

Ongoing Discussion “Thought Piece”

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An Interim Report on Motivation in the Workplace

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For more than twenty-five years, I have been a student of the work of W. Edwards Deming. As a result of study of Deming's work and participation in many activities guided by Deming's ideas about management of systems and people, I was asked to present a talk "about motivation" at a W. Edwards Deming Institute conference at Purdue. To prepare for that talk, I decided to review the literature on motivation. Ever since, I have been doing that. The literature is almost overwhelming in its volume, so I have not completed my study. Therefore, this short piece should be taken as an interim report. First, I will briefly review some of Deming's ideas about motivation and management of people. Then I will review some of the theories about work motivation, make a few comments about academic research in psychology, organizational behavior, and management, and finally make some comments about the implications of all this for the workplace.

Deming on Motivation and Management of People

Deming took a number of positions with regard to the management of people that run counter to beliefs that are well-entrenched in our culture. In a diagram that appears in his book, *The New Economics*,¹ Deming identified what he called "Forces of Destruction," including the merit system, incentive pay, pay for performance, and numerical goals without a method. He stated that one was born with intrinsic motivation and other positive attributes that were "high at the beginning of life, but are gradually crushed by the forces of destruction." He asserted that the forces of destruction crushed out "joy in learning, joy on the job, innovation. Extrinsic motivation (complete resignation to external pressures) gradually replaces intrinsic motivation, self-esteem, dignity." Deming used his red beads experiment to illustrate the futility of pay for performance, numerical goals, slogans and exhortations, and other practices to improve

¹ Deming, W. Edwards, *The New Economics*, 2nd Ed., MIT Press, 2000.

results when the results were dominated by the system, rather than by individual performance. He used the equation $x + (yx) = 8$ to talk about how equating individuals' performance to numerical results, and ranking them accordingly, required an assumption that the effects of the system and the interaction of the individual with the system, (yx) , were constant for all individuals (or nonexistent). Deming also commented on the numerical goals that are so prevalent in the workplace. He observed that numerical goals were futile; "A numerical goal accomplishes nothing... What counts is the method – by what method?" He said anybody could achieve almost any goal by: "redefinition of terms; distortion and faking; running up costs." "When a company holds an individual accountable for a goal, it must provide to him the resources for accomplishment." Otherwise the goal may be achieved by some of the ways described above, or the individual will be unfairly penalized.

In the list titled "Role of a Manager of People" that appears in *The New Economics*, Deming asserted that a manager of people "understands that people are different from each other. He tries to create for everybody interest and challenge, and joy in work,..." He also stated that the manager of people "understands the interaction between people and the circumstances that they work in." The manager of people "creates trust. He creates an environment that encourages freedom and innovation... He does not expect perfection... He will hold an informal, unhurried conversation with every one of his people..., not for judgment, merely to listen. The purpose would be development of understanding of his people..."

Elsewhere, Deming talked about the importance of a manager understanding something about the work for which he was responsible. Of course, this viewpoint is counter to the plug-and-play version of management that is assumed and advocated in schools of management.

A Review of Some of the Literature on Work Motivation²

² I have chosen to concentrate on some of the academic literature that appears in peer-reviewed journals and psychology texts. This literature is a source and support for consulting groups and authors of business books, as well as for personnel who work in the area of human resources. I believe it is useful when considering what these parties say to know something about what is behind their work.

Early in the last century, Hugo Munsterberg's work was a precursor to the study of motivation at work. Munsterberg wrote about the need to overcome "dreadful monotony" and "mental starvation" in the workplace.³ In his development of scientific management, Frederick Taylor advocated systematic gathering of knowledge about work by time and motion studies, giving each employee a specific amount of work to complete that was set by time study to be reachable only by a trained, first class workman, and offering a monetary incentive to the worker. The work of these two may be examples of three major themes in the study of work motivation: concern for the well being of the employee, the use of numerical goals, and the use of incentives to affect performance. T.W. Harrell called the assumption that money is the only important incentive the "rabble hypothesis." This was because "workers were treated as a group of unorganized rabble insensitive to the social motives of approval and self-respect."⁴

Needs and Motivation

A widely known theory related to motivation is Abraham Maslow's need hierarchy theory. Maslow proposed that there was a hierarchical order of five basic needs: physiological, safety, love, esteem, and self-actualization. As each need was fulfilled, its strength in affecting motivation diminished, while the strength of the next higher need grew. Following the work of Maslow, Douglas McGregor argued that the conventional view of employees (Theory X) as indolent, lacking ambition, self-centered, and not very bright was inadequate. He advocated an alternative (Theory Y): "The motivation, the potential for development, the capacity for assuming responsibility, the readiness to direct behavior toward organizational goals are all present in people... A responsibility of management is to make it possible for people to recognize and develop these human characteristics for themselves."⁵

Another well known figure in the human relations movement was Frederick Herzberg. Herzberg authored the motivation-hygiene theory that argued that job satisfaction and dissatisfaction were affected by different aspects of the job. He advocated job enrichment as a means of fostering satisfaction by tending to the growth needs of the individual. Herzberg published a paper titled "One More Time, How Do

³ Latham, G.P., *Work Motivation: History, Theory, Research, and Practice*, Sage Publications, 2007.

