

## **The impact of contingent time off on productivity in a small manufacturing environment**

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### **Abstract**

This field experiment reports on the impact of contingent time off (CTO) on employee performance in a manufacturing environment. A CTO plan is a formal company-employee agreement in which the firm promises its employees that when they perform to an agreed upon standard, they will then receive an agreed upon amount of paid time off. The study takes place at two tortilla manufacturing plants owned by the same company. Results indicate significant improvement in daily productivity of the experimental group (plant A), while performance of the control group (plant B) remained virtually unchanged. Subsequently, employees in the control group (plant B) were offered a similar CTO plan, and daily productivity also increased to a level commensurate with the original experimental plant. Six months later the increased standards of production continued. This field experiment strongly suggests that a CTO incentive is a viable strategy for increasing productivity and employee satisfaction without increasing labor costs when implemented effectively. Motivational theories explaining such outcomes are explored and implications and applications of CTO during a down economy are discussed.

Keywords: contingent time off, motivation theories, performance incentives, small business

## Introduction

Motivation and productivity in the workplace are topics of concern for any size business or nonprofit. In capitalistic societies, the major measure of success of a business has been how much profit the business makes – the bottom line. As Generation X and Y employees have grown in number in the workforce, so too have alternative work schedules ranging from flexi time, four-forty workweeks, to mobile and work at home arrangements.

How does a business or organization get optimal performance out of its human resources, especially in an economy characterized by unemployment and depressed consumer demand? Human factors often impact this bottom line as much as technology, equipment, capital, or other resources. The manager is concerned with getting more productivity out of fewer employees—increasing output without increasing costs and without incurring any negative consequences. Contingent Time Off (CTO) is a simple, albeit underutilized practice which may provide a solution or serve as a transition to a more effective business model. CTO works as follows. Once production goals are met on any given day, an individual or team of employees may go home even if it is before the end of their normal 8-hour work day while still being paid for the full eight hours on the clock. When a CTO system is implemented, a higher production goal is set than currently exists for the regular 8-hour day—with no concomitant increase in salary but with the ability to go home when the goal is reached within the 8-hour day. In other words, employees produce more for the same pay, in exchange for the opportunity to obtain the benefits of free time driving the effort.

In this study, a Contingent Time Off plan is proposed and implemented with cooperation and consent from the employees in a small food manufacturing operation (experimental group). Output is measured over a week in the experimental group and in a comparable control group. The control group is then offered the same CTO incentive system a week later. The authors discuss the theoretical bases for expected outcomes derived from motivation theories. Examples of CTO applications are noted with discussion of implications of this field study for productivity, long run motivation, and survival in unstable markets.

## Theoretical Background

**Motivation theories.** Most modern day managers are aware of Abraham Maslow's Theory Z Hierarchy of Needs (Maslow, 1943) which has become the manager's bible for understanding how to motivate an employee. Individuals work to satisfy human needs at the most basic level which are physiological needs such as food, water, and sleep. When these are sufficiently satisfied, safety needs kick in—protecting oneself from physical threats and security of person and resources. Following the safety needs are social needs, including the need for acceptance, belonging, and feeling part of something. The next level contains esteem motivators--status, recognition, and feeling valued and appreciated. The pinnacle of Maslow's Pyramid is self-actualization where people have a need to realize their full potential, both in accomplishment and appreciation of self and others. Maslow's application of motivation requires understanding the level an employee is operating at and understanding that a Satisfied need cannot ever be a motivator. The manager must address unmet needs to discover previously unknown motivation. An individual and the organization employing him may be operating at different levels simultaneously (Maslow, 1943). Motivation is also heavily dependent upon the environment. In a safe environment, one will seldom find the need to protect him/herself

particularly motivating. This is of particular interest in an era characterized by international terrorism and natural mega-disasters. In response to these crises, whether real or perceived, the workforce in the 2009 era of the United States are increasingly finding themselves operating at lower levels of needs. Increasingly high unemployment, larger food lines at food banks, higher homeless rates, and foreclosure epidemics dominate our headlines and affect our actions and perceived options.

Frederick Herzberg's two factor motivation hygiene theory categorizes incentives as being either hygiene factors or motivators. Hygiene factors are potentially dissatisfiers--factors associated with the job itself but not intrinsic to it. These factors such as salary, job security, administration, interpersonal relations, if not adequate could operate to dissatisfy someone but would not necessarily motivate someone when adequate. On the other hand, motivator-factors are directly intrinsic to the job itself and critical in the process of doing the job, including sense of achievement and recognition by colleagues, level of felt responsibility and empowerment are keys to real motivation (Herzberg, 1959). What is essential to understanding this concept is the distinction made between a motivator and a satisfier. A satisfier is that factor which, when fulfilled, is enough to get the employee to come to work at all. On the upper end, a motivator is that which actively drives the employee to go beyond the minimum standard of simply showing up. Herzberg promoted such concepts as Job Enrichment, Job Enlargement, and Job Rotation as potential motivators that worked well for those operating at the higher levels of Maslow's need hierarchy. It is important to keep in mind that once an individual has thoroughly pursued a motivator, it is likely to become a hygiene factor, and the search for motivating factors continues. (Herzberg, 1959).

