

DOES PAY FOR PERFORMANCE REALLY MOTIVATE EMPLOYEES?

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Abstract

Pay for performance may undermine employees' efforts: Rewards crowd out intrinsic motivation under identified conditions. A bonus system then makes employees lose interest in the immediate goal. Moreover, monetary incentives in complex and novel tasks tend to produce stereotyped repetition, and measurement is often dysfunctional. Therefore intrinsic motivation is crucial for these tasks. However, for some work extrinsic incentives are sufficient. We offer a framework how managers can achieve the right balance between intrinsic and extrinsic motivation.

Keywords: Intrinsic motivation; Crowding out; Managing motivation.

Intrinsic and extrinsic motivation

Pay for performance has become a fashionable proposal over the last years in private companies as well as in the public sector. It is reflected in such popular concepts as stock options for managers, bonuses, and variable compensation according to performance etc. This means that firms more and more rely on extrinsic instead of intrinsic motivation.

A motivation is *extrinsic* if it satisfies the needs of a person indirectly, most importantly through monetary incentives. Few theories of motivation question that *extrinsic* motivation raises performance. It is one of the best established results in the psychological and managerial literature that positive enforcement of a particular action increases the future probability of that action. In economics the disciplining effect of rewards is fundamental (Becker, 1976): the opportunity cost of unrewarded behavior is raised. Rewards thus lead to the *(relative) price effect*.

A motivation is *intrinsic* if an activity is undertaken for one's immediate need satisfaction. People undertake actions for their own sake.

Motivation crowding-out effects

Rewards crowd out intrinsic motivation under particular conditions. This effect is known in psychology as "the corruption effect of extrinsic motivation" (Deci and Ryan, 1985), and has been introduced into economics as "crowding-out theory" (Frey, 1997). The precondition is that the behavior is initially perceived to be interesting and therefore intrinsically rewarding. As a consequence, a pay for performance system usually, but not always, makes employees lose interest in the immediate goal (such as serving the customers). Relying solely on extrinsic motivation thus fosters a self fulfilling prophecy.

The crowding-out effect can be attributed to two major psychological processes:

(1) *Self-determination is reduced.* When people perceive an external intervention as a restriction to act autonomously, intrinsic motivation is substituted by these external interventions. The locus of control shifts from inside to outside the person (Rotter, 1966). The person in question no longer feels responsible but makes the outside intervention responsible instead. However, this shift in the locus of control only takes place when the intervention is considered to be controlling. In contrast, when the intervention is perceived to be informing about one's competence, internal control is strengthened. Intrinsic or extrinsic motivation is raised depending on which aspect is more prominent.

Self-determination is reduced mainly by the following two conditions:

- Pay for performance and bonus rewards that are contingent on individual output crowd out intrinsic motivation when the perceived controlling effect of rewards is stronger than the perceived informing effect.
- Commands restrict the perceived self-determination of the affected persons more strongly than the price system in the form of pay-for-performance or bonuses. Commands tend to disregard the motives of the recipients. In contrast, the price system provides more flexibility to the persons concerned as one has the option to reject a monetary incentive.

(2) *Reciprocity is violated.* The implicit contract based on a mutual acknowledgment of one's engagement is violated when a task undertaken by intrinsic motivation is rewarded extrinsically (Rousseau, 1995).

Crowding-out theory has been the subject of a large number of laboratory experiments. Fortunately, there have already been several meta-analytical studies of crowding theory: Wiersma (1992) looks at 20 studies covering 1971-90; and Tang and Hall (1995) at 50 studies from 1972-92. These meta-analyses support the cognitive evaluation theory developed by Deci and his co-workers according to which intrinsic motivation is undermined if the externally applied rewards are perceived to be controlling by the recipients. This view was challenged by Eisenberger and Cameron (1996) who on the basis of their own meta-analysis covering studies published in the period 1971-1991 concluded that the undermining effect is largely „a myth“. However, Deci, Koestner and Ryan (1998) in a very extensive study were able to show that these conclusions are unwarranted. This most recent meta-analysis includes all the studies considered by Eisenberger and Cameron as well as several studies which appeared since then. The 68 experiments reported in 59 articles span the period 1971-1997, and refer to 97 experimental effects. It turns out that tangible rewards, a subset of which is pay for performance, undermine intrinsic motivation for interesting tasks (i.e. tasks for which the experimental subjects show an intrinsic interest) in a highly significant and very reliable way. Thus there can be no doubt that the crowding-out effect exists and is a robust phenomenon of significant size under the conditions identified.

