In this article, we take a look at why and how managers should communicate with their employees the value of scientific management and why it is still relevant today. Moreover, we will show managers how they should use communication to address employees’ feelings of unfairness. Finally, we will present a hypothetical case example that will help make clear the main points of how managers should use communication to teach their present-day employees the value of Frederick Winslow Taylor’s principles of scientific management and how to use concepts from Equity Theory to confront employees’ feelings of inequity in a modern business environment. The case will be followed with questions concerning the applicability of these two theories when managers are training subordinates, who are not college graduates, to do their work.

INTRODUCTION

Taylor’s Scientific Management and Adams’ Equity Theory

Because most employees working in many positions in manufacturing, home building, and fast-food services do not have a college degree, or a degree in business where they may have come in contact with Taylor’s or Adams’s theories, the employees need to be exposed to these theories to understand what their training is all about. Their managers need to provide a rationale for why things are done the way they are, and introducing the workers to Taylor’s scientific management theory will help educate the blue-collar workers. Many employees (and some of their managers) are unaware that Frederick Winslow Taylor’s principles of scientific management underlie their modern work routines. Because of Taylor’s principles, many employees are trained to be machine-like in certain aspects of their jobs they do for improved efficiency and profitability. For example, fast-food restaurant (e.g., McDonald’s or KFC) employees’ efficiency is directly related to corporate profits. Unfortunately, present-day managers are not likely to equate the importance of communicating to their employees’ the importance of time and motion, in relation to corporate profits. Training generally is on the how to do something and not on the why we do it this way.

Many blue-collar workers generally are also concerned about doing more than their fellow workers, or their fellow workers doing more than they are, or partiality being given to some employees. So another classic management theory applicable to managerial communication practices is Equity Theory. Because
people will adjust what they do at work, to justify what they are earning based on what others at their level are accomplishing.

John Stacey Adams’s Equity Theory has been a part of classical management literature since 1963. Adams asserted that when people feel distress from inequity they may react in one or all of the following ways. First, they may restrict their inputs to a level they believe is consistent with the outcomes they receive. Second, they may meet with their supervisors to verbally negotiate a better deal—meaning they will struggle to find a balance between work and reward. And/or third, the distress of feelings of inequity may cause some employees to quit the organization. Nevertheless, many managers still do not know how to communicate with employees when they have feelings of inequity.

**THE LEGACY OF SCIENTIFIC MANAGEMENT**

Gabor (2000) refers to Frederick Winslow Taylor as a “Capitalist Philosopher” who began carefully documenting his observations of people working in early twentieth century organizations. Gabor’s depiction of Taylor’s life and work is like being a fly-on-the-wall observing firsthand the man himself. Although a radically new idea in the early 1900s, Taylor’s 100-year-old essay, “The Principles of Scientific Management,” remains relevant to everyday business operations (Payne, Youngcourt, & Watrous, 2006).

Taylor’s keen observations during time and motion studies showed how long it took for workers to perform an operation, the types of work-related materials they used methods to help each worker optimize his or her personal level of productivity, and techniques for achieving efficient division of labor. Taylor’s analyses clearly benefitted, and continue to benefit, employers and employees. Taylor formalized a process for recording the time and motion it took to perform jobs, a sort of productivity coefficient. Job analysis and design has its roots in scientific management and is now a common human resources practice in most of the world’s largest corporations. Payne, et al. (2006, p. 389) describe Taylor’s impact on industrial organizational psychology the following way:

> In our reading of Taylor’s writings and analyses of his work, we noted a number of contributions and insights Taylor made that are well-accepted practices today and yet, Taylor is not typically given credit for providing the foundation for these ideas and findings. We also noted that many criticisms of Taylor were more likely misperceptions and misunderstandings. We organize our findings into ten areas within management and I-O psychology:

  1. job analysis;
  2. job design;
  3. selection;
  4. motivation and incentive systems;
  5. job performance criteria;
  6. performance appraisal;
  7. employee attitudes;
  8. group processes;
  9. organizational change and development; and
  10. human factors.