⁴ Ibid.

⁵ McGregor, Douglas M., *The Human Side of Enterprise*, McGraw-Hill, 1960.

You Motivate Employees?” in the *Harvard Business Review*.⁶ In that paper, he wrote about his motivation-hygiene theory and about the futility of the carrots and sticks applied to employees to influence their behavior. He called the carrots and sticks KITA (Kicks in the ____). Herzberg said that KITA were not motivators, but were behavior manipulators he referred to as producing movement, not motivation. To clarify, he talked about working with a dog. He said there were two ways to get a dog to do what you want: kick him or give him a treat. Herzberg pointed out that in neither case is the dog motivated – you are. Herzberg’s paper has been the most reprinted paper in the history of the *Harvard Business Review*. I have sometimes wondered whether many of the people who ordered those reprints were seeking an answer to the question “What methods should you use to manipulate the behavior of employees to match what you want?” It seems clear that Herzberg’s use of the term motivation coincides with intrinsic motivation, while his use of movement coincides with extrinsic motivation.

Job Characteristics

Herzberg’s work on job enrichment was followed by a job characteristics model developed by Richard Hackman and Edward Lawler. The basic propositions of the model were: to the extent that people believe they can obtain a valued outcome by engaging in some particular behavior, they are more likely to do so; outcomes are valued by people to the extent that they help satisfy their physiological or psychological needs; and to the extent that conditions at work can be arranged so that employees can satisfy their own needs best by working effectively toward organizational goals, employees will tend to work hard toward those goals.⁷ An expanded job characteristics model was developed by Richard Hackman and Greg Oldham. They identified five core job dimensions – skill variety, task identity, task significance, autonomy, and feedback – that affected critical psychological states of the employee. Skill variety, task identity, and task significance affected the employee’s experience of the meaningfulness of the work. Autonomy affected the employee’s experience of responsibility for the outcomes of the work; feedback affected the employee’s knowledge of the actual results of his work

⁶ Herzberg, Frederick, “One More Time: How Do You Motivate Employees?” *Harvard Business Review*, 65, 109-120.

⁷ Hackman, J.R., and Lawler, E.E., “Employee Reactions to Job Characteristics,” *Journal of Applied Psychology*, 55(3), 259-286.

activities. These critical psychological states in turn affected the employee's personal outcomes and the outcomes of the work: the employee would have high internal work motivation and high satisfaction with the work, his work performance would be of high quality, and there would be less absenteeism and turnover.⁸ Both of these models were aimed at enriching jobs and the work environment. Later work by other researchers indicated that job enrichment works for people with high growth needs, but not for people with low growth needs.

Expectancy Theory

I will include here two quotes from expectancy theory, a cognitive theory of motivation originated by Victor Vroom:

Proposition 1. The valence [attractiveness] of an outcome is a monotonically increasing function of the algebraic sum of the products of the valences for all other outcomes and his conceptions of its instrumentality for the attainment of these other outcomes.

Proposition 2. The force on a person to perform an act is a monotonically increasing function of the algebraic sum of the products of the valences of all outcomes and the strength of his experiences that the act will be followed by the attainment of these outcomes.⁹

I include these quotes not so much for their content about motivation, but to provide an example of the truly incredible lengths people may go to in an attempt to increase the power and credibility of their ideas by use of mathematics. The notion that any of us form linear combinations in our heads to determine whether we want to do something is ludicrous. I note also that Vroom's theory ignores needs and emotions.

Porter and Lawler extended the work of Vroom to develop a model that related performance to a number of variables. Porter and Lawler stated that the value of reward – the attractiveness or desirability of an outcome to the individual – and the individual's perception of the probability that his effort would get him the reward affect the effort the individual expends on a task. The individual's performance is governed by his effort, his abilities and traits, and his perception of the types of effort necessary for effective

⁸ Hackman, J.R., and Oldham, G.R., "Motivation Through the Design of Work," *Organizational Behavior and Human Performance*, 16, 250-279.