Douglas McGregor (McGregor, 1960) coined the terms of managers being Theory X or Theory Y based on what their assumptions were about the motivation level of individuals. He theorized that many managers assumed employees were operating on the lower need levels and would respond better to external directions and incentives. A Theory Y manager, on the other hand, assumes that employees like most other human beings not living in abject poverty, operate at higher need levels and respond more favorably to intrinsic self-actualization types of motivation. This has tremendous implications for the business and political arenas, especially considering they operate in exactly the same way. This theory is ultimately a reiteration of the two-factor hygiene model, though it focuses more on the perception or misperception of the manager in interpreting the needs, desires, and, more importantly, the natural motivational disposition of employees. More accurately, the manager in this equation is either stating the needs and motivators of employees (theory X), or discovering and facilitating them (theory Y) (McGregor, 1960).

David McClelland (McClelland, 1961) promoted the importance of the need for achievement motive (nAch) along with two other secondary or socially acquired needs: need for power (nPow), and affiliation (nAff). Achievement is similar to behaviors related to self-esteem or self-actualization. Need for affiliation is similar to a sense of belonging, and need for power is related to recognition from others. In short, peoples' behaviors are motivated by the desire to satisfy these three needs.

Elton Mayo's interpretation of the Hawthorne Experiments (McCarney, Warner, Iliffe, van Haselen, Griffin, & Fisher, 2007) had set the stage for behavior modification possibilities. People have needs for recognition, feeling important, being heard. Meeting those needs is more important potentially than physical environment or even salary. Mayo's most critical message was that, frankly, business has nothing to do with business and everything to do with people. A

business is primarily a social institution. Remembering this facilitates success, while forgetting this invariably leads to failure and/or government intervention. A conclusion of the Hawthorne experiments that supports this is the idea that it is not the variables in the environment that spurred greater productivity; rather it was the perception of the occurrence of these changes. In other words, being part of the study and being asked about how they felt made employees feel good and perceived their roles as important and thus motivating greater effort. This can present a clear warning to the interpretation of field studies and case experiments. It is closely related to the medical idea of the placebo effect. Taking a medication will give the expectation of improved results, thereby producing improved results regardless of the effectiveness of the medication or procedure administered. Perhaps the reason for this is that the administration itself acknowledges the patient's feelings, thereby making him feel important and valued. Improved performance therefore may not be the result of an effective program, but may result from the fact that the program is implemented in the first place. It is difficult to quantify this type of result, but important to consider its' potential validity when interpreting the results of any social experiment or program (McCarney, Warner, Iliffe, van Haselen, Griffin, & Fisher, 2007).

Expectancy Theory (Vroom, 1964) relates the possibility of performing the task required, the likelihood that the reward will actually be delivered, and whether or not the reward is valued to the individual's motivation to perform a task. Vroom (1964) suggests that there needs to be a realistic, perceived causal relationship between the performance and the incentive in order to extrinsically motivate an employee or worker. Vroom's expectancy model also states that the strength of a reward's impact on worker motivation and effort are determined by three factors: instrumentality--worker believes that effort will lead to performance; expectancy--that performance will lead to rewards; and valence--that the rewards will be desirable and/or worth the effort. The strength of those three factors, in part, determines a workers effort and performance level (Mitchell, 1982). Expectancy theory is relevant to CTO, and any other incentive program, in that it clearly states all rewards must be perceived as attainable, realistic, and valuable in order to stimulate employee interest. This is a general guideline for the design of any incentive program (Mitchell, 1982).

Self-Efficacy (Bandura, 1986), is people's judgments of their capabilities to organize and execute courses of action required to attain designated types of performances. It is concerned not with the skills one has but rather with the judgments of what one can do with whatever skills one possesses (Bandura, 1986). For example, putting a group in charge of achieving performance goals in a time frame to be determined by the group contributes to self-efficacy. Feeling that people are in control of their lives tends to help one directly connect the results with the actions that led to them. Put simply, self-efficacy is an appreciated sense of responsibility and accountability.

Goal setting and its role in motivation is another thematic contribution (Erez, 1995) to motivation theories. The theory suggests that goals are the regulators of behavior. Specific and difficult goals tend to lead to higher performance over the existing level, so long as they are perceived as reasonable and attainable. The group level confirms the findings at the individual level of the strong positive effects of goals on performance (Latham & Pinder, 2005). Goals also provide for clear direction, mobilize task effort, facilitate development of task strategies, and encourage task persistence (Locke, 1967; Locke & Latham, 1990). Workers given feedback on performance outperform workers who are not given feedback (Enzle & Ross, 1978; Harackiewicz, 1979).

