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The Effects of Variable Pay on Employee Motivation

A Review of the Research

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Do variable pay plans motivate employees? This review of the literature studying the effects of rewards on intrinsic motivation presents the main findings and arguments for and against the usage of variable pay as a way to promote employee intrinsic motivation. In light of the research variable pay generally has a positive effect on intrinsic motivation for dull tasks. For interesting tasks a positive relationship generally exists where rewards are contingent on surpassing others or completing a task. Contrarily, variable pay has a generally neutral or negative effect on intrinsic motivation where the rewards are contingent on other criteria, non-contingent, or if the fundamentals of variable pay plan implementation have not been respected. All-in-all, the effects of variable pay on intrinsic motivation are still debated. Other research shows the existence of a positive relationship between intrinsic motivation and employee satisfaction, engagement and performance, highlighting the importance of the topic in organizational settings. Given the contradictory nature of the conclusions drawn by researchers in the field, various theories and aspects are discussed and suggestions for future research on the variable pay-intrinsic motivation relationship are provided.

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Contents

1 Introduction 1

2 Definitions 3

2.1 Base and Variable Pay 3
2.2 Intrinsic Versus Extrinsic Rewards and Motivation 3
2.3 Reward Contingency 5
2.4 Methodological Note: Meta-Analyses 6

3 Fundamentals of Variable Pay 7

3.1 Maslow’s Hierarchy of Needs 7
3.2 Why Implement Variable Pay Systems? 9
3.3 Designing Effective Reward Policies 10

4 The Importance of Employee Motivation 13

5 The Relationship Between Intrinsic and Extrinsic Rewards 15

6 Does Money Motivate Employees? 17

6.1 The Detrimental Effects of Money on Intrinsic Motivation 17
6.2 The Positive Effects of Rewards on Motivation 25

7 Limitations and Discussion 28

8 Conclusion 32

9 References 33

Figure 1 - Maslow’s Hierarchy of Needs 8
Figure 2 – Relationship between Performance, Motivation, Engagement and Satisfaction 14
Figure 3 – Free-Choice Behavior 19
Figure 4 – Self-Reported Interest 20
Figure 5 – Free-Choice Motivation and Self-Reported Interest results 26
1 Introduction

Bonuses are seductive and powerful. As a Sales Manager working in Asia on Governmental multimillion dollar projects, it is hard to describe the excitement felt when getting any indication from a customer that we are getting closer to closing a deal; it is hard to describe the gamble-like thrill of calling the customer’s bluff and making a decision that may increase the company profit by several tens of thousands of dollars, getting me closer to reaching the target on which my yearly bonus is based, as well as increasing the overall value of the commission I will be getting, or on the contrary result in losing the project, getting absolutely nothing in return for the considerable amount of time and resources invested.

When working on certain projects that require considerable dedication, sacrificing personal life by traveling abroad every week and working late every night, it certainly feels like variable pay plays a considerable role in motivating us to do the necessary and go the extra mile to get the job done.

Furthermore with CEOs cashing in on millions of dollars in bonuses, U.S. companies spending over 800 billion dollars on sales force compensation (Steenburgh and Ahearne 2012: 1) and tips amounting to approximately 42 billion dollars in the United States (Lynn et al. 2010: 2), the importance of understanding the benefits and potential drawbacks of variable pay is undeniable.

Rewards are known to influence behavior (Deci et al. 1999: 657) thus making them powerful management tools, and their importance is well understood by researchers who have been studying the matter of rewards and their effects on organizations on various levels (different types of rewards having various effects on motivation, satisfaction, performance, work ethics and more) for centuries. Some earlier works have been detailing the conditions in which variable pay should be implemented in order to be effective (Burritt 1920) and since the 1970s dozens of experiments have been measuring the impact of rewards on intrinsic motivation. However, with some results showing that rewards affect intrinsic motivation negatively, other studies showing a positive effect on
intrinsic motivation, and yet other studies showing no effect, the relationship is uncertain at best (Cameron et al. 2001: 1). With surveys reporting an increase in use of variable pay by companies (Cotton 2013), if one thing seems certain, it is that variable pay is here to stay.

In this thesis we will investigate the effects of variable pay on motivation by reviewing the relevant literature and studying real world cases.

We will begin by defining key terms before specifying the fundamentals of variable pay. Next we will discuss the importance of employee motivation from an organizational perspective and examine the relationship between intrinsic and extrinsic rewards. Subsequently we will dive into the study of “if” and “why” variable pay, and in the broader sense money, motivates employees, before finally discussing the main findings and offering a few suggestions for future research on the topic.
2 Definitions

Throughout this thesis we will be discussing extensively various aspects of variable pay (in particular bonuses and profit sharing plans), the relationship between intrinsic and extrinsic rewards, and motivation, all of which we will define here.

2.1 Base and Variable Pay

Employers can essentially opt for one or a combination of two methods to financially reward their employees (the ratio of which may be restricted by local legislation): base and variable pay.

Williams and Grimaldi (1999: 73) define base pay as “the fixed rate of compensation an employee receives for performing the standard duties and tasks of a job”, while in variable pay plans “the size of the award varies between individuals and from performance period to performance period based on levels of achievement against pre-established company and individual performance targets”.

There are numerous variable pay plans, with some of the most common ones including bonuses, individual sales commission, piece-rate pay (an amount paid as a fixed sum for each unit of production completed), merit-based pay (pay based on performance appraisal reviews, hence more subjective than piece-based pay), skill-based pay (a bonus paid to reward new skills acquired), profit sharing plans (compensation distributed across the organization based on formulas that usually take management level and seniority into account, according to the company’s profitability) and ESOPs (Employee Stock Ownership Plans). Those are usually paid annually, semi-annually or quarterly depending on the companies and the plans. (Judge and Robbins 2009: 263)

2.2 Intrinsic Versus Extrinsic Rewards and Motivation

Rewards include systems, programs and practices that influence the actions of people. The purpose of reward systems is to provide a systematic way to deliver positive consequences (Njanja et al. 2013: 41).
Intrinsic rewards are “mediated within the person”, they are rewards that aim to solely lift the employee’s motivation without any perceivable external rewards “except the activity itself or the feelings which result from the activity” (Deci 1972a: 217).