⁹ Vroom, Victor H., *Work and Motivation*, Wiley, 1964.

performance. As a result of his performance, the individual receives intrinsic and extrinsic rewards. The rewards the individual receives, combined with his perception of whether the rewards are fair, results in a degree of satisfaction that then affects the individual's judgment of the value of the reward. The individual's performance also affects his assessment of the effort reward probability. The resulting recommendation by Porter and Lawler is that rewards should be tied to performance. (Gary Latham identifies two primary themes of Lawler's work throughout his career: the importance of participation in decision making and the importance of money. Lawler has been influential in the field of human resource management.) Subsequent work has indicated that expectancy theory works best when there is a concrete, visible relationship between performance and outcomes. When the performance-reward relationship is ambiguous, the theory appears not to apply. There are some troubling aspects to this theory. First, the individual's performance is framed in terms of individual effort. Nothing is said about the work environment or the interactions between the efforts of the individual and the system within which he works. The effect of the system on the results (performance) is ignored. I recall having a rather heated exchange at USC several years ago with Ed Lawler about whether one could measure the performance of the individual independent of the system. In situations such as that illustrated by Deming's red bead experiment, the organization would be running a lottery and calling it pay for performance. Further, the consequences of setting up pay for performance systems for other aspects of the organization and its performance are not considered. The consequences for the individual's self esteem and intrinsic motivation are not considered.

With regard to job characteristics and theories focused on the individual, Gary Latham stated:

However, to believe that motivation is solely a function of the person or solely a function of the job is as naïve as believing that area is primarily a function of length rather than width.

Motivation is both an internal psychological process and a transactional one. That is, motivation is the result of the reciprocal interactions between people and

*their work environments and the fit between these interactions and the broader societal context.*¹⁰

Goal-setting Theory

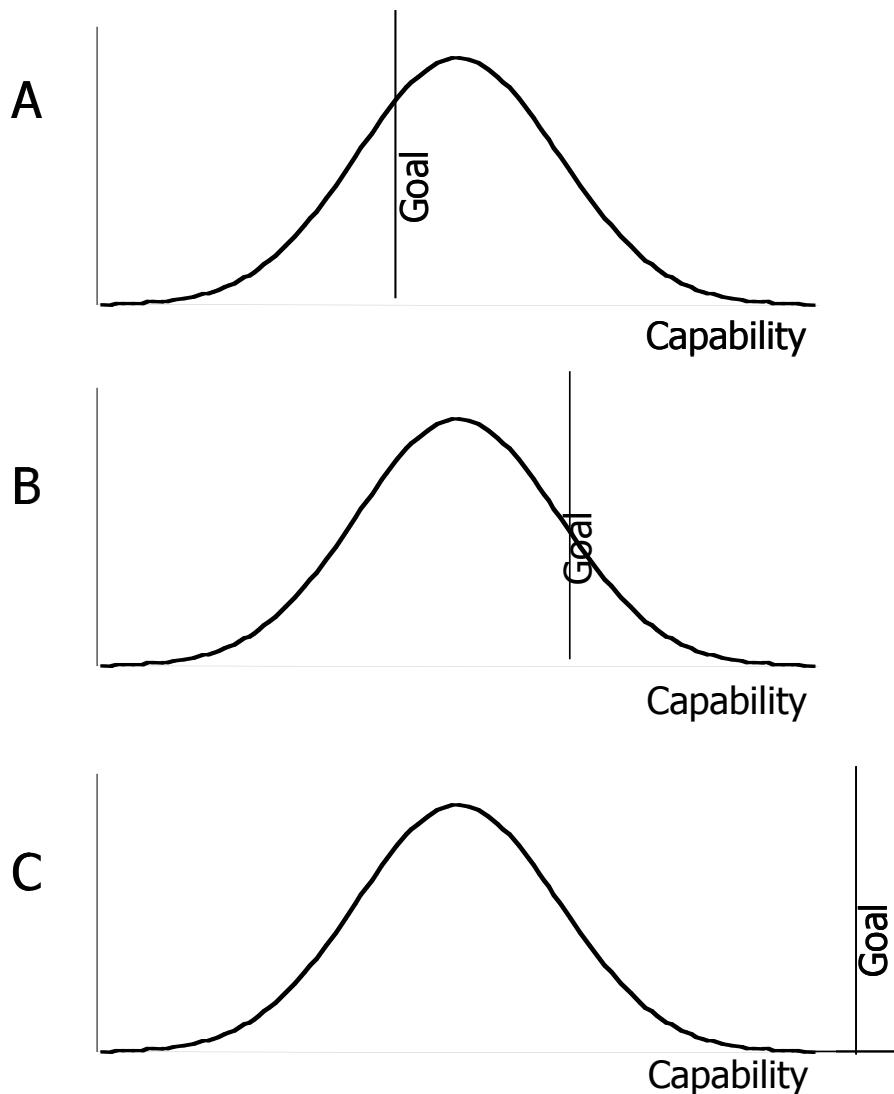
Goal-setting Theory was originated by Edwin Locke. Gary Latham collaborated with Locke in the development of the theory. When Locke began his studies, goal-setting already existed in industry in the form of MBO (management by objectives). Apparently, Alfred P. Sloan was one of the earliest users of MBO. The basic assertion of the theory is that specific, challenging goals lead to higher levels of performance; the goals can be self set, assigned, or participatory. The rationale behind the theory has a number of aspects: (1) High assigned goals are associated with the assigner's good opinion of the assignee's abilities; high self-assigned goals are associated with the individual's self-confidence that he can achieve the goal. (2) High goals require high performance in order for the individual to be satisfied with himself. (3) There is less ambiguity about what constitutes good performance. (4) High goals lead individuals to expend more effort. (5) High goals stimulate the individual to persist longer. (6) High goals direct the individual's attention and action better. (7) They lead individuals to search for suitable task strategies, to plan, and to use strategies they have been taught.¹¹ Locke and Latham developed a "High Performance Cycle" model which resembles Porter and Lawler's model, mentioned earlier. In Locke and Latham's model, challenge and high goals on meaningful, growth-facilitating tasks affect performance. Factors that help to explain the relationship between high goals and performance include the attention the individual gives to the task, the effort he expends, his persistence, and the strategies he chooses to use to accomplish the task. Factors that can change the strength of the relationship between goals and performance include the individual's ability, his commitment to the goal, feedback as he does the task, his self-efficacy (confidence in his ability to achieve the goal), and the complexity of the task. The individual's performance results in contingent rewards – both internal and external, which in turn affect the individual's satisfaction, his commitment to the organization, and his willingness to accept future challenges.