However, in psychological laboratory experiments only the crowding-out effect is considered. In real life situations we have to look at the net outcome composed of the relative

price effect as well as the crowding out effect. This holds because the effect of intrinsic motivation cannot always be neatly separated from extrinsic incentives. When someone is fond of communication with customers for fun, it is always possible to find a corresponding external motive such as selling better. What matters is that when one goal is taken to be instrumental for reaching another goal, the first goal loses its value (Kruglanski, 1975). Therefore it is important to consider field studies which take into account the net effect of the relative price and crowding-out effects. There exist several such studies:

- A well known example refers to the so-called „token economies“ where persons living in old age asylums were induced to undertake certain tasks (such as making their bed) in exchange for vouchers. As a consequence, after some time, these persons were only willing to do anything at all if they received a compensation. The intended activation of the old persons proved to be a failure (Kazdin, 1982).
- A field study refers to the so-called NIMBY (Not In My BackYard)-syndrome (Frey and Oberholzer-Gee, 1997). In a community located in central Switzerland, in a carefully designed survey more than half the respondents (50.8%) agreed to have a nuclear waste repository built in their commune. When compensation in monetary terms was offered, the level of acceptance dropped to 24.8%.
- An econometric study of 116 managers in medium sized Dutch firms shows that the number of hours worked in the company decreased with the intensity of personal control effected by the superiors (Barkema, 1995).
- A large scale study conducted in 3860 family businesses finds that performance pay is ineffective because it violates a psychological contract, directed on higher order goals such as affiliation and recognition (Buchholtz, Schulze and Dino, 1996).
- Austin (1996) shows on the basis of interviews with eight experts that performance measurement is highly contraproductive for complex and ambiguous tasks in computer software development.
- Even adherents of principal agent theory admit that managerial compensation and business performance are essentially unrelated (Jensen and Murphy, 1990).

Why intrinsic motivation is needed

Several systematic determinants are known which help to predict the net outcome of the crowding-out and price effect. In the following cases extrinsic rewards in the form of pay for performance lead to undesired consequences:

Firstly, monetary incentives in complex and novel tasks tend to produce stereotyped repetition of what already works (Schwartz, 1990). People do what they are paid for, and it is difficult or even impossible to set ex ante measures for unknown alternatives.

Secondly, pay for performance should be used only in situations, when *all* tasks vital to the creation of value can be effectively measured. Otherwise agents will transfer effort from vital dimensions of performance that are not measured to dimensions that are, thus reducing overall value (Milgrom and Roberts, 1992; Austin, 1996).

Thirdly, the speed of learning and the conceptual understanding are reduced when people are payed for performance and therefore are monitored. The work is performed in a more superficial way (Deci and Flaste, 1995).

Forthly, the transfer of tacit knowledge requires intrinsic motivation. Tacit knowledge cannot be expressed in writing or symbols. In contrast, explicit knowledge can be coded, is easily transferable and multipliable and can be stored in books or diskettes. The distinction entails important consequences with respect to the transfer of knowledge and the kind of motivation required. The transfer of tacit knowledge cannot be measured directly. Hence, when several persons contribute their tacit knowledge, joint output is not attributable to a particular person. In the absence of intrinsic motivation, employees would tend to free ride (Osterloh and Frey 1997).

Limited benefits of intrinsic motivation

Intrinsic motivation also has its costs.

Firstly, it is difficult to produce the 'adequate' kind of intrinsic motivation. Intrinsic motivation only emerges if the activity's goal is complementary to the activity's flow. The experience of undertaking an activity itself, i.e. the activity flow, must produce satisfaction in combination with the goal. An example is mountain climbing where the satisfaction derived from the activity is inseparable from the goal of reaching the peak (Csikszentmihalyi, 1975). Yet another case is gambling or speculating on the stock market. In the latter instance, the monetary rewards associated do not crowd out intrinsic motivation because money is inherent to the activity flow; money is not instrumental for another goal.

Secondly, intrinsic motivation can have an immoral or undesired content. Envy, vengeance and the desire to dominate are not less intrinsically motivated than altruism, conscientiousness and love.

Thirdly, extrinsic motivation enables behavior to become more flexible. The motivation of volunteers in a not-for-profit organization, for instance, depends strongly on how it differs compared to the organizational goal. A profit-oriented firm in contrast does not have to be so much concerned about the personal values of its employees as long as it pays them well and the costs of supervision are low.

The art of producing the right motivation

Managers have to calculate the advantages and disadvantages of fostering extrinsic or enabling intrinsic motivation. Further research is needed to spell out more precisely the conditions for the right balance between intrinsic and extrinsic motivation. Nevertheless, several systematic determinants can be identified to help to manage the kinds of motivation required within firms.

Extrinsic motivation is sufficient when the work is routinized and the performance is easy to measure. An example is provided by the introduction of the five-dollar-wage per day

by Henry Ford in 1914. This wage was twice as high as the average in all other sectors and together with the use of highly repetitive assembly lines, productivity increased by 40 to 50 per cent, "one of the finest cost-cutting moves we ever made" (Ford 1922, p. 126). This is a striking example showing that extrinsic motivation may result in considerable efficiency gains in a situation where the persons affected by the external intervention have little or no intrinsic motivation.

Intrinsic motivation is a necessary production factor in the firm when labour contracts are characterized by a high degree of incompleteness as well as ambiguity. In contrast to pure market contracts, labour contract typically include incompleteness to a high degree (Simon, 1951). In well-defined situations this incompleteness can be outweighed by commands, and the opportunity costs of unwarranted behavior can be raised. However, if the description of the tasks to fulfill is incomplete *and* ill-defined intrinsic motivation, i.e. interest in the task itself, is the only way to avoid shirking.

The following group of factors favor a higher level of intrinsic motivation:

- *Personal relationships and communication.* Within firms, the personal relationship between principal and agent is mainly determined by the organizational form. Thus, team-based structures provide motivational benefits. As experimental research shows, communication strongly raises the intrinsic motivation to cooperate (Frey and Bohnet, 1995).

- *Participation.* The larger the possibilities to co-determine, the more the employees engage themselves in mutually-set goals and adopt them as their own. Participation thus raises self-determination.

- *Interest in the activity.* Employees are more motivated to work when they are aware of the results of their input, when they are responsible for the outcome, and when they consider their work to be meaningful (Hackman and Oldham, 1980). Clearly, self-determination is supported.

- *Message conveyed.* The more a principal acknowledges his or her employees' intrinsic motivation as part of a psychological contract the more intrinsic motivation is fostered (Rousseau, 1995).

A *second* group of conditions determines how strongly intrinsic motivation is undermined:

- *Contingency of reward on performance.* The closer the dependence of a reward on the required performance, the more strongly intrinsic motivation is crowded out. This holds provided the perceived controlling effect of rewards is stronger than the perceived informing effect. In that situation, employees feel their self-determination to be curtailed. This effect is stronger with material than with symbolic rewards. It is also larger with expected than with unexpected rewards (Deci and Flaste, 1995). In all these cases, it is required that the behavior was initially perceived to be interesting and therefore intrinsically rewarding. This is an argument in favor of time-based compensation and against strict forms of pay-for-performance in situations characterized by high intrinsic motivation.

- *Commands*. A command restricts the perceived self-determination of the persons affected more strongly than would a corresponding reward.

- *Violation of justice*. Agents who feel unjustly payed reduce their intrinsic motivation. A large number of empirical studies show that people judge the fairness of their pay relative to other persons. "It is more critical how their pay compares to the pay of others than what they make in absolute dollars and cents" (Lawler, 1990, p. 24).

The art of producing the right motivation has not been fully spelled out here; much more needs to be done. In particular, the consequences for the design of incentive systems, and in particular for pay for performance, has to be worked out in more detail. One of the great challenges is to no longer treat extrinsic, and in particular, intrinsic motivation as exogenously given when compensation systems are at stake.

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