More recent definitions include, more simply; “intrinsic rewards are psychological rewards that employees get from doing meaningful work and performing it well” (Kenneth 2009).

While there is no one globally accepted method to measure intrinsic motivation, in their experiments Deci, Ryan and Koestner (1999) used both free-choice (how often did participants choose to engage in the task again) and “self-reported interest” (as reported on attitude questionnaires) measures.

To the contrary, extrinsic rewards are external, such as money, verbal reinforcements, grades or promotions (Deci 1972a: 217), they are external to the actual task and their nature, size and whether or not they are granted are controlled by other people. (Kenneth 2009).

Hence when discussing intrinsic and extrinsic motivation, it is understood that an intrinsically motivated person will do things for the pleasure of accomplishing the task itself without any apparent motivators, whereas an extrinsically motivated person will perform activities because they lead to external rewards (Deci 1972b: 113).

It must be noted that while Deci’s earlier definitions clearly categorize any form of external motivation as extrinsic including verbal reinforcement and employee recognition programs that will make employees feel good but not better-off, later works from Judge and Robbins (2009: 268) categorize verbal reinforcement and employee recognition programs as Intrinsic.

As this thesis focuses on the effects of variable pay (in other words tangible extrinsic rewards) on motivation, whether to consider verbal reward as intrinsic or extrinsic is of little consequence. However we will argue that if a person is performing a task with a target to receive positive acknowledgement (be it from their manager, teacher, parent, etc.), the reward will be expected and the attention will be focused on the reward and
not the task itself, hence in such a situation we would define the reward as extrinsic despite being verbal and non-tangible. On the other hand a Manager giving unexpected positive verbal rewards that will simply make the employee feel good about themselves and the work they are doing, should be categorized as intrinsic reward.

Kenneth (2009) describes four types of intrinsic rewards than can be felt by employees at three different levels (high range, middle-range and low-range); the sense of meaningfulness where employees feel their work is of real value, the sense of choice where employees choose how to accomplish their work, the sense of competence where workers feel they are accomplishing their work well, and the sense of progress.

While this thesis will focus more on extrinsic rewards (variable pay), understanding intrinsic motivation well is important as we will see some research suggesting that extrinsic rewards may hinder intrinsic motivation (DeCharms 1968), and that there is a direct correlation between employees being intrinsically motivated and their performance (Chamorro-Premuzic 2013).

2.3 Reward Contingency

We will see in this thesis that several meta-analyses (Deci et al. 1999, Cameron et al. 2001) have categorized the effects of rewards on motivation according to whether the reward is verbal or tangible, and if tangible whether it is unexpected or expected, and if it is expected whether it is contingent on engagement, completion or performance. Contingent as an adjective can be defined as “depending on something else in the future in order to happen” (Cambridge Dictionaries Online 2016), hence when talking about a reward being contingent, the obtaining of the reward will be dependent on the criteria set forth.

An expected tangible reward can be non-contingent, meaning that the reward will be given regardless of how the task is completed. This might be the case in some companies who have a thirteenth month policy, meaning that at year end employees will automatically and systematically get an extra month of salary.
However as is well known, in the real world it is more common for variable pay rewards to be contingent.

Engagement-contingent rewards indicate rewards given for taking part in an activity or task, completion-contingent rewards are given for a task that has been completed, and performance-contingent rewards are given depending on how well the task was accomplished, such as how quickly the task was completed, or doing better than 80% of other employees. (Deci, Koestner and Ryan 1999: 628)

An example of performance-contingent rewards could include bonuses given to salespersons yearly following an algorithm that takes individual sales performance into account.

2.4 Methodological Note: Meta-Analyses

Several of the research studies reviewed in this paper are meta-analyses. A meta-analysis is a technique for combining the results of several studies on a same topic in order to draw conclusions based on statistical data. Unlike statistical analyses that generally focus on single-subject designs, meta-analyses compare multiple treatment groups (such as rewarded groups) to a control group (such as a no reward group) on a common dependent measure (such as intrinsic motivation). By statistically combining the results of several studies, a meta-analysis can help paint a more complete picture of a relationship between independent and dependent variables (here the relationship between rewards and intrinsic motivation) and the factors that affect the magnitude of the relationship (such as types of rewards or reward contingencies). (Cameron et al. 2001: 5)
3 Fundamentals of Variable Pay

Before diving into the heart of the subject and studying the results of the research and experiments on the effects of rewards on motivation, we will first explore the fundamentals of variable pay; the reasons for considering variable pay plans, the theory behind such reward systems, and the guidelines that have been set forth by gurus in the field close to a century ago.

Understanding those fundamentals is important as there are countless articles on variable pay instructing on how to implement variable pay plans, yet scholars have been criticizing such plans, claiming negative effects on motivation and subsequently performance. Studying those experiment results later in this thesis with an understanding of the fundamentals might reveal that variable pay plans have reaped negative results in conditions that did not actually follow those fundamentals, and where the underlying infrastructure was not in place, harboring potential questioning of the criticism if the variable pay system was poorly implemented in the first place.

3.1 Maslow’s Hierarchy of Needs

Probably one of the most known need theories, Maslow’s hierarchy of needs theory, says there exists a hierarchy of 5 needs categorized into lower order and higher order needs, each of which must be satisfied before the next one becomes dominant (Judge and Robbins 2009: 210). A diagram of Maslow’s hierarchy of needs can be seen below.
Physiological (i.e. hunger, thirst, shelter, sex, health among other bodily needs) and Safety needs are both categorized as lower order needs, which must be satisfied externally through salaries, type of contract (safety) and insurance policies among others. We can see those needs are extrinsic. On the upper half of the pyramid, Social (i.e. affection, friendship, belongingness, acceptance), Esteem (i.e. autonomy, self-respect, status and recognition) and Self-Actualization (i.e. growth, living up to one’s potential, self-fulfillment) are categorized as higher order needs, which must be satisfied intrinsically.

