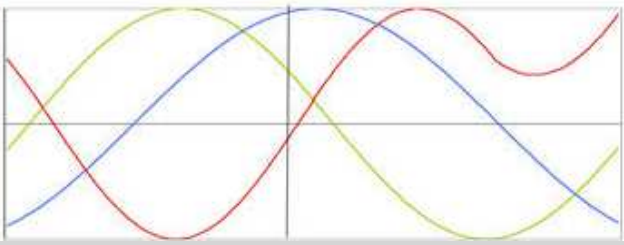
Risk-Sensitive Foraging

An example of how a small change in compensation structure can radically change one's risk attitude comes from the area of psychology called risk-sensitive foraging. Consider that real-life has baselines, such as the minimum amount of food one must eat, or total capital, for a business, below which one must not fall.

Suppose that a sales person needs to realize $2MM in sales in order to keep their job. Two sales approaches that both have a $2MM expected value are available, but one has greater variability, while the other guarantees $2MM in sales. The rational sales person should choose the approach with no variability as that ensures their survival.

However, if the requirement to maintain employment is shifted only slightly to $2.1MM, the sales person must choose the riskier approach or realize the loss of their job with certainty. They will, therefore, move from risk-averse behavior to risk-loving behavior with only a modest change in the paradigm that they face.

These baselines appear when performance is explicitly or implicitly compared to some benchmark or another individual.



system is not necessarily a morally neutral system. Objective systems may create certain pressures on the actors within the system that may be not at all what the performance measurers intended. This goes beyond the framing issue of Prospect Theory and into even more complex behavioral notions.

According to Darley, three general sorts of occasions arise when the criterial control system is not morally neutral:

1. A person, in hopes of advancement or in fear of falling behind, "cheats" on the performance measurement system by exploiting its weaknesses to "make his or her numbers." Others who see this, and see this action succeeding, are then under pressure to cheat also. There is a diffusion of a corrupt innovation that corrupts the individuals within the system.

This group behavior can become pervasive. Consider two employees at the same level in an organization, both seeking advancement within the organization. If one succeeds in cheating, the second may perceive his/her chances for promotion slipping away. That person is thus pressured to engage in the same or 'better' cheating. The increased cheating is more likely to stimulate cheating behavior by other advancement-hungry peers.

2. Or a person, with the best will in the world, does what optimizes his or her performance measurements, without realizing that this is not what the system really intended. A performance measurement system is a powerful communication that the authorities have thought these issues through, and want what they reward. The individuals in the system are to some extent relieved of their responsibilities to think through the system goals, and to independently determine their contributions to those goals.

In this instance, the rules of the game have been defined and the employee simply plays the game to their highest benefit.

3. Or a person who has the best interests of the system in mind, may "game" the performance measurement system in various ways, to allow the continuation of the actions that best fulfill his or her reading of the system goals. However, this "takes underground" those activities, and diminishes the possibilities of dialogue about system goals or modifications in system measurements.

See our collection of various case studies in which Darley's law has been played out with large impact. This is but a very small subset of the number of cases in which improperly aligned incentive and compensation programs have led to large losses and reputational damage.

Dynamics of Authority Influence and the Impact on Risk.

About Us

Ductilibility is private advisory service. We provide benchmarking research through our Research Circles. We design risk education and risk-awareness-building programs. We review and analyze compensation and incentive structures for alignment with corporate objectives.

t) +1-612-387-8069 • e) info@ductilibility.com • w) http://www.ductilibility.com