Scientific management is present when workers assemble a McDonald’s hamburger or when a technical support representative answers a call under pressure from a 90/10 protocol (a set of procedures that requires 90 percent of all calls to be answered within 10 seconds and that 90 percent of all problems be resolved within 10 minutes of the customer’s first call). The legacy of scientific management is found wherever machine-like precision in an operation is required to improve profitability. Employees do not automatically understand why being efficient while maintaining quality leads to greater profits.
Schachter (2010) provides evidence that Taylor’s work on efficiency has had an enormous impact on management education in the progressive era. Further, she argues that Taylor’s impact has implications for present-day managers which make Taylor’s methods relevant in a modern management environment. Schachter (2010) credits Taylor as being the originator of a science of work. Taylor was among a very small number of scholars in his day to begin thinking about work and efficiency of time and motion in relation to productivity and the added value of this new-found productivity to organizational surpluses.

Schachter (2007) argues that modern management owes a good deal to Taylor’s work, since efficiency is a “cherished administrative value” in public administration too. Efficiency to Schachter (2007) is a guiding value even for government leaders. Additionally, Crossen (2006, p. B.1) in a Wall Street Journal article offers an interesting modern spin on Taylor’s depiction of efficiency:

Mr. [Frederick W. Taylor] also believed that workers could be motivated only by money. But if they were paid a flat day rate, they had no incentive to produce more than yesterday. If they were paid by the piece, they knew from experience their employer would likely cut the piece rate. "When a naturally energetic man works for a few days beside a lazy one," Mr. Taylor wrote, "the logic of the situation is unanswerable.’ Why should I work hard when that lazy fellow gets the same pay I do and does only half the work?"

In fact, Taylor (1998) was absolutely convinced that the common management practice of the day, what he called “initiative and incentives,” was wrong because “practically the whole problem is ‘up to the workman,’ while under scientific management fully one-half of the problem is ‘up to the management’” (p.17). But, what Taylor was truly seeking was a sort-of personal productivity coefficient for every worker; his obsession was to minimize effort to maximize efficiency, vis-à-vis individual productivity.

Taylor was keenly aware of the fact that workers often used a type of interpersonal communication to bond together in their deliberate attempts to restrict their outputs-- a common practice among workers that Taylor referred to as “soldiering.” Taylor’s pinpointing of the problematic is best illustrated with a direct quote from his essay:

…Our first step was to find a proper workman to begin with. We therefore carefully watched and studied 75 men for these three to four days, at the end of which time we had picked out four men who appeared to be physically able to handle the pig-iron at the rate of 47 tons per day. A careful study was then made of each of these men…He was a little Pennsylvania Dutchman…We found that upon wages of $1.15 a day he had succeeded in buying a small plot of ground, and that he was engaged in putting up the walls of a little house for himself in the morning before starting to work and at night after leaving (Taylor, 1998, p. 19).

Referring to the Pennsylvania Dutchman as Schmidt, Taylor used Schmidt as proof by example that most workmen were holding back. Taylor described with detail the dialogue between Schmidt and himself. By offering Schmidt $1.85 per day (60% more than an average worker), with properly managed rest periods, Taylor showed that a “proper workman” could load 47 1/2 tons or 48 long tons of pig-iron per day. The average workman (due to soldiering) loaded only 12-1/2 tons per day.

Throughout his essay, Taylor deluged his readers with such practical examples, as a devout proselyte that scientific management worked! “The story of Schmidt would become the defining allegory of scientific management, even though Taylor scholars point out the story is misleading in almost every aspect…Schmidt itself is a pseudonym…and most of the character traits imputed to the fictional Schmidt were invented by Taylor for dramatic effect” (Gabor, 2000, p. 4; Nelson, 1980). Nevertheless, Taylor’s use of the fictional Schmidt does not negate the emphasis on face-to-face communication needed to implement scientific management; it enhances our understanding of the levels of communication required
to make clear to modern-day blue-collar workers the importance of scientific principles in their routine tasks.

Despite employees’ collective efforts to reduce output, Taylor was still convinced his methods were more effective than the common practice of initiative and incentive where managers were not controlling the work through communicating the importance of these efficiencies. On the contrary, through initiative and incentives the workmen were controlling the work. Thus, Taylor was convinced of scientific management’s potential for generating additional prosperity for both employer and employee.