Self-determination theory (SDT) examines factors that enhance intrinsic motivation, self-regulation, and well-being. Three needs for competence (Harter, 1978; White, 1963); relatedness (Baumeister & Leary, 1995; Reis, 1994); and autonomy (DeCharms, 1968; Deci, 1975) are integral to the theory. These must be satisfied for individuals to experience a sense of integrity and well-being (Ryan & Frederick-Recascino, 1997; Waterman, 1993). In addition, is the source of motivation external or internal to the job itself -- the individual him or herself, or external to the person? This is the distinction between self-motivation and external regulation.

What role does pay play in motivating employees? For compensation plans, one issue in the literature is consistent concerning the perceived role of pay in motivating people—the constant is that there is little agreement on the role. Locke, Fredrick, Bobko, P., & Lee (1984) concluded in their meta-analysis “Money is the crucial incentive...no other incentive or motivational technique comes even close to money with respect to its instrumental value” (p. 379). Yet a meta-analysis of ranking of pay’s importance relative to other potential motivators put it at from second to eighth in lists of potential motivators (Rynes, Gerhart & Minnette (2004). It appears that a phenomenon called “socially desirable responding” is operating (Nunnally and Bernstein, 1984). Thus, the verdict appears to be out or mixed as to the impact of extrinsic rewards on intrinsic motivation. It can enhance, inhibit, or have no effect on motivation (Harackiewicz, Sansone, & Manderlink, 1985; Lind & Tyler, 1988), depending upon various contingencies.

The impact of contingent pay rewards based on organization or group performance has mixed results. Some researchers have found linking pay to results leads to enhanced organizational performance (Ehrenberg & Bognanno, 1990; Sherer & Kahn, 1990; Zenger & Marshall, 1995). Many studies have found the opposite. What, for example, is the impact of contingent time off, compared with the impact of pay tied to performance? Other factors will also influence the outcome such as the size of the group. Other things being equal, the smaller the group, the greater the impact of the incentives on motivation will be (Zenger & Marshall, 1995). The value of setting productivity goals every day and trying to beat your prior record for completion time may have the effect of being an intrinsic motivator. The challenge in doing the work itself, the affiliation with others, and being relatively autonomous—not externally determined incentives--all contribute to increasing the probability of CTO being an effective motivator.

### **Contingent Time Off**

A CTO plan is a formal company-employee contract in which the firm promises workers that when they perform at an agreed upon level, they will then receive an agreed upon amount of time off (Lockwood & Luthans, 1984). There are several variations of CTO plans, but their essential characteristic is “earned time,” allowing employees more leisure time once agreed upon performance goals are met. CTO are not to be confused with flexi time systems not contingently applied. CTO plans may also be used in specific or limited circumstances, with contracts negotiated with certain individuals or groups within an organization.

Three previous CTO field studies in manufacturing, government and retail sales all concluded that CTO plans, in general, have a positive impact on employee productivity (Luthans, Paul, & Baker, 1981; Lockwood & Luthans, 1984; Nordstrom, Hall, Lorenzi, & Delquadri, 1988). This field experiment sought to replicate previous CTO studies and practices, to explore

what motivation theory explains on expected outcomes, and to extend findings to a small, entrepreneurial business environment.

Other applications for some form of CTO currently exist in practice. For example, the US Post Office utilizes a form of CTO with graded routes, especially in rural areas. A standard is calculated for how long it should take on average to deliver the route, and if individual postal employees complete their route before that time, they can go home. Some UPS routes are also calculated this way.

CTO incentives are not, however, without risks and these need to be included in the design and evaluation process. These risks apply to both the employee and the employer. Among the risks for the employee are rising expectations and standards in response to improved performance (“An Honest Day's Garbage Collection,” 1994). For example, high performers are typically “rewarded” with more work rather than more pay when they do what they are expected to do in less time than they are expected to do it. The socially responsible leader is aware of this, and will endeavor to avoid exploiting his workers in such a fashion. On the other hand, employees may become used to their time off and begin to expect additional incentives in the future to continue meeting production goals. Additionally, increased incidences of defective products and accidents could result from rushed work. Ultimately, the responsibility lies with whoever makes the decision. Involving employees in matters intricately tied to their capabilities and interests increases the potential for successful outcomes (DeCharms, 1968; Ryan & Frederick-Recascino, 1997).