Following Maslow’s Hierarchy of Needs theory, we thus understand that in order for employees to be satisfied, involved and motivated, which would be conveyed through fulfilled needs at the top of the need hierarchy, numerous extrinsic and intrinsic needs would first need to be met.

While Maslow’s theory has never been validated (it has actually widely criticized by scholars), its intuitive logic and ease of understanding have led to it being widely recognized and utilized in modern management (Robbins and Judge 2009: 210).
3.2 Why Implement Variable Pay Systems?

The answer may seem simple: to influence behavior. However more specifically we shall study what behavior variable pay systems aim to promote. Among the many pieces of research done on the topic, Burritt et al.’s study (1920) of numerous real profit sharing plans in numerous companies helped draft a good understanding of profit sharing from a practical perspective.

We must note that while there are a few issues concerning research that is nearly a century old, we could argue that the way people behave in response to external motivators such as profit sharing plans should remain somewhat similar throughout time. As a much greater percentage of the workforce used to work in manual labor, with less interference from machines or computers to aid workers, we could further argue that any changes in motivation or performance may have been more clear-cut as manual tasks are more easily measurable, hence making it easier for employers to judge by themselves whether an extrinsic reward plan would have been working or not. This being said, the studies were done by analyzing various profit sharing plans in real organizations and interviewing managers and employees. People may sometimes think they are motivated, but a study of their actual behavior in controlled settings may show otherwise, and unfortunately this was not addressed in Burritt et al.’s research (1920).

We will also note that while Burritt et al.’s work (1920) was focused only on profit sharing, their consideration of various types of profit sharing relates strongly enough to variable pay for the fundamentals to be identical through the inclusion of general profit sharing, unit profit sharing and individual profit sharing (i.e. a commission) (Burritt et al. 1920: 4), as well as the common terminology of the term “profit sharing” as any form of payment in addition to base pay including bonuses (Burritt et al. 1920: 6).

In addition to generally aiming to “induce a special degree of effort, efficiency cooperation, or some other desirable result, not usually obtainable by the payment of a flat wage.” (Burritt et al. 1920: 8), variable pay is used among other things to align rewards to objectives (Cotton 2013: 4), and as a strategy used by Human Resources managers to “attract and retain suitable employees, as well as facilitating them [sic] to improve their performance through motivation”. (Njanja et al. 2013: 41)
Burritt et al. argue that variable pay can also promote the application, effort and efficiency of the workers when the work can be clearly measured (Burritt et al. 1920: 17), prevent waste (Burritt et al. 1920: 53) and promote stability of labor by increasing variable pay rewards as employee seniority increases (Burritt et al. 1920: 63), industrial peace by making the “interests of employer and employee identical” through incentivizing all to increase company profit (Burritt et al. 1920: 81), and effective management, although the latter is essentially achieved by aligning the interests of the managers and other employees whose jobs require them to “exercise... discretion and judgment” with those of the company (Burritt et al. 1920: 93).

Potential negative effects of variable pay may however include unethical behavior if employees start cutting corners in order to achieve goals. This could include salespeople overselling the products or treading the line between gifting and bribing dangerously. As variable pay plans can sometimes aim to promote healthy competition by rewarding top performers, organizations should also beware that this may harm team work, and in some cases even engender unethical workplace behavior such as sabotaging another’s work. Aside from general effects of behavior, scholars propose numerous arguments on the effects of variable pay on motivation. These will be discussed in chapter 6.

3.3 Designing Effective Reward Policies

Numerous articles and textbooks have been attempting to describe ways of implementing effective reward policies over the past century, and when considering the power that rewards have to control behavior, and the necessity for organizations to have competitive and comprehensive reward frameworks in order to attract and retain talent (Njanja et al. 2013: 42), it makes sense for organizations to demand such papers on the topic, and for scholars to research the subject.

This being said, it remains understood that there is no “one type fits all” implementation of variable pay (Burritt et al. 1920: 8) and such frameworks cannot be copied from an organization to another. Neither is there a turnkey variable pay plan for all to adopt.
Rather, such processes must be designed and developed from the ground up, and evolve together with the organization. (Njanja et al. 2013: 42)

When thinking about the variety of organizations in the market and their structures - from organic flat small or medium enterprises that might seek to attract and retain talents with benefits such as company shares, and aim to motivate their workforce to perform better in order to stimulate growth by rewarding employees primarily for new business brought in and new partnerships formed with other businesses, to massive corporations with tens of thousands of employees who might instead seek to motivate their workforce through competition by rewarding the top 10 percent performers - and then considering cultural differences in different regions of the world among many other factors, Njanja et al.’s (2013: 42) approach makes sense. Nonetheless there is a variety of basic key points that organizations can aim to observe when designing a variable pay policy.

One of the first and key fundamentals indicates that in order for variable pay to be effective, there must be a clear link between employee performance and the bonus reward. The focus of the variable pay plans should always be to reinforce and reward employee behavior, and it might do so by rewarding overtime work, taking initiative, team work, exceptional attendance etc.

Organizations should do this by implementing programs assisting managers and their employees in planning the targeted performance and having the means to measure it quantitatively, or if qualitatively according to very specific criteria. (Njanja et al. 2013: 42; Burritt et al. 1920: 14). Spending appropriate time identifying the variables that will need to be measured and the procedures to measure them should be done carefully. As per the law of unintended consequences, focusing too hard on one aspect such as increasing revenue while failing to take into account and measure other variables such as employee satisfaction and gross margins applied by the sales people could result in strongly unwanted and unforeseen results, such as increased turnover and reduced actual profit in this example.