¹⁰ Latham, G.P., *Work Motivation: History, Theory, Research, and Practice*, Sage Publications, 2007.

¹¹ Miner, J.B., *Organizational Behavior I: Essential Theories of Motivation and Leadership*, M.E. Sharpe, 2005.

Locke's early studies were done with students. Their results were generalized to say that assigning difficult goals improves performance. "Performance" in the experiments meant the number of times a task could be performed correctly in a set amount of time. In most cases, different goals were set for different individuals based on their prior performance on a task. In some experiments, comparisons of performance in no-goal or "do your best" conditions with performance in specific, difficult goal conditions were made using performance averages for the individuals in each condition; that is, the average for the no-goal group of individuals would be compared with the average for the difficult goal group of individuals. In the workplace, goals or numerical standards are often set the same for everybody. Figure 1 is an attempt to illustrate how

Figure 1. Goal-Setting and Capability

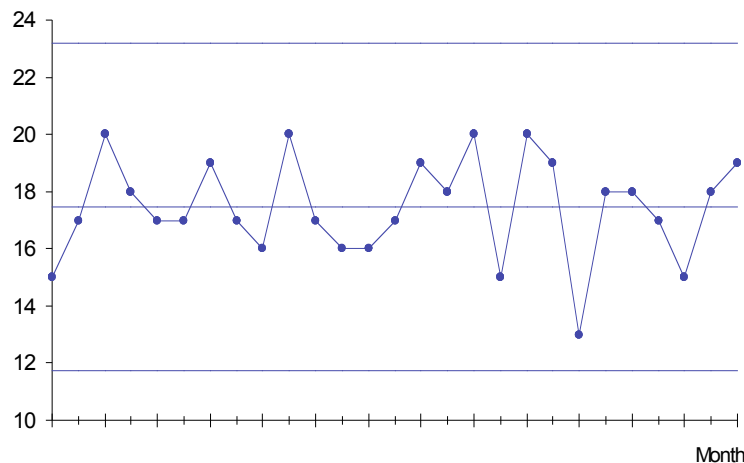


the combination of capabilities and the assigned goal could lead to the conclusion that difficult goals improve performance. Figure 1 has three pictures of a distribution of capabilities of a population of individuals with regard to a task – A, B, and C. Each picture shows a numerical goal placed at a different position relative to the distribution of capabilities. In A, the goal lies below the average capability of the population. In B, the goal lies far above the average. In C, the goal exceeds the capability of the entire population. Suppose a random sample of individuals is selected from the population and each of the sampled individuals is assigned the numerical goal. Suppose they are told that they can stop working when they have achieved the goal. In the case of A, all the results in the sample will be at or below the A goal. In the case of B, all the results in the sample will also be at or below the B goal, but a large proportion of the population has capabilities above the goal in A, so the average of the sample in B most likely will be larger than the average of the sample in A. In this hypothetical situation, the positions of the goals relative to the capabilities of the population would lead to the conclusion on the basis of comparing samples drawn in the A case and in the B case that higher goals produced better results. One might even conclude that the higher goals caused the better results – an obviously erroneous conclusion. It seems to me that there are some implicit assumptions in goal-setting theory that need to be carefully considered when attempting to use the theory in a practical situation: the person (or group) setting goals knows the capabilities of the employees; the person setting goals knows the work well enough to know what reasonably might be accomplished; and the person setting goals knows how to change the capabilities of the employees and is willing and able to provide the resources required to change those capabilities if the goal is beyond the employees' existing capabilities. The picture shown in C indicates that the goal is set beyond the capabilities of the entire population. It isn't difficult to imagine the negative effects such an action could have on employees. However, some writers advocate so-called "stretch" goals which are an example of C. If a "stretch" goal is assigned, then the assigner has an obligation to change the capabilities of the assignees and/or the methods used to do the work and the resources provided so that the goal then becomes feasible to achieve.