### **Relationship of CTO to Motivation Theories**

Behavior modification and cognitive theorists (Vroom, 1964) assert that behavior is based on expectations of future outcomes and the absolute and relative values of those outcomes to the individuals involved. With the application of CTO, the expected future outcome is paid time off when production goals are achieved. Because time may be the most valuable and versatile resource (we can do nothing without time and anything with enough time and other resources), then time has motivational relevance to each and every person on earth. Successful augmentation of employee motivation and dedication to employer-set goals depend on the degree to which the incentive program aligns with employee needs (Vroom, 1964).

The hierarchy of needs (Maslow, 1943) describes biological and physiological needs and/or higher level of needs as being motivators depending on the level at which a particular individual or group is operating. Time off should be motivating if operating at higher need levels as it allows the individual the freedom to pursue the satisfaction of the needs he is truly operating on regardless of financial realities necessitating employment. Time off can actually motivate an individuals operating at very low need levels as well by offering them earned time off to spend with family and personal errands. On one level, the Best Tortilla employees are saving their jobs and being able to buy their basic necessities. At another level, they are challenging themselves to produce more and in a shorter period of time. They are also offered the external reward of time off if they meet their goal. What is the value of time off? What does it represent? While this can only be answered concretely by the employees themselves, it is possible to describe the abstract value. The employees are not told to meet the quota, but rather asked if they think they are capable of accomplishing it. The significance of this is difficult to overestimate. It potentially stimulates all levels of needs (Maslow, 1943), while at the same time acting as a motivator (achievement of goals) and a hygiene factor (employees still get paid).

Satisfaction and motivation will be higher if there is a combination of relatedness, autonomy, competence, and perceived intrinsic level of causality (DeCharms, 1968; Ryan & Frederick-Recascino, 1997) in the situation.

This situation has the employees deciding for themselves that new production goals can be met in what time frame each day. Successful accomplishment of these goals requires communication and coordination among and between workers, stimulating social interactions and relatedness of the job to the employees both individually and collectively. Because of these factors, and because it is known that workers with specific, challenging goals will outperform workers with less specific, easily attainable goals or no goals at all (Latham & Lee, 1986) it is very likely that a voluntary CTO plan will result in higher productivity through higher employee motivation.

The review of motivation theory and CTO applied to this study suggested several different motivation theory concepts that would explain why CTO would increase productivity but not labor costs. This resulted in the following null hypotheses:

*Null Hypothesis 1:* There will be no difference in the before-and-after output of Plant A as a result of the implementation of Contingent Time Off in Plant A.

*Null Hypothesis 2:* There will be no difference in the before-and-after output of Plant B as a result of the implementation of Contingent Time Off in Plant B.

## **The Study**

This study takes place at two tortilla manufacturing plants, both owned by the same company, but located in different cities. Roberto Gonzales, president of Best Tortillas Company and a socially conscious entrepreneur, was committed to keeping legal aliens employed in his two plants. Increasing competition, however, had eroded his company's already slim profit margin making the painful reality of the situation perfectly clear to him – without timely and decisive action, he would be risking bankruptcy.

Earlier in the week, the four salespeople for Best Tortillas came up with the following proposal: If Best Tortillas lowers wholesale prices by X amount (undisclosed) per unit; they could undercut the competition's prices and make up the difference in increased sales volume. They were reasonably sure that the demand for their product existed at the slightly lower price. Working with the company's accountant, Gonzales calculated that Best would need to increase daily combined production and sales at the two plants from the current 2,900 units (boxes of tortillas) per day to 3,800 without increasing labor costs if they were to stand a reasonable chance of averting bankruptcy. Gonzales' dilemma was that he simply could not afford to hire additional employees, pay overtime, or even increase current employees' hourly wages as an incentive to meet the necessary increase in daily production quotas. Gonzales wanted another incentive besides money (or fear of job loss) that employees would find acceptable in exchange for meeting the increased production quota. Deciding to go with a CTO plan, he enlisted the advice of a consultant to implement it.

When Mr. Gonzales initially presented the CTO plan to employees, they were asked: (a) if they thought the increased production quota was achievable within an 8-hour or less day, and (b) what concerns they had with the plan. Employees, in general, expressed that if they all worked together really hard, then it would be possible to achieve the new quota, possibly in less than an 8-hour day. Their primary concern was what would happen in the situation where

factors outside of their control (e.g., supply shortages, late deliveries, poor quality of supplies, equipment breakdowns, etc.) caused them to fail to meet the quota, thereby robbing them of the opportunity to earn the early time-off incentive. Mr. Gonzales calmly explained that those situations were inevitable, but hopefully few in number. He again emphasized that in order to stay in business when those situations happened, employees would still be expected to work at least an 8-hour day, even if the production stoppage was not their fault. At least with a CTO plan in place, they would have the opportunity to earn some early time-off on most days. Employees finally agreed to a trial period of the CTO plan to see how it worked out. Employees in the experimental group (Plant A) agreed to a short trial study of the CTO plan. Production numbers in Plant A were retrieved from the database for three days before the CTO intervention, and then production numbers were kept for twelve days after the intervention. Meanwhile, employees in the control group (Plant B) continued operations as usual (i.e., no CTO plan in place yet). Production numbers in Plant B were retrieved for the ensuing five days. Subsequently, employees in the control group (Plant B) were offered a similar CTO plan and results were monitored for ten days. Ideally, both Plants A and B would have been measured over the same pre-post time intervals, but it was simply a matter of convenience in data collection. Even though Plants A and B were in different cities roughly 400 miles apart, it would be natural to expect some communications “leakage” about what was happening in Plant A with CTO, and Plant B employees would naturally expect a similar CTO offering.