Furthermore, variable pay systems should very clearly be rewarding exceptional behavior in addition to a completely adequate base salary. The purpose of bonuses cannot be to
decrease base salary and only pay employees when and if the money comes in, as this will act as a strong de-motivator. (Burritt et al. 1920: 8)

Burritt et al. (1920: 12) also discuss that in order to be effective, the reward must be substantial and be notably appreciated by the employees. We can see this relate to Maslow’s hierarchy of needs and the effects of tangible extrinsic rewards on intrinsic motivation (discussed further in chapter 6). In essence if rewards consist of, for example, marshmallows or a few dollars, while the gesture may be appreciated initially and represent a short term improvement in well-being, it will have no consequence on the recipient’s view of their future well-being. Furthermore an amount that may simply improve the employee’s physiological or safety needs may not help them in being intrinsically motivated, rather the amount needs to be such that it will be meaningful and have an impact on Esteem or Self Actualization.

Finally, the variable pay plan must be adapted to the behavior it is trying to promote. Some plans may aim to promote efficiency, some to reduce waste, some to improve the customer base, other the quality of customer service (through for example customer reviews) among other purposes. Naturally, an organization cannot hope for a variable pay plan to be successful if it is not adapted. (Burritt et al. 1920: 15).
4 The Importance of Employee Motivation

This thesis will be focusing in the next sections on the effects that variable pay have on motivation. One could question the choice of motivation as a measured variable; why should employee motivation be so important to employers?

Quite simply, it is due to the relationship between motivation, work engagement and satisfaction. As we will discuss in this section, research has shown that a positive correlation exists between these attributes, and all affect performance to some degree. Aside from better overall performance there are numerous less tangible benefits to be gained from employees being satisfied, involved and motivated, such as better work atmosphere, which in turn contributes to satisfaction, involvement and motivation - a virtuous circle.

The value of intrinsic motivation has been researched for decades and today there is little debate on the topic; intrinsic motivation is good. Not only in work environments but also in schools and sports teams, benefits include better well-being, persistence and dedication, and real world research has shown that motivation is positively correlated to satisfaction, employee engagement and perhaps most importantly from an organizational point of view performance. (Deci et al. 1999: 659, Cho and Perry 2012: 397, Njanja et al. 2013: 41)

This is of notable importance, since satisfaction and employee engagement both offer numerous benefits to employers.

Satisfaction and intrinsic motivation have an inverse correlation with intent to leave (Cho and Perry 2012: 398), which represents considerable turnover costs for a number of companies each year. Former Volvo CEO Perh Gyllenhammar made it very clear in his book (1977) that during a time of very low unemployment in Sweden, when retaining employees was a challenge, quality circles, or in other words work groups, and intrinsic motives, had a much greater impact than financial rewards (Gyllenhammar 1977). It is furthermore worth noting that research has shown a moderate correlation between job satisfaction and job performance (Judge et al. 2001: 385), although we would argue that performance is likely achieved through employee motivation and employee
engagement as a result of the existing positive relationships. Shall an employee be satisfied and happy with their situation and salary, yet have no motivation whatsoever to work harder, logic would tell us that the job satisfaction by itself will have no effect on job performance.

Employee engagement’s importance also lies in its positive relation to performance and productivity, and with a majority of American workers currently disengaged from their jobs, there is a clear need for more companies to focus on increasing employee engagement through intrinsic motivation. (Blacksmith and Harter 2011: 3)

Finally research has also shown employee engagement to be positively correlated to satisfaction (Garg 2015: 43), completing the cycle of relations between performance, motivation, engagement and satisfaction. It is thus clear that the importance of motivation arises from its key role in improving employee satisfaction, engagement, and ultimately performance.

I have created Figure 2 below to represent the existing positive relationships between performance, motivation, engagement and satisfaction in accordance with the literature studied in this chapter. Bi-directional arrows were chosen as the research studied and presented identified positive relationships but not which factor affects the other, for example it is unclear whether engagement results in better performance or employees who perform best are more engaged as a result of their performance.
5 The Relationship Between Intrinsic and Extrinsic Rewards

We have understood what variable pay is and the importance of motivation. Before diving into the study of the effects of variable pay on motivation, we will first present further theories on the relationship between Intrinsic and Extrinsic motivation. To a degree, we have already seen that a motivated employee will perform better. Cho and Perry (2012) argue that while intrinsic motivation positively affects employee satisfaction, under high levels of extrinsic reward expectancy, the effects of intrinsic motivation on satisfaction are greatly reduced. In other words, where employees are expecting extrinsic rewards such as variable pay, intrinsic motivation will contribute a lot less to their satisfaction. (2012: 399) Chamorro-Premuzic (2013) argues that intrinsic motivation is a stronger predictor of job performance than extrinsic motivation, and as such if Cho and Perry’s research (2012) shows that extrinsic motivation (or to be precise extrinsic reward expectancy) hinders the effects of intrinsic motivation on employees’ behaviors, in a way it also hinders performance.

It is interesting here to consider psychologist Frederick Herzberg’s Two Factor theory, which states that extrinsic factors such as status, salary, work conditions, supervision and company policies, are associated with dissatisfaction (up to no dissatisfaction) while intrinsic factors such as achievement, recognition, work itself, responsibility and advancement are associated with satisfaction (down to no satisfaction at worse). (Judge and Robbins 2009: 212)

While this could be interpreted as an opposite relationship between intrinsic and extrinsic motivators, a careful consideration of both Maslow’s Hierarchy of Needs theory, Herzberg’s Two Factor theory, and Cho and Perry’s research (2012) would reveal that this is not the case, instead intrinsic and extrinsic motivators operate on two different axes. Indeed pay is strictly an extrinsic motivator. Variable pay however is supposed to be a reward tightly linked to performance that will aim not just to satisfy extrinsic factors, but also intrinsic motives such as recognition and achievement, making variable pay both an extrinsic and intrinsic motivator.

In response to Chamorro-Premuzic’s interpretation (2013) of Cho and Perry’s findings (2012), we should consider the possibility that extrinsic rewards may decrease the effects
of intrinsic motivation on employees because the extrinsic rewards not only motivate the employees extrinsically but also intrinsically to some extent. In other words, Cho and Perry’s research (2012) is saying that intrinsic motivation influences employee satisfaction positively to a degree, and where extrinsic reward expectancy is high, intrinsic motivation influences employee satisfaction to a smaller degree (2012: 399). It is important we not rule out the possibility that intrinsic motivations’ influence on satisfaction was reduced because the extrinsic reward expectancy worked as a substitute of intrinsic reward and already influenced employee satisfaction positively.
6 Does Money Motivate Employees?