**Scientific Management to Secure Prosperity**

Taylor (1998) maintained that the “principle objective of management” is to secure prosperity for both the employer and the employee. He believed that his scientific approach would enable both employer and employee to maximize their prosperity, thus contributing to greater surplus for the organization. A “proper workman” was not necessarily formally educated in a college or university, but to Taylor a proper workman could handle a 92 pound piece of pig-iron and work all day with supervised rest periods if sufficiently motivated through a piece-rate system. Nevertheless, the notion that owners would share their surpluses with labor was the most distrusted part of his scientific management principles (Gabor, 2000).

The trust aspect of Taylor’s notion of prosperity (i.e., generated by managers’ directive communications with their employees) is still questioned today and managers’ convincing employees requires excellent managerial communication skills. This “convincing” may also raise ethical issues. What promises are being made—and are these promises kept—concerning the sharing of surpluses and labor? Gabor (2000) refers to detractors’ backlash against Taylor’s principles as “Taylorism” which she attributes as one of the main catalysts sparking the labor movement in American manufacturing. When emotions were at their peak, Taylor needed armed security to escort him to and from work; labor believed Taylor’s principles would cost them jobs and destroy their livelihoods.

**EQUITY THEORY**

Equity Theory (Adams 1963, 1965) “draws on exchange, dissonance, and social comparison theories in making predictions about how individuals manage their relationships with others” (Huseman, Hatfield, & Miles, 1987, p. 222). Shore (2004, p. 722) tested Huseman et al. (1987) in a laboratory setting and confirmed that, as predicted, benevolent individuals reported the highest pay satisfaction, perceived pay fairness, and lowest turnover intentions. They learned that all three “equity sensitivity groups preferred being over-rewarded to being equitably rewarded, and were relatively distressed when under-rewarded.”

Three assumptions capture the essence of the theory in most situations where employees’ sense inequity and seek to reduce it.

**Assumption One**

The “equity norm” is a social assumption that an employee will expect a fair return for the contribution to the job they do (Adams, 1963: 1965). If Bob, for example, is hired as a customer service representative, he will need to know what is required of him to complete the position satisfactorily, and he will want to know that he is receiving a fair wage for the job he is performing in comparison to others doing the same job. The more Bob perceives inequity the more distress he will feel, and he will feel less distress when he perceives more equity.

**Assumption Two**

The “social comparison” is the determination employees will make as to whether or not their outcome is equitable in comparison to others’ inputs and outcomes (Adams, 1963: 1965). This means Bob, who earns $15 per hour, will have a realistic expectation that all other reps similar to him will earn $15 per hour and be treated the same in terms of raises, promotions, and scheduling. Bob will become angry if he learns that Laura, who has the same experience, training and education, and works the same hours, earns
$17 per hour while he makes only $15 per hour; this will likely create a sense of inequity for Bob. Under-reward leads to the most distress when employees feel others’ equity is greater than their own.

Assumption Three
When employees feel their equity is less than other’s equity, they will seek to reduce the inequity in three ways: 1) cognitively distorting inputs and outcomes known as “cognitive distortion,” meaning they may make a psychological adjustment justifying the imbalance, or the behaviors they take to reduce the imbalance; 2) they may actually alter their inputs, meaning they will restrict work inputs until they reach a level that they perceive is on par with the outcomes they are receiving; and/or 3) they may quit the organization (Adams, 1963: 1965).

An employee will use these three assumptions to obtain equality on their job from their perception point. While the manager has control over pay, fringe benefits, promotion and advancement, job security, and working conditions; the employee’s perception of how he is compared to others limits the manager’s control over the employee’s sense of accomplishment, sense of competence, feeling of personal worth, felling of achievement, and sense of confidence. The manager does have control over recognition for good work, status, feelings of belonging, appreciation from others, and to a point friendships on the job (Huseman & Hatfield, 1990).

Relevant Works
Tolman (1932) reported what happens to monkeys’ behaviors when monkeys expected bananas for a reward and received “monkey chow” instead. When Tolman’s monkeys were trained to use signals, they were rewarded with monkey chow or bananas. They learned to associate effort with reward this way. Nonetheless, when Tolman’s monkeys selected signals that were supposed to yield a banana reward, but they were rewarded with monkey chow instead, the monkeys went literally bananas! Tolman’s monkeys liked monkey chow but they found bananas irresistible! Tolman, therefