Bonus Incentive Schemes in the Workplace
Their Affect on Operational Research Projects

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Abstract

Traditionally bonus schemes were applied to factory workers, but they gradually fell out of fashion. But times have changed. The trend is now to say that no staff will perform well unless they are given the incentive of a bonus scheme. In many businesses bonus schemes are applied to white collar and creative workers, specialists, managers and even the most senior managers.

The many different types of bonus scheme have three features in common, viz: the intention of the scheme will eventually be subverted, because people do what they can to get the most benefit for themselves, even to the detriment of the business; all bonus schemes degenerate as time goes on, and unless they are upgraded will collapse into disputes and cheating; incompetent management is made worse, not better, by bonus schemes.

No matter how good an operational research project is, it can be rendered totally ineffective by an ill-conceived bonus scheme, so we shall explore types of schemes, how they work, why they fail, what to avoid, and how they affect operational research projects.

1. Definition

Bonus schemes, (also know as incentive schemes, or payment by results) are:
Incentives encourage staff to achieve targets set by management
The definition excludes -
1. Rewards which are decided after the work has been completed.
2. Punishments to discourage staff from doing what management don't want

2. Objectives of Bonus Schemes

Why implement an incentive scheme?

1. Most common reason - to increase output
    1. A temporary bonus scheme; eg; there is an urgent order, for important client, which must be delivered on time, so the manager offers reward to the staff concerned, if deadline achieved. ie a one off, special case, probably including only a few employees
    2. A permanent bonus scheme; management want to lift the performance of the workplace permanent basis. This is the *text book* reason for an incentive bonus scheme

2. Incentives relating to the annual staff performance assessment
   ie management want to link the annual staff performance assessment to a bonus payment, as a reward for a good assessment.

3. Focus management
   Top management puts staff on rank and file bonus scheme to focus middle management's attention on production. eg the middle manager are spending time and effort quibbling with each other on who gets the overseas trip, new car, big office, &c.

4. Support weak management
   Top management puts staff on rank and file bonus scheme to help an incompetent manager who is under achieving.

5. Encourage Staff to become more skilled
   Staff are under skilled and are unenthusiastic about getting themselves better trained

6. Tighten up plant maintenance
   Equipment is continually breaking down, so output is hampered, and staff seem unconcerned

3. Comment on Objectives

1. Temporary bonus schemes can achieve the immediate objectives but in the long run managers nearly always regret having implemented them.

   Permanent bonus schemes can be made to work, and we will discuss them later

2. Staff assessment programmes range from being useless to being counter productive. The situation is made worse if they are associated with bonus payments

c - e Incompetent management

Bonus schemes demand competent, focussed management; trained, motivated staff; and good equipment. If you don't have these before you start the situation will become much worse when the bonus scheme is implemented

4. Types of Schemes

A bonus scheme will differ according to who it is for. In this paper we will deal with direct and indirect workers, and managers. We will not consider sales staff, creative workers, white collar workers, specialists, nor professionals (such as operational researchers)

The Direct Worker

A direct worker is a person who produces something tangible and is in control of his rate of output. (Obviously he may be limited by his equipment, or by the laws of physics)

A direct worker could be a carpenter working on a building, a lathe operator, or a data entry clerk

The indirect worker

The indirect worker is someone who serves the direct worker; eg a janitor, storeman, forklift driver. The indirect worker achieves his objective if his direct workers can get on with their job without hindrance. eg the purpose of a forklift driver may be to ensure all the machine operators have sufficient material where they need it, when they need it

The type of bonus suitable for a direct worker will not suit an indirect worker.

5. Methods Employed by Bonus Schemes

Differect businesses have adoptedmany different methods for their bonus schemes.