For the past sixty years, scientists and researchers have been trying to find out whether extrinsic rewards can be used as a motivational strategy. Some researchers claim there is a tension of sorts between extrinsic and intrinsic motives, and that financial rewards can in fact depress employees’ intrinsic goals (Chamorro-Premuzic 2013: 1; Deci et al. 1999: 659). However, researchers have yet to reach a consensus about the degree to which monetary rewards may demotivate employees (Chamorro-Premuzic 2013: 1).

6.1 The Detrimental Effects of Money on IntrinsicMotivation

There is no shortage of research and literature suggesting that variable pay and more generally extrinsic rewards have detrimental effects on motivation.

Deci et al.’s study of meta-analyses that covered 128 controlled experiments tells us that in general, tangible rewards have a detrimental effect on intrinsic motivation. (Deci et al. 1999: 653)

The studies were conducted on subjects ranging from preschoolers to college students. Slightly different methods were used to test intrinsic motivation by studying two factors, Self-reported interest, which were essentially questionnaires that applicants filled out, and free choice behavior, which mostly studied the degree to which participants returned to and persisted at a target activity. (Deci et al. 1999: 635-636)

Behavior was measured according to whether a task was interesting or dull, and whether the reward was vocal or tangible, if tangible expected or unexpected, and if expected were the rewards task non-contingent, engagement-contingent, completion-contingent, or performance-contingent.

Some examples of experiments included participants being told that “if they waited for the experimenter to return, they would receive the candies as a reward” (Deci et al. 1999: 636) to test task non-contingent rewards. Other examples of rewards included small sums, such as one or two US Dollars, and tasks ranged from word games to puzzles.
Deci et al.’s results were recorded in the following two figures for Free-Choice Behavior and Self-Reported Interest respectively where $k$ represents the number of studies (effect size), $d$ is the effect size, in other words the correlation, with a negative value representing a negative correlation and a positive value representing a positive correlation, 0 meaning there is absolutely no correlation. While the interpretation of a correlation coefficient will vary across fields and research, it is generally approved that a weak correlation starts at approximately +/- 0.2, and a moderate correlation starts at approximately +/- 0.4.

The numbers in parentheses represent the confidence interval, or in other words the range of effect sizes that should be observed within a population.
Figure 3. Summary statistics for effects of types of rewards and reward-contingencies on free-choice behavior at various levels of aggregation. The symbol $k$ refers to the number of studies (and thus the number of effect sizes) in each composite effect size. Each $d$ entered into the composite was corrected for sample size. All reported composite effect sizes that are not further differentiated are homogenous. The pair of numbers in parentheses represents the 95% confidence interval for the composite effect size. Boldface type and an asterisk next to a $d$ value indicate that the composite effect size is significant. This figure includes all unpublished dissertations and all studies that had imputed $d$ values of 0.00 because they did not report cell means.

Figure 3 – Free-Choice Behavior (Deci et al. 1999: 647)
Figure 2. Summary statistic for effects of types of rewards and reward-contingencies on self-reported interest at various levels of aggregation. The symbol $k$ refers to the number of studies (and thus the number of effect sizes) in each composite effect size. Each $d$ entered into the composite was corrected for sample size. All reported composite effect sizes that are not further differentiated are homogeneous. The pair of numbers in parentheses represent the 95% confidence interval for the composite effect size. Boldface type and an asterisk next to a $d$ value indicate that the composite effect size is significant. This figure includes all unpublished dissertations and all studies that had imputed $d$ values of 0.00 because they did not report cell means.

Figure 4 – Self-Reported Interest (Deci et al. 1999: 648)
Although Deci et al.’s results varied between the free-choice behavior and self-reported interest measures, they clearly showed an overall negative effect of tangible rewards on intrinsic motivation.

By studying the free choice behavior results, we see that the most detrimental effects to intrinsic motivation occurred for performance contingent rewards where less than maximum reward was given (d = -0.88), performance-contingent rewards as a whole (-0.28), completion and engagement contingent rewards (d = -0.44 and -0.40 respectively). For self-reported interest, the results were less clear-cut, with correlations for performance-contingent reward being absent, weak (albeit negative) for engagement and completion contingent rewards, and actually positive (d = 0.21) for task non-contingent rewards, suggesting that people, or more accurately children and students judging by the control group, think they will be motivated by rewards so long as nothing is expected from them in return.

An interesting result worth noting is that verbal reward showed a positive correlation with intrinsic motivation in both cases. It is also worth noting that the most detrimental effects of rewards on motivation come in the conditions set forth earlier for implementing variable pay programs, which is by strongly linking reward to performance, hence performance-contingent rewards. This may suggest an inadequacy of either the methodology to conduct the experiments, or of the fundamentals.

One of the first issues to consider with extrinsic rewards is the issue of control. Rewards are known to control behavior (Deci et al. 1999: 657) as Deci et al. phrase it, though we would deem the term influence to be more appropriate as individuals are always free to choose or reject rewards and the decision making process will often involve numerous complex factors other than a simple rational evaluation of well-being with or without the reward. Indeed as discussed earlier the power of variable pay lies in its capability to motivate people to work extra hard, or choose a company over another. However are variable pay-motivated workers putting in the extra work because they are truly motivated, or simply because they must do it in order to achieve a financial goal?

When looking at true, intrinsic motivation, the assumption being made by a number of researchers (deCharms 1968, Deci and Ryan 1985, Csikszentmihalyi 1990, Harackiewicz
and Sansone 1991) is that in order to be intrinsically motivated people need to be free of control, autonomous and competent, they need to have the freedom to engage into the task and how long they wish to remain engaged for before moving on to another task. In an organizational context this might be translated to for example the freedom of a Business Development Manager to spend time looking for news on the industry online, before switching to calling partners and suppliers to get more insider information, before working on Powerpoint presentations to present the information the next week, and eventually working on a side project such as the organization of the yearly company team-building outing.