I had an amusing experience a few years ago that involved goal-setting and capability. I was teaching operations management in an evening MBA program. Part of

the course content was aimed at the students' development of a rudimentary understanding of variation from the viewpoint of statistical control. As part of an assignment, I asked students to obtain a set of data from their business organization. They would analyze the data and then answer several questions I posed. One of the students turned in the data pictured in Figure 2. He worked for a company that produces and sells hardware and software systems. As he presented it, his data consisted of the number of systems the company sold per month for a period of twenty-seven months. Figure 2 contains a plot of the data, along with statistical limits he derived (correctly). He concluded that the variation in number of systems sold per month was stable and predictable and the company could expect to sell between twelve and twenty-three systems per month with an average of about seventeen and a half systems as long as nothing changed about the system that produced these results. I asked the students

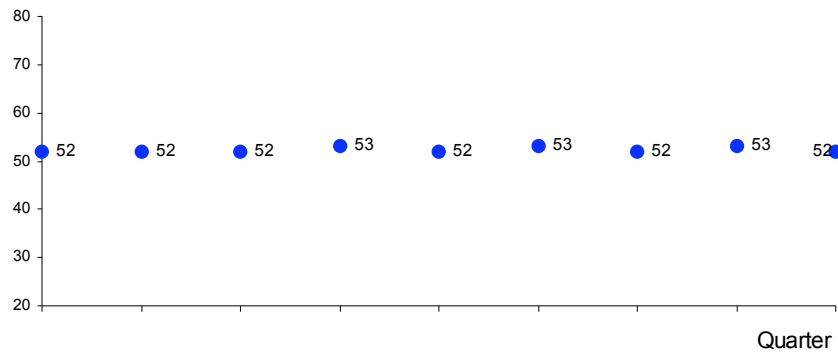
Figure 2. X Chart – Number of Systems Sold per Month



whether the data they had analyzed was important to the company and/or to them and if so, why. This student reported that, of course, they were important. In particular, they were important to him and the other members of the sales group. They were paid according to a quarterly goal for the number of systems sold for the quarter. They got a certain amount of money for each system they sold. However, if they sold more systems than the goal, they didn't get any additional pay; the maximum they could get was the

amount they got for achieving the goal. You can guess what I did next. I totaled up the figures for each quarter. Figure 3 shows the results. Six of the figures were 52; the other three were 53. I plotted a graph like Figure 3 on his paper and wrote, “I see that every once in a while, you sell one you don’t want to.” This situation was like A in Figure 1. The goal was set so low that the sales group could make it each quarter, but sometimes the circumstances prevented them from timing an unnecessary sale (from the viewpoint of income) into the next quarter. So what did goal-setting tied to “pay for performance” do in this case? It put a cap on the company’s sales. Practices such as goal-setting and incentive pay can have unexpected effects when the consequences are not very well understood from the perspective of the interactions of people with systems.

Figure 3. Quarterly Totals



I have some other concerns about goal-setting. Much of the research has been one-dimensional – performance is measured on only one dimension. Many (perhaps most) jobs are multi-dimensional. Does a form of sub-optimization occur when there is a goal on one dimension in a multi-dimensional job? What happens when there is a goal on a measurable dimension but nothing is said about non-measurable dimensions? Some research has indicated that employees tend to neglect the aspects of their jobs that are not quantifiable. Individual traits may affect the response to goal-setting so that the individual’s commitment to a goal and his effort to achieve it may not be as predicted. In most organizations, jobs tend to be interdependent. Some findings have indicated that specific goals facilitated performance when jobs were independent, but inhibited

performance when jobs were interdependent. Most of us would not be at all surprised by this finding. Giving different functions, groups, or individuals goals or objectives that are narrowly defined and not based on system-wide benefit do tend to inhibit performance. In addition, any practice that puts people in the position of having to damage someone else to protect themselves is reprehensible.