The CTO plan was relatively straightforward: When employees could collectively meet the increased daily production quota, they would receive the rest of the 8-hour day off with pay. All employees would leave the plant at the same time when, and only when, notice of meeting the production quota was announced. When the quota is not met, employees are expected to put in their regular eight-hour day. Any unit deemed a quality defect attributable to production problems (not to supplier or equipment problems) would need to be offset by producing an additional, defect-free unit to fulfill the production quota.

Plant A (the experimental group with CTO) had slightly more production workers and plant capacity than Plant B (44 and 38 employees respectively). The baseline daily production volume in Plant A before CTO implementation remained at an average level of 1,500 units per day, while baseline daily production in Plant B averaged 1,400 units. New production quota targets for the plants after the CTO plan was in effect were to be set at 2,000 and 1,800, respectively. The CTO plan was to be implemented in Plant A, while the control plant continued with their 8-hour business day, per the traditional schedule. Before-and-after production measures (number of defect free units) would be collected over a 15 day period (3 days before the introduction of CTO, and 12 days afterwards). The data collection period was based on convenience and was determined by Mr. Gonzales.

## Results

Results are summarized in Figures 1-2.

[Figures 1-2 About Here]

Within one week following implementation of this CTO plan, the 2,000 unit goal was attained by Plant A with an average quality rating of two defects per 2,000 units, and employees were leaving work after an average of 6.8 hours per day. In other words, the plan had a

substantial impact on performance. Meanwhile, average production in Plant B (who had not yet implemented CTO) remained at about the same pre-CTO level of 1,400 units. Thus null hypothesis 1 is rejected. There was a definite increase in output in Plant A when CTO was implemented compared with control group Plant B.

Subsequently, CTO was implemented in Plant B. Daily production quotas of 1,800 units were similarly achieved in Plant B within one week of implementing CTO. Thus null hypothesis 2 is rejected. There was an increase in performance in Plant B when CTO was implemented. The two anomalies during the Plant B post CTO implementation (the two Tuesdays in Figure 2) were the result of missed shipment deliveries of supplies on time which caused production stoppage. A root cause analysis was performed with the supplier to uncover the reasons for the missed shipments (delivery truck mechanical breakdowns) and plans were developed to put in place dispatching solutions to solve the problem. Rather than having employees stand around doing nothing during the production stoppages, Mr. Gonzales elected to have the workers go home while being paid for an 8-hour day.

## Discussion and Conclusions

Findings in this field experiment demonstrate that CTO can have a positive impact on productivity. Furthermore, employees, at least in this study, clearly valued “earned time off” (not necessarily over monetary rewards, but over other less desirable alternatives such as unemployment). In addition, the initial motivation to consider CTO was to increase productivity without increasing costs. In this particular case, the time off was an added benefit to keeping one’s job. The facts were that if the plant could not get its volume up and prices down it could not get sufficient revenues to stay in business. The consistency of positive findings in previous CTO studies (Luthans, Paul, & Baker, 1981; Lockwood & Luthans, 1984; Nordstrom, Hall, Lorenzi, & Delquadri, 1988) also supports the notion that earned time off can have a powerful impact on performance.

There was an internal feeling of challenge and accomplishment operating in the CTO Best Tortilla case. Contingent Time Off works at the group or individual level because it allows group or individual autonomy, demonstration of competency and independence to consciously decide to accept the goal and achieve it in a time frame that the workers have some control over. There is a clear relationship between achievement of the goal of X units produced and the ability to go home. Since results are dependent on group performance, the importance of teamwork is strengthened and affiliation needs may be satisfied.

CTO plans, however, may not be particularly applicable to work situations in which job performance cannot easily be measured; where mandatory staffing is required over a specified time period (e.g., government offices and customer service); where external factors affecting performance are not reasonably within the control of employees; and where other incentives (e.g., monetary) are affordable and valued more than earned time off. In addition, other important conditions relevant to successful implementations of CTO plans include the following: market demand must be sufficient to absorb increased productivity targets; mechanisms must be in place to ensure quality standards are being met; and, in unionized organizations, union involvement and support must be secured. Future research is needed to explore some of these contingent conditions related to CTO implementations. Other applications of CTO also need to be explored such as using it to reduce safety related costs and improve service levels. CTO should also be reviewed periodically to make sure it is being fairly applied.

In the Best Tortilla case, the CTO experiment only focused on the impact on the number of quality units produced. There may have been negative consequences as well. However, there was nothing from the report of the owner to indicate that this was the case. If this experiment were to be repeated, measures should be taken before and after to see impact on employees' attitudes and behaviors—other than simply impact on productivity. Was this fair? How motivating is this? When economic times improve, what will be the persistence of the impact of CTO on productivity? If employees regularly get an hour or hour and a half off each day, how long will it be before new production goals are negotiated? It may also be possible that such a program can lead to new performance standards and pay or even salary standards coupled with production quotas, to be determined by economic and market forces.

In a Budget Working Paper by the Town of Chapel Hill (Horton, 2000), it is noted that "employees assigned to residential collection routes work on a task system based on four 10-hour days per week, not 8." Further, when the town manager was asked: "Of the four 10-hour days which sanitation workers are scheduled to work, how many hours do they actually work on the average?"

The town manager responded:

Based on an analysis completed last year of employees on residential routes that work on the task system, we found that there is a wide variation in actual hours worked based mainly on such factors as day of week (cf., Mondays and Tuesdays generally take longer than Thursdays and Fridays); time of the year; speed which each crew chooses to maintain; and individual route on which specific employees work. Accordingly, the derivation of an arithmetic average should be considered as a representative number only, with many employees working a greater or lesser number of hours that such a process yields. Notwithstanding these qualifications, we found that the average number of hours per week that an employee assigned to a residential route works is 28.

Philosophically, if employees can produce more in less time, why should they get time off for doing so? The standards are possibly not being correctly established. Further it is possible that workers will take advantage of such a program as some members of the New York City sanitation union being able to collect a full day's pay for work that took only a few hours ("An Honest Day's Garbage Collection," 1994). However, the fact remains that productivity in this study, as well as other CTO studies, did improve with CTO. Could it have been improved even more if standards were set higher? Possibly, but motivation theories suggest that goals must be perceived as realistic and attainable. There is evidence to suggest that if a manager attempts to play "up the standards bar," then the CTO effort and perceived possibility of obtaining ensuring rewards will be thwarted (Lockwood & Luthans, 1984).

Motivation and incentive schemes abound, alternative work schedules have a myriad of possibilities (e.g. The U.S. Office of Personnel Management's *Handbook on Alternative Work Schedules* (<http://www.opm.gov/oca/aws/html/flex.asp>), and implementing motivational theories in practices and procedures will vary from organization to organization. Developing and implementing programs without understanding the theory that explains the practice and why it may be effective (Ramlall, 2004), usually results in managers providing answers to unknown questions, and may be creating greater problems than they are solving.

Effectively implementing different motivational policies and practices is dependent on aspects which may well be beyond the knowledge and skill of any one manager, company, or organization considering different environments, cultures, legal types, economic and political

situations to name but a few possible variables to consider. Here we have taken an what is on the surface a simple straightforward motivational “tool”—contingent time off—explored the theories that explain why the practice was effective in a field experiment within tortilla manufacturing plants and the conditions under which it might be effectively utilized in other organizations.

In the Best factory, there is always the possibility that CTO was not the “correct” or most effective intervention. If people knew their jobs were at stake (which they did), they might have come up with alternative solutions themselves to increase output. For example, if they produce over the magic number each day—anything over that could contribute to a bonus pool. Or, productivity may have increased by having Plant A compete with Plant B. CTO, however, was proposed in this field experiment. CTO worked and worked well, but other employee suggested alternatives may have captured intrinsic motivation more clearly.

Epilogue: Today, Best Tortillas still has the same CTO plan, is still in business, and probably most importantly to Mr. Gonzales, workers are employed and feeding their families. As this study is being written up, organizations need all the help they can get to increase productivity with fewer people and lower costs. CTO may be an appropriate tool to help out.