Continuing on the assumption that freedom from control is a fundamental human motive, Deci et al.’s meta-analysis findings were that “one of the primary negative effects of rewards is that they tend to forestall self-regulation”. (Deci et al. 1999: 659)

In other words one of the primary negative effects of tangible rewards is that they remove the need for people to motivate themselves. In essence, a person might naturally find positive things about a task that they are performing, allowing them to view the task as interesting. The arrival of tangible rewards would then take the attention away from simply enjoying the task, and instead onto the thought that good performance must be achieved in order to get full reward. (Deci et al. 1999: 659, Chamorro-Premuzic 2013)

With these statements, it can be seen that Deci et al. (1999: 659) assume that feelings of autonomy and/or competence are fundamental motives which lead to human satisfaction. There is however a school of researchers who disagree with Deci’s claim that rewards reduce self-determination and competence. (Eisenberger, Pierce & Cameron 1999: 678)

Jensen (1994) argues that despite the non-rational aspect of human nature, normative human behavior can be predicted using REMM1 - Resourceful, Evaluative, Maximizing Model of human behavior (Jensen 1994: 7). Based on this model Jensen argues that it is human nature to aim to maximize well-being, and purposeful human actions are nothing else than responses to incentives, which means having a choice. Humans

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1 See Meckling and Jensen 1994
constantly have a choice, and rational individuals choose the option that makes them better-off (Jensen 1994: 2). This means that variable pay rewards should not make employees feel like they are being controlled, quite the opposite it should reinforce the feeling of autonomy: they are not being told to do task A, but instead given the choice to perform task A or B, with task A being accompanied by incentives that will make them better off. It is then up to the employees to choose whether they accomplish task A and get the extra reward or not. This could be viewed as crude manipulation were it not for the fact that in the case of variable pay incentives, a more than adequate base salary should already be in place to cover all the basic extrinsic needs.

Eisenberger et al. (1999: 681) believe that rewards should increase, rather than decrease employees’ sense of autonomy and through it their level of motivation. They argue that people have the freedom to take a reward or refuse it, making rewards such as variable pay attempts motivators to yield extra performance should the employees so choose.

Eisenberger et al. (1999: 678) continue to argue that viewing intrinsic motivation solely from the perspective of self-determination and competence paints a simplified picture of human motivation. People may be motivated by a task because it allows them to think creatively, lets them channel their aggressive or sexual fantasies, allows them to fit in with a group, etc. With this argument the researchers claim that rewards can have advantageous as well as disadvantageous effects on intrinsic motivation. In fact, the trio found a positive relationship between employees’ expectancies of reward for high performance and their interest in their daily job activities.

It is worth noting that Deci, Koestner and Ryan’s meta-analyses covered experiments where the sample size consisted of children and college students. As the brain continues to develop up to a person’s mid-twenties (Johnson et al. 2009: 1) and personality and behavior will continue to be shaped, one could argue that the sample groups were not representative of the real world, salary earning adult population. Furthermore in some of the studies for performance-contingent rewards (such as variable pay), rewards given consisted of Marshmallows and $3, and while those may be somewhat attractive to preschoolers, it is clear that college students will have a different scale of reward appreciation. In other words while in the experiments rewards may have appeared to undermine intrinsic motivation, in the real world where cash rewards are commonly
worth 10% to 100% of the yearly salary, one could expect a more noticeable impact on motivation, considering that the reward may significantly affect employee well-being.

One could further argue that experiments cannot possibly suffice to answer the question “does variable pay hinder intrinsic motivation?”, and dollar bill craving variable pay supporters surely make a point to criticize the research studied previously. However we must also take note of some of the real world negative effects that variable pay can have.

For one, it is rare in an organization for everyone to be getting an equal amount of variable pay, there will always be a gap between the percentage of the yearly income that a marketing manager will perceive with that of a VP or the CEO, and even if the percentages were the same, the difference in base salaries will mean an even greater inequality of income.

The natural result will be a feeling of unfairness felt by certain employees who are getting less, or in some cases not getting any bonuses at all. This was the case when the San Diego County paid out US$1.2 million to managers and department heads, with approximately a third of the managers not getting any bonuses while others got up to 30% of their base salaries, and base level workers who received nothing being dissatisfied (read demotivated) and involving their workers’ union (Allen 1997: 1-3).

Furthermore, in the real world tangible expected performance-contingent rewards such as bonuses are used to indicate a measure of competence, with the maximum amount receivable given only if targets are fully met or exceeded. However in addition to being controlling, such reward systems may convey negative-competence information and be highly detrimental to employee motivation for the employees who will not get maximum reward. (Deci et al. 1999: 656)

In other words the obtaining of a reward less than the maximum obtainable may in many cases be interpreted as negative feedback, as the employer telling the employee that they were simply not good enough to get the full bonus, which would be demotivating enough if the employee already thought that they did not perform so well that year, but
may be even more demotivating if the employee thought they did well and deserved more than that given.

Another reality is that bonuses, while originally supposed to reward good performance, tend to become expected to the point that regardless of the financial performance of the company as a whole, bonuses will be paid to employees so as to prevent them from becoming demotivated to the point of moving over to a competitor who will pay more favorable bonuses. This was seen during the 2008 financial crisis when banks continued paying billions in bonuses while receiving bailout funds from governments (Bowers et al. 2013: 4, Cuomo 2009: 1). Some could further criticize the use of bonuses as a motivation tool since many argue that it would not affect the way they work at all, such as Deutsche Bank Chief John Cryan when saying that he wondered why his contract had a bonus clause since he would not work more or less hard because someone will pay him more or less (The Guardian 2015).

6.2 The Positive Effects of Rewards on Motivation

As introduced previously, there is a school of thought that believes that extrinsic rewards can actually improve intrinsic motivation.

Deci et al’s meta-analyses of 128 experiments, despite generally showing that tangible rewards have negative effects on motivation, also showed that this was generally the case for interesting tasks, and rewards have no harmful effects on motivation for uninteresting tasks (Deci et al. 1999: 628)

A meta-analysis of over 100 studies done by Cameron, Banko and Pierce (2001) presented results that contrasted with earlier research done by Deci, Koestner and Ryan (1999), despite both meta-analyses using a lot of the same studies. Cameron et al.’s results (2001) suggested that rewards are generally not harmful to motivation to perform a task. Figure 5 below summarizes the meta-analysis, showing either negative, positive or null effects of rewards on intrinsic motivation.
For low-interest tasks, rewards enhanced free-choice intrinsic motivation, and for high-interest tasks, verbal rewards showed positive effects (as confirmed in Deci et al.’s meta-analysis (1999)), while performance-contingent rewards showed either positive or neutral results. The only negative correlation occurred on high-interest tasks where rewards were loosely tied to performance. (Cameron et al. 2001: 1)

![Diagram](meta-analysis-diagram.png)

Figure 5. A summary of the meta-analysis comparing free-choice intrinsic motivation and self-reported task interest. $0 =$ no reliable effect; $-$ = statistically significant negative effect of reward; $+$ = statistically significant positive effect of reward.

While Cameron et al.’s graphical representation of the results is simpler than Deci et al.’s with simple $+$, $0$ and $-$ signs to represent the effects of rewards on intrinsic motivation instead of actual correlation values, we clearly see a difference in results.

As we are studying the effects of variable rewards, the focus should be on expected tangible rewards. We see that results are overall more negative for free-choice intrinsic motivation than self-reported tasks, suggesting a certain level of cognitive dissonance.

As seen earlier variable pay can be a de-motivator if less than maximum rewards are given and the reward essentially becomes a form of negative feedback, however intrinsic
motivation was self-reported as increased for rewards given for completing a unit or task, and surpassing a score or exceeding others, while free-choice intrinsic motivation results showed neutral results for completing a task (as long as maximum rewards are given), and positive results for exceeding others.

One thing seems clear from the experiments covered by Cameron et al.’s meta-analysis (2001): variable pay should improve intrinsic motivation in a competitive environment, and should in most cases improve intrinsic motivation if full rewards are given for completing certain units or tasks, hence requiring a clear definition of the methods used to measure performance. This is in line with the fundamentals of variable pay discussed earlier.

Njanja et al.’s results (2013: 46) added to the list of arguments supporting variable pay by showing that, according to a majority of employees’ perception, cash bonuses motivate employees to achieve their targets, be more productive, and overall motivate performance. (Njanja et al. 2013: 46)

Variable pay’s positive effects are not restricted to experiments either with studies showing that real world companies are motivating their employees and yielding better performance as a result simply by tailoring their reward plans to their employees. (Steenburgh and Ahearne 2012: 2)

Finally when considering variable pay versus other types of rewards to incentivize employees, it is worth noting that the issue for organizations is not whether to incentivize employees as there are always incentives, whether monetary or other. Instead the advantage of monetary incentives such as variable pay is that they offer purchasing power, which is valued by almost everyone. (Jensen 1994: 3)
7 Limitations and Discussion

With 79% of companies offering some sort of variable pay to their white collar employees (Dietderich 2006: 1) it is fair to assume that bonuses and other forms of variable pay will continue to be common practice. We have studied the research backing the point of view that extrinsic rewards are detrimental to intrinsic motivation, as well as the research backing the opposite point of view, and despite both schools of thoughts proposing convincing arguments based on research and experiments, the results remain inconclusive. This is rather curious since Deci et al.’s studies (1972, 1999, Gagne and Deci 2005) and Cameron et al.’s (1994, 2001) and Eisenberger et al.’s (1999) studies of meta-analyses are largely based on the same experiments. If the same experiments lead highly qualified scholars to opposing views and conclusions, we can assume that choice of methodology combined with fairly weak correlations in the results are leaving room for interpretation, and for strongly opinionated scholars to rush to conclusions while the truth might be that the effects of extrinsic rewards on motivation depend on too many factors and variables to reach one general conclusion.

Secondly as expressed previously in chapter 6, it is unrealistic to aim to paint a picture of general human behavior through some experiments involving school children and college students. In order for variable rewards to motivate employees, we have seen in the fundamentals that the base salary needs to be more than adequate, and the bonus needs to be considerable enough to mark a considerable improvement in employee well-being, and considerable enough to influence intrinsic motives, such as those in the upper part of Maslow’s Hierarchy of Needs. Perception and understanding of money is different for everyone, however we doubt many would disagree with the fact that a child’s motivation as a response to marshmallows and one or two dollars will not be the same as that of Director level employees responding to a variable pay incentive representing tens of thousands of dollars. For one marshmallows will not make children feel a sense of accomplishment in life, in fact it could be argued that many children do not think about what it is they wish to accomplish in life at all, whereas variable pay rewards, if important enough, might influence intrinsic motives such as accomplishment in adults.

Outside the academic realm of elaborate experiments, it is true that executives such as Cryan often voice their opinions on the matter, for example saying that bonuses have
no effects on work behavior (The Guardian 2015). Whenever such assumptions are being made, we should always question whether they are based on facts or simply widely shared albeit untested ideological beliefs (Spector and Spital 2011: 327).

Since it is clear that the existing studies on the topic are somewhat too general and contradicting to draw a comprehensive model of human response to variable pay, there is a definite need for further research. We would propose that such research control as many variables as possible in order to take into account differences in people, such as culture, personality types and the type of work, and that such studies be repeated regularly in order to follow possible changes in human response to extrinsic rewards through time.

Indeed when considering cultural differences, it is common knowledge that some cultures are more individualistic, such as the Anglo-American culture where globally people like to be recognized individually, while for example in China the culture is known to be more collectivistic. As research has shown that there are differences in organizational commitment across cultures, notably between individualism and collectivism (Fischer and Mansell 2009: 1355), and given the similarity between affective commitment and work engagement and satisfaction, it seems very likely for certain types of variable pay systems to be adopted in certain parts of the world in order to recognize individual efforts, whereas in other cultures variable pay systems may need to be tailored to recognize group or team performance. However we could argue that even if experiments showed any correlation between variable pay and motivation depending on cultural background, using a variable pay model based on culture would probably be highly ineffective due to the wide range in personalities even within one culture, and the fact that today organizations hire employees from various cultural backgrounds. Nonetheless studies could focus on the difference in reward preferences between individualism and collectivism, and organizations could take the results into account if implementing variable pay plans based on personality traits.