1. Bonus in the form of a monetary payment related to output (but could be related to other targets - eg safety)

2. Special treat - instead of payment
   eg if you meet the target you get a trip for two to Patea (or to Paris)

3. Publicity
   eg if you perform well you get
   1. a token presentation from manager at morning tea
   2. photograph in the company newspaper

4. Continuation of employment

5. Bonus is paid to on an individual, team, or group basis, or to the enterprise as a whole

6. At the extreme, schemes can be either:
    1. Quick and dirty
       ie targets based on gross aggregate output
    2. Text book
       ie measured standard times for each task

6. Comparison between Quick and Dirty Schemes and Text Book Schemes

    1. In a quick and dirty scheme
        1. bonus is based on an overall output
           eg total number of units produced, irrespective of type
           total tonnage of material stacked, irrespective of difficulty.
        2. the operator will have good jobs on which it will be easy to earn a high bonus, and bad jobs on which it will be difficult or even impossible to earn any bonus
        3. the scheme depends on easy jobs averaging out with difficult ones
        4. even if the worker puts in a consistent effort the bonus will vary from day to day.
        5. bonus variation is not under the control of the worker, it depends on chance
        6. the job mix will inevitably change with time and the bonus scheme will become out of date

    2. In a text book scheme
        1. the standard time is appropriate for each task
        2. the bonus earnings depend on the efforts of the worker
        3. it costs more in time and effort to set up and run a text book scheme than a quick and dirty scheme.

7. The Ideal Text Book Scheme

In an ideal or pure text book scheme there will be:

1. A standard time for each task
   And the workers know the standard times for all the jobs they do

2. Permanent standard times

3. Payment proportional to output

4. Individually based

8. A Practical Text Book Scheme

The ideal text book scheme is impossible to achieve, but a practical version of can be made to work. In a practical text book scheme there will be:

1. A standard time for each job
   And the workers know the standard times for all the jobs they do

2. Permanent standard times, but with provisos, ie:
   standard times can be changed
   1. by agreement
   2. in case of clerical error
   3. change of method

3. Payment proportional to output
   but limited: maximum and minium payments

4. Based on individual or team performance

9. Coping with Anomalies

Anomalies destroy the effectiveness of a bonus scheme. They lead to disputes and cheating; they direct attention away from production; so they are counter productive

There are anomalies in all schemes, but there are ways to cope with them (which cost money). In incentives as with everything else, you get what you pay for. The quick and dirty schemes have more, serious, and damaging anomalies, which show up earlier than text book schemes

10. Conditions Necessary for a Bonus Scheme

A bonus scheme can only be implemented if certain conditions are fulfilled

1. Predictability
   Management must be able to anticipate what tasks it will require it's workers to perform, not just for the immediate future, but during the life of the bonus scheme.

2. Objectives
   Standard times (test book scheme) or targets (quick and dirty) must have been established

3. Work measurement
   Standard times can be estimated by means of time studies (stop watch) or by predetermined time standards. If you use a stop watch you must rate the operator being timed (make a subjective assessment of his speed and effectiveness). You must make an allowance for workers to pause for a tea break, a chat to their mates, &c)

4. Simple Tasks

A text book scheme is only practical if there are long runs, simple jobs (which is why managers are often tempted to adopt quick and dirty schemes)

5. Code of Conduct

To preserve harmony in the work place there must be a code of conduct eg:

1. The time study engineer must always:

    Respect the dignity of the worker

    Ensure the worker knows when the study starts and when it finishes

    Wear white lab coat or boiler suit during a time study

    Write times, rating, &c clearly on the work sheet during the study

    Allow the worker to see the work sheets, analysis, &c.

    Use a different colour for any writing on a work sheet after the study

2. The time study engineer must never:

    Time secretly

    Alter the work sheet after the study

6. Working Environment

Bonus schemes require competent management, a skilled workforce, good, well maintained appropriate equipment, skilled industrial engineering and administrative team.

11. Anomalies

Bonus schemes collapse and become unmanageable because of their inherent anomalies, eg:

1. High production for limited time

This anomaly is usually related to the aftermath of a temporary bonus. The staff have been rewarded for meeting a particular deadline. While they were working on the project the staff were enthusiastic, morale was high, everyone was proud to have accomplished an important target, production records were broken. But later management expected the extreme performance to continue. But unreasonably high output cannot be maintained by threats and admonition. For higher performance to be achieved and maintained over a long period, better methods, equipment, &c are needed

2. Uneven potential to earn high bonus

Some jobs require physical effort, tedious, dirty, noisy, need uncomfortable protective clothing. But other jobs are relatively light, clean, and pleasant. Even if the standard times are correct, it will be easier to earn a bonus on some jobs than on others.