## References

- Alderfer, C. (1969). An empirical test of a new theory of human need. *Organizational Behavior and Human Performance*, 4, pp. 142-175.
- An honest day's garbage collection. (1994, September 20). *New York Times*, p. A 22.
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs: Prentice-Hall.
- Baumeister, R., & Leary, M. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin* (117), 497-529.
- DeCharms, R. (1968). *Personal causation: The internal affective determinants of behavior*. New York: Academic Press.
- Deci, E. (1975). *Intrinsic motivation*. New York: Plenum.
- Ehrenberg, R. G., & Bognanno, M. L. (1990). The incentive effects of tournaments revisited: Evidence from the PGA tour. *Industrial and Labor Relations Review*, 43, 74-88.
- Enzle, M. A., & Ross, J. M. (1978). Increasing and decreasing intrinsic interest with contingent rewards: A test of cognitive evaluation theory. *Journal of Experimental Social Psychology*, 14, 588-597.
- Erez, M. (1995). Goal setting. In *Dictionary of organizational behavior*. Oxford, UK: Blackwell.
- Handbook on alternative work schedules*. (n.d.). Retrieved December 7, 2008, from U.S. Office of Personnel Management: [www.opm.gov/oca/aws/html/flex.asp](http://www.opm.gov/oca/aws/html/flex.asp)
- Harackiewicz, J. M., Sansone, C., & Manderlink, G. (1985). Competence, achievement orientation, and intrinsic motivation: A process analysis. *Journal of Personality and Social Psychology*, 48, 493-508.
- Harackiewicz, J. (1979). The effects of reward contingency and performance feedback on intrinsic motivation. *Journal of Personality and Social Psychology*, 37, 1352-1363.
- Harter, S. (1978) Effectance motivation reconsidered: Toward a developmental model. *Human Development*, 1, 661-669.
- Herzberg, F. (1959). *The motivation to work*. New York: Wiley.

- Horton, W. P. (2000, June 5). *Town of Chapel Hill agendas*. Retrieved December 6, 2008, from Town of Chapel Hill: <http://townhall.townofchapelhill.org/archives/agendas/ca000605/3c-%20Questions%20Charles%20Tanquary%20Curbside.htm>
- Katzell, R. A., & Thompson, D. E. (1990). An integrative model of work attitudes, motivation, and performance. *Human Performance*, 3, pp. 63-85.
- Latham, G. P., & Lee, T. W. (1986). Goal setting. In E. Locke, *Generalizing from laboratory to field settings* (pp. 101-118). Lexington, MA: Lexington Books.
- Latham, G., & Pinder, C. (2005). Work motivation theory and research at the dawn of the 21st century. *Annual Review of Psychology*.
- Liccione, W. J. (2007). A framework for compensation plans with incentive value. *Performance Improvement*, 46, 16-20.
- Lind, E., & Tyler, T. (1988). *The social psychology of procedural justice*. New York: Plenum Press.
- Locke E. A. (1967). Motivational effects of knowledge of results: Knowledge or goal setting? *Journal of Applied Psychology*, 51, 324-329.
- Locke, E. A., Fredrick, E., Bobko, P., & Lee, C. (1984). Effect of self-efficacy, goals, and task strategies on task performances. *Journal of Applied Psychology*, 69, 241-251.
- Locke, E. A., & Latham, G. P. (1990). *A theory of goal setting and task performance*. Englewood Cliffs: Prentice Hall.
- Lockwood, D. L., & Luthans, F. (1984). Contingent time off: A non-financial incentive for higher productivity. *Management Review*, 73, 48-52.
- Luthans, F., Paul, R., & Baker, D. (1981). An experimental analysis of the impact of contingent reinforcement on salespersons' performance behavior. *Journal of Applied Psychology*, 66, 314-324.
- Maslow, A. H. (1943). A theory of human motivation. *Psychological Review*, 50, pp. 370-396.
- McCarney, R., Warner, J., Iliffe, S., van Haselen, R., Griffin, M., & Fisher, P. (2007). The Hawthorne effect: A randomised, controlled trial. *BMC Medical Research Methodology*, 30.
- McClelland, D. (1961). *The achieving society*. Princeton, NJ: D. Van Nostrand.
- McGregor, D. (1960). *The human side of enterprise*. New York: McGraw Hill.
- Mitchell, T. (1982). Expectancy-value models in organizational psychology. In N. Feather (Ed.), *Expectations and actions: Expectancy-value models in psychology* (pp. 293-312). Hillsdale, NJ: Lawrence Earlbaum Associates, Inc.
- Nordstrom, R., Hall, R. V., Lorenzi, P., & Delquadri, J. (1988). Organizational behavior modification in the public sector: Three field experiments. *Journal of Organizational Behavior Management*, 9(2), 91-113.
- Nunnally, J.C. and Bernstein, I.H. (1994). *Psychometric theory* (3<sup>rd</sup> Ed.). New York: McGraw Hill.
- Ramlall, S. (2004). A review of employee motivation theories and their implications for employee retention within organizations. *Journal of American Academy of Business, Cambridge*, 5(2), 52.
- Reis, H. (1994). Domains of experience: Investigating relationship processes from three perspectives. In R. Erber, & R. Gilmore (Eds.), *Theoretical frameworks for personal relationships* (pp. 87-110). Hillsdale, NJ: Erlbaum.