This brings us to the personality variable. This is an interesting question that researchers have already been investigating, and so far research has shown that there are indeed significant differences in reward preferences according to personality types and ethnicity in South Africa (Nienaber, Henn & Bussin 2011: 4). The research conducted by Nienaber
et al. sorted personality types according to the Myers-Briggs Type Indicator (MBTI), undoubtedly one of the most widely used personality assessment tools. However it grouped all types of rewards into only 2 categories and used an electronically distributed questionnaire with sample size of 5000. We would argue that in order to draft a model that will actually help managers design variable pay plans to optimally motivate their employees, studies based on observation of behavior in real work settings would be necessary to not only address what employees say will motivate them but what actually motivates them based on their behavioral response to rewards. Rewards should also be broken down into further sub-categories, for example as seen earlier within variable pay only numerous plans can be considered, such as bonus and profit sharing.

The importance of any findings associating personality types to rewards that work best for them would be undeniable; companies’ HR departments could do personality tests when hiring new employees and achieve ultimate employee motivation through tailored incentive plans. One could argue that such a plan would mean giving different incentive plans to workers on the same team, which may be highly controversial and to some extent discriminative if it means certain employees getting more monetary rewards through variable pay and others getting the frequent pat on the back as intrinsic motivation. Nonetheless careful designing of the incentive plans would surely solve any issues of fairness, and having tailored incentive plans is by no means a strange concept with little chance of ever seeing light of day. Today some companies are already using different tools to motivate their sales force, tailoring the key incentives to the performance groups, whether stars, core performers or laggards (Steenburgh and Ahearne 2012: 2).

As third variable we would deem important for future research to control, the type of work performed may play a role in how effective the variable pay reward, or other incentive, will be. Certain jobs require more autonomy, some could be deemed more or less interesting, yet others may require strong codes of ethics so as to prevent cheating. Highly autonomous Sales people may need to be motivated using commissions with some measures in place to prevent cheating while Managers working in the supply chain may be more incentivized by tying their rewards to their success in finding efficient suppliers, with for example extra bonuses for finding partners with ISO14001 certification for environmental practices. This ties in with the fundamentals saying that there is not
a one type fits all variable pay plan, and this is true. However identifying patterns in types of variable pay that work on improving motivation per job type could greatly help organizations in designing effective variable pay plans.

The generational factor is one to take into account as there seems to have been a clear shift in what people expect from their organizations in order to be genuinely satisfied and intrinsically motivated. It is hard to conceive that from baby boomers through to generation X, Y or Z people will have the same expectations from their workplaces and depend as much on intrinsic motivators in order to be satisfied and motivated. There is a multitude of macro-economic factors ranging from wars to recessions and periods of rapid development that may affect employees’ behavioral response to incentives. Growing up I recall being told that I could be anything and should seek to work in a company where I am truly happy, enjoying the work itself and having fun, thus making my expectations of intrinsic motivators in the workplace that much bigger, and likely tying the correlation between intrinsic motivation and satisfaction even more. This is the case for many others in my generation, whereas many of our parents were raised by people who endured periods of war or recession, and placed a much greater focus on stability and extrinsic motivators such as money. Is the importance of intrinsic motivation in organizational settings today here to stay or is it just a trend?

We will finally discuss the importance of observing the fundamentals laid out earlier in this paper. Bonuses seem to be often criticized in contexts where the organizations implementing them did not follow the fundamentals. For example some organizations either try to use variable pay to decrease fixed pay salary levels and only reward high performers (Allen 1997), or the variable play given as a reward is not intrinsically meaningful to the employees. The fact that in order to be intrinsically motivating variable pay needs to be significant and meaningful means there is likely a monetary cap beyond which no amount of money will be meaningful, unless it is for the competitive factor of making it up the ranking of richest people on earth. If emotional well-being increases with pay and plateaus after an annual salary of 75,000 dollars (Kahneman and Deaton 2010), it could also be the case for variable pay in the way it affects intrinsic motives.


8 Conclusion

Having reviewed the literature, there is very strong evidence that variable pay affects motivation. Whether variable pay affects intrinsic motivation however is much less clear-cut, and of great importance considering the positive impact that intrinsic motivation has on employee engagement, satisfaction and performance.

While scholars disagree, one common pattern existing across multiple studies of meta-analyses tells us that variable pay will generally positively affect intrinsic motivation for dull tasks, as well as for interesting tasks if the reward is contingent on surpassing others or completing a task. For interesting tasks, rewards contingent on doing well or simply doing, or engaging in doing a task, have an overall neutral or even negative effect on intrinsic motivation.

The studies reviewed additionally showed that verbal reward consistently had a positive relationship with intrinsic motivation, and that intrinsic motivation has a much stronger correlation with employee engagement, satisfaction and performance than extrinsic motivation. The case made in this paper with the support of multiple real world studies and experiments is that variable pay can indeed improve not only extrinsic motivation but also intrinsic motivation if the fundamentals of variable pay are respected and the rewards are tied to certain specific measures of performance (e.g. completing a task, reaching or exceeding a threshold and surpassing others). Today it seems that a number of failure stories of variable pay plan implementations can be attributed to poor plan design and a disregard for the fundamentals.

Most importantly, from the contradicting nature of existing studies and ill-representative sample groups, it is evident that further research is needed in the field in order to understand more clearly in which contexts variable pay will have a positive or negative effect on intrinsic motivation in organizations. Shall new research and experiments take into account personality, culture and job nature variables and show consistent and convincing results on the effects of variable pay on intrinsic motivation, a much clearer and precise set of fundamentals could be drafted in the future that will revolutionize the potential of variable pay in organizational settings.
9 References


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