Intrinsic and Extrinsic Motivation

Intrinsic versus extrinsic motivation has been a subject of controversy from the last quarter of the twentieth century. Edward Deci published a paper in 1971 in which he asserted that intrinsic motivation is undermined by extrinsic rewards. Deci stated that “intrinsic motivation involves people freely engaging in activities that they find interesting, that provide novelty and optimal challenge.”¹² Subsequently, Deci and Richard Ryan developed what they called self-determination theory. In a paper published in 2000, they stated that “a full understanding of goal-directed behavior and psychological development and well-being requires addressing the innate needs that give goals their psychological potency.”¹³ The needs they identified were competence, relatedness, and autonomy. They pointed out that the way these needs are met can differ among individuals and among cultures. For example, in collectivist cultures, acting in accord with group norms might lead individuals to experience relatedness and autonomy. In an individualistic culture (such as that of the United States), “acting in accord with a group norm might be experienced as conformity or compliance and thus as a threat to autonomy rather than an expression of it...” In the paper, Deci and Ryan observed that “research on intrinsic motivation for initially interesting activities has shown reliably that: (a)...rewards that foster an external Perceived Locus of Causality (PLOC) tend to undermine intrinsic motivation, whereas events such as choice that foster an internal PLOC tend to enhance intrinsic motivation [PLOC is the individual’s perception of who or what is causing him to act – either himself or something outside himself]; (b) events such as negative feedback that foster perceived incompetence tend to undermine intrinsic motivation, whereas events such as positive feedback that foster perceived competence

¹² Deci, E.L., “Effects of Externally Mediated Rewards on Intrinsic Motivation,” *Journal of Personality and Social Psychology*, 18, 105-115.

¹³ Deci, E.L., and Ryan, R.M., “The ‘What’ and ‘Why’ of Goal Pursuits: Human Needs and the Self-Determination of Behavior,” *Psychological Inquiry*, 11, 227-268.

tend to enhance intrinsic motivation, although people must feel responsible for the competent performance in order for perceived competence to have positive effects on intrinsic motivation.” Deci and Ryan explain in the paper that the type of regulation that occurs when motivation is extrinsic affects the PLOC. They identify four types of regulation: **external**; **introjected**; **identified**; and **integrated**. If the type of regulation is external, then the PLOC is external. If the type of regulation is introjected, the PLOC is somewhat external. If the type of regulation is identified, the PLOC is somewhat internal. If the type of regulation is integrated, then the PLOC is internal. The need for autonomy is served better when the PLOC is nearer the internal end of the scale, and intrinsic motivation is less affected. I will use a homely example to explain the four types of regulation. I think house cleaning is pure drudgery – not at all interesting or challenging. If my mother had said to me as a teenager, “clean up your room and I’ll give you ten dollars,” (she never did such a thing), that would be external regulation. According to Deci and Ryan, external regulation occurs when an action is initiated and maintained by contingencies external to the person; people act with the intention of obtaining a desired consequence or avoiding an undesired one. An example in the workplace is the incentive pay plan. In my twenties, I did house cleaning so that people (particularly my mother-in-law) would think well of me, not because I liked it or thought it was a good way to spend my time. This is an example of introjected regulation. Deci and Ryan state that examples of introjected regulation include contingent self-esteem, which pressures people to behave in order to feel worthy, and ego involvement, which pressures people to behave in order to buttress their fragile egos. Likewise, I do my part at work so that my co-workers will think well of me and my boss will think I’m a good employee. Later in life, I did house cleaning because I had come to the conclusion that it was a good idea – I preferred not to have all kinds of wildlife in the house and things did not have to be repaired or replaced as quickly when they were not damaged by dirt. I now had a rational argument for house cleaning. This was identified regulation. Deci and Ryan say that the type of regulation is identified when people feel more freedom and volition because the behavior is more congruent with their personal goals and identities. In the workplace, I have realized that life is simpler when I contribute and do good work. Some dull and uninteresting activities are just part of the work and must be done. Even

later in life, house cleaning became part of who I was. The regulation of house cleaning was now integrated regulation. I still view house cleaning as drudgery, so I am not intrinsically motivated to do it, but I do not perceive my doing it as being caused by someone or something outside myself. Likewise at work: my work habits and my contributions are part of me. Deci and Ryan observe that integrated regulation has occurred when the behavior is part of who the person is and the person appreciates the importance of doing uninteresting activities. One way managers might encourage movement from an external PLOC for employees to at least an identified form of regulation and a somewhat internal PLOC would be to explain the rationale for decisions and policies. Of course, the success of the explanations would depend on whether the rationale were sensible. Another positive move would be to enable employees to have input to decisions and policies. This leads to another interesting set of ideas that are connected to motivation – equity theory and organizational justice.

Equity Theory and Organizational Justice

Stacy Adams was the originator of equity theory. He identified the striving for equity as a major motivating force that was mobilized by perceived inequity. In an employment exchange, the employee invested his time and effort as inputs and received outcomes: pay, satisfaction, status, working conditions, and so on. The employee's perception of the equity of the exchange was affected by another variable besides the employee's inputs and the outcomes of the exchange: a reference person or group used to evaluate the employee's own exchange. If the employee perceived inequity in his own exchange, he could do three things: be dissatisfied – either feeling angry if he felt he was under-rewarded or guilty if he felt he was over-rewarded; distort his view of the inputs and outcomes; or find a new reference source.