- Ryan, R. M., & Frederick-Recascino, C. M. (1997). On energy, personality, and health: Subjective vitality as a dynamic reflection of well-being. *Journal of Personality, 65*, 529-565.
- Rynes, S.L. Gerhart, B., & Minnette, K.A. (2004) The importance of pay in employee motivation: Differences between what people say and what they do. *Human Resource Management, 43*: 381-394.
- Sherer, P. D., & Kahn, L. M. (1990). Contingent pay and managerial performance. *Industrial and Labor Relations Review, 43*, 107-120.
- Vroom, V. (1964). *Work and motivation*. New York: Wiley.
- Waterman, A. (1993). Two conceptions of happiness: Contrasts of personal expressiveness and hedonic enjoyment. *Journal of Personality and Social Psychology, 64*, 678-691.
- White, R. W. (1963). *Ego and reality in psychoanalytic theory* (Vol. 3). New York: International Universities Press.
- Zenger, T., & Marshall, C. (1995). Group-based plans: An empirical test of the relationships among size, incentive intensity, and performance. *Academy of Management Best Paper Proceedings*, 161.

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Figure 1

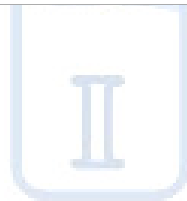
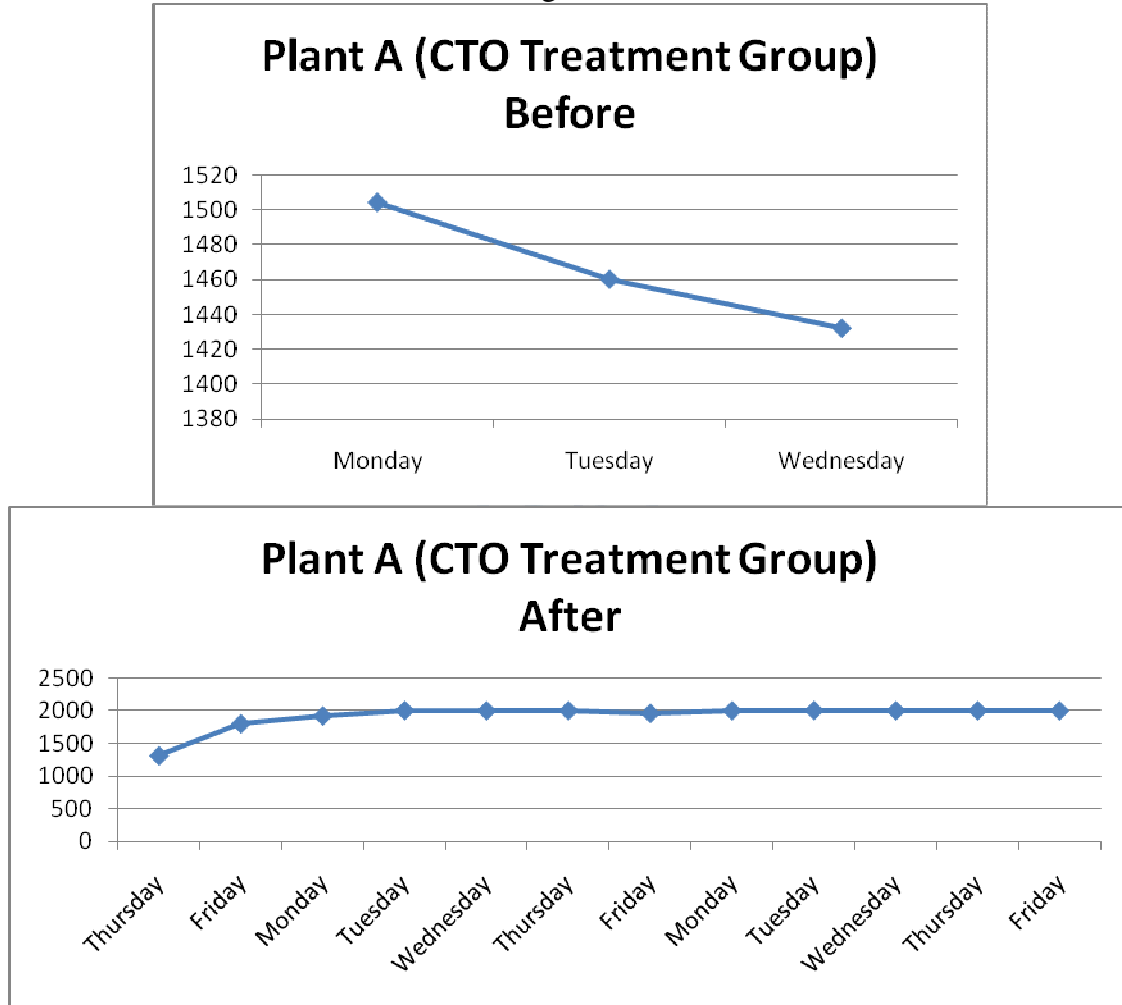


Figure 2