3. Continuous work may not always be available

The worker may be skilled, keen and has been getting a good bonus, but demand for the product drops. Management cannot provide the means to earn a bonus

4. Unmeasured work

The worker may be earning a good bonus. But management may have to transfer him to an urgent, unmeasured job eg cleaning up a chemical spill, so he loses he potential to earn a bonus.

5. Indirect workers (service to production)

The indirect workers are not in control of the amount of work they need to do. On occasion they may have to work hard just to enable the direct workers to do their job. But at other times they may be able to cruise. It would be counter productive to encourage the indirect workers to produce more, if the direct workers do not need it.

6. Diminishing effectiveness of the scheme

Typically there are three phases in an incentive bonus scheme:
Phase 1
The first effect is to test equipment, maintenance, training, methods, and management generally. All the managerial shortcomings become obvious. If the scheme survives it can pass into its second phase.
Phase 2
In the second phase production picks up. The scheme will, in time, inevitably regress into the third phase.
Phase 3
In the final phase anomalies become more obvious and damaging. More effort is put into resolving disputes and policing cheating, than production

12. Strategy

To avoid the third phase catastrophe, management must have strategy. ie Recognise that bonus incentive schemes have a life cycle, develop a plan to replace the scheme with another programme before the anomalies destroy its effectiveness

13. Features of All Bonus Schemes

Bonus schemes differ. But all have three features in common: viz

1. Staff (including managers) will maximise the benefit to themselves, irrespective of the requirements of the business

2. Bonus schemes even if they are effective to start with, will deteriorate in time, and unless replaced, eventually become unmanageable

3. Bonus schemes make incompetent management worse

14. Implications

1. Coping with changes in the market

   Businesses need to be able to change to meet changing needs of the market. Introducing new products or services is often difficult. It requires new equipment, new skills, new technology. But having an incentive bonus scheme in place makes change that much more difficult. Staff will often be unwilling to cooperate if you are threatening their bonus earnings. In any case new standard times will have to be to established

2. Quality, Safety, Environmental Management

   Good quality, safety, and environmental management can and often does coexist with high output. Workers who do not care if they meet production targets, probably don't care about quality, safety, or the environment. But extreme output levels in the long run will adversely affect quality, safety, and the environment. Good quality, safety, and environmental management must be integrated into the bonus scheme.

15. Bonuses for Mangers

1. The dilemma

   Some managers are extremely competent, some managers are totally incompetent, most are adequate. In order to attract the very best managers, get the best performance, and to encourage the extremely competent, you need a scheme to reward high performance

   But bonus schemes for managers do not work.

   At best the manager will ignore the bonus scheme and simply get on with his job as best he can, collecting any bonus payment as a welcome but unsought addition to his salary when he gets it.

   At worst the manager will concentrate his mind on achieving the objectives set out in the bonus scheme to the detriment of the business

2. Key Performance Indicators

   Some key performance indicators can be measured and can be used as the basis of the bonus scheme. eg

   1. the bottom line - the balance sheet to show a profit at the end of the month
   2. measurable targets: eg sales increase, productivity increase, reduction in complaints and non conformances, reduction in costs, speedier turnround - between customer enquiry and the response, deliveries in full and on time

But the manager's most important responsibilities are unmeasurable. eg the anticipating and avoiding crises, strategic planning, handling complex situations, getting the best from the staff, &c.

3. The Guileful Manager

Any manager worth his salt can make the monthly balance sheet look good in the short run by not carrying out any training, holding back on maintenance, not replacing equipment generally not investing in the future.

But in the long run that policy will spell disaster, eventual receivership.

A bonus must be based on measurable indicators, so the manager will be encouraged to meet the targets neglecting the real business of management, ie the unmeasurable responsibilities.

Managers deal with unexpected issues all the time. The tasks they undertake cannot be predicted, a practical incentive which will act as an incentive is therefor impossible

16. Conclusion

Bonus schemes can work for simple tasks. But must be well prepared and well maintained. And they must be dismantled before they become a liability to the business.

There are no effective incentive schemes for managers or staff whose work is complex, creative, specialist or professional.

A bad bonus scheme can disrupt the work place and make it impossible to deal with other issues. If you have to work where management and staff are focussed on bonus disputes and policing cheating, it will probably became impossible to implement operational research projects successfully.

Your effectiveness as operational researchers could depend on whether your management make good decisions about bonus incentive schemes.