Adams' work is related to organizational justice, and Thibault and Walker¹⁴ and Levanthal¹⁵ were early contributors to the work on organizational justice. Three types of organizational justice are identified: **distributive justice**, **procedural justice**, and **interactional justice**. Distributive justice refers to the perceived fairness of decision outcomes; for example, pay or allocation of resources. Procedural justice has to do with

¹⁴ Thibault, J. and Walker, L., *Procedural Justice: A Psychological Analysis*, Erlbaum, 1975.

¹⁵ Levanthal, G.S., "What Should Be Done with Equity Theory?," in *Social Exchange: Advances in Theory and Research*, Plenum, 1980.

the perceived fairness of procedures (or processes) used to make decisions. Some criteria for fairness include consistency over time and people, unbiasedness, collection and use of accurate information, the existence of mechanisms to correct flawed decisions, conformance to prevailing standards of ethics or morality, and taking into account the opinions of groups affected by the decision. Interactional justice is of two kinds: interpersonal and informational. **Interpersonal justice** has to do with treatment of the employee with respect and dignity by authority figures. **Informational justice** is concerned with the adequacy and honesty of explanations of decisions. Managers would do well to attend to all of these types of justice. However, what is perceived as just by managers may not be the same for employees. Colquitt and his coauthors made this observation: “Aristotle... noted that people in different roles will advocate different justice rules, arguing that ‘the democrats are for freedom, oligarchs for wealth, others for nobleness of birth.’”¹⁶ Managers need to recognize potential differences in perception between themselves and employees.

In a paper on self determination, Deci, Connell, and Ryan wrote, “...when managers were trained to be more autonomy-supportive, i.e., to understand subordinates’ perspectives, encourage their initiative, and provide feedback in a supportive rather than controlling way, ...subordinates became more trusting of the organization and displayed more positive work-related attitudes.”¹⁷ In 2005, Gagné and Deci wrote, “...studies in organizations have provided support for the propositions that autonomy-supportive (rather than controlling) work environments and managerial methods promote basic need satisfaction, intrinsic motivation, and full internalization of extrinsic motivation, and that these in turn lead to persistence, effective performance, job satisfaction, positive work attitudes, organizational commitment, and psychological well-being.”¹⁸

This concludes a review of some of the literature on motivation. Clearly, the review is not complete, and I would be the first to admit that, with a few exceptions, it is generally biased in favor of my point of view. My point of view may change when I

¹⁶ Colquitt, Conlon, Wesson, Porter and Ng, “Justice at the Millennium: A Meta-Analytic Review of 25 Years of Organizational Justice Research,” *Journal of Applied Psychology*, 86(3) 425-445.

¹⁷ Deci, E.L., Connell, J.P., and Ryan, R.M., “Self-determination in a Work Organization,” *Journal of Applied Psychology*, 74, 580-590.

¹⁸ Gagné, M. and Deci, E.L., “Self-determination Theory and Work Motivation,” *Journal of Organizational Behavior*, 26, 331-362.

have read more extensively. Having provided the review, I believe it is necessary to say something about my view of research in psychology, organizational behavior, and management.

Research in Psychology, Organizational Behavior, and Management

The following comments are my opinions about peer-reviewed, academic research – particularly in psychology, organizational behavior, and management. Some of the published research in these areas is not good. It seems obvious to me that “publish or perish,” combined with numerical quotas for the number of papers a faculty member must publish in a given period of time to be “academically qualified” has had a negative effect on the quality of published papers. I don’t mean to imply that there is not good work going on. There are numerous excellent papers that get published, but the difficulty is that the volume of publication prevents other researchers from actually reading carefully the papers they cite. As a result, they may take the findings stated in the abstract to be defensible when they are not.

In the business disciplines, the “research” often consists of constructing a questionnaire that is then mailed to all the people or organizations on a list, or lists. There is no follow-up to raise response rates as long as the number of responses is judged to be large enough to do statistical analyses, generally with the aim of getting significance probabilities (p values) that are small enough to pass the (sometimes unwritten, but generally known) publication requirements of the journals in the discipline (for example, $p < .05$). Thus, response to the questionnaire is voluntary and response rates can be extremely low (I have seen them as low as six percent in published papers). Apparently, faculty and reviewers in the business disciplines do not understand that if there is a relationship between the propensity to respond to a questionnaire and the questions asked, p values and levels of confidence can be seriously in error and results can be extremely biased when making inferences about the sampled population. These professionals also do not seem to understand that inference beyond the sampled population constitutes extrapolation, which is always a dangerous practice. Levels of confidence and p values do not apply to these extrapolations.

Authors in psychology and organizational behavior are to be commended for giving careful descriptions of their experiments, but their research appears to suffer from some problems as well. Some authors criticize others who do not confirm their theories “in the laboratory.” What is the laboratory in this context? Most often, it is on the campus. The subjects of experiments are students who participate to fulfill a course requirement, to obtain extra credit, to get some spending money, or just out of curiosity. Subjects participate in some kind of exercise to investigate a set of hypotheses framed by the researcher(s). The exercises can be doing simple addition, thinking up words, memorizing strings of words or numbers and repeating them backwards, solving puzzles, doing some kind of physical task, and so on. A significance probability of something like .05 is a criterion for evidence that the researcher’s hypothesis is confirmed. The real problems start to arise at this point. A “statistically significant” result is extrapolated to “people” or “workers,” despite the fact that the experiment was done with college students. Any statistical inference only applies to the conditions of the study, including the experimental material used. The researcher can infer whatever he wants about homo sapiens, but the statistical machinery doesn’t enable him to enlarge his inference beyond the subset of the population that he could gain access to using his methods. The same is true of extrapolations to the workplace based on a puzzle-solving or other type of laboratory exercise. It is difficult to imagine that all the factors affecting the individual in the workplace that are not included in the laboratory experiment would have no possible effect on the results. I have read numerous papers in which these problems are all too evident, but the mere fact that a laboratory experiment was done and statistically significant results were obtained seems to empower the researcher to make incredible leaps of inference. Furthermore, a great many of his colleagues believe his claims are supported by having done statistical analysis; meanwhile, they discount work that doesn’t have a p value attached. It is very important when reading this literature to be alert to these issues and to read the actual paper, rather than relying on the abstract alone. Findings reported in books and manuscripts need to be investigated by reading the original work. This presents a formidable problem when the literature is extensive.

Of course, nothing will prevent us from believing what we wish to believe – what is consistent with our mental models – until we are confronted with incontrovertible

evidence to the contrary. This is true of the discussion in this paper as well. But perhaps alertness to potential pitfalls will help us avoid some of the learning difficulties we encounter.

Some Thoughts about Management in Organizations

There is no doubt that the job of a manager of people is extremely difficult. In addition, it carries with it some responsibility for the lives of not only the people being managed, but their families as well. No one leaves work at work; he carries its effect on him to the rest of his life. The manager of people, like it or not, is a role model. If he expects to see good behavior on the part of his employees, he needs to behave well also. The thoughts expressed in Deming's "Role of a Manager of People," appear to me to be consistent with these notions.

Behavior manipulation by use of rewards and punishments can have consequences that are complex and not always clear when these methods are applied. Although these methods may seem to be simple and powerful ways to get the desired behavior, they may also create distortions in the system that are not what was intended and may harm the organization. Managers should avoid applying methods to manipulate behavior and focus on creating conditions in which employees can be motivated and are not forced to choose between their own interests and those of the company. In his book, *Punished by Rewards*,¹⁹ Alfie Kohn identifies "Create Conditions for Authentic Motivation" as one of three steps to "providing an environment conducive to motivation in the workplace." He discusses what he calls the "three C's" of motivation: "the collaboration that defines the context of work, the content of the tasks, and the extent to which people have some choice about what they do and how they do it."

Procedural justice and interactional justice should be understood and policies, practices, and management behaviors should be examined from that viewpoint. Some criteria for examination of procedures and practices from the viewpoint of justice were mentioned earlier. Treating people with respect goes a long way toward gaining their

¹⁹ Kohn, Alfie, *Punished by Rewards: The Trouble with Gold Stars, Incentive Plans, A's, Praise, and Other Bribes*, Houghton Mifflin, 1993.

respect. Being honest with people and providing them with explanations that enable them to understand the reasons for decisions will enable them to be responsible citizens of the organization.

Some of the incentive pay systems and other forms of reward instituted by the human resources function need to be abandoned. Human resources should get out of the “motivation” business except to examine the distributive justice involved in pay systems; running pay lotteries from the viewpoint of Deming’s red beads experiment should be eliminated. The education and training role of human resources should be expanded to activities designed to educate managers on psychology, motivation, justice, and management of people and their obligations as role models. This education would go a long way toward providing the means by which employees and managers could experience the “joy in work” that Deming wanted in the workplace.

I welcome any comments you may have about the content of this document. I look forward to our discussions of motivation in the workplace.

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Dr. Ranney has co-authored books and papers on organizational improvement and has delivered invited lectures on quality, statistical methodology, and management throughout North America. Dr. Ranney is a member of the Advisory Board of Fordham University's Deming Scholars MBA Program. Since its inception, she has served as a trustee of The W. Edwards Deming Institute and she was the first President of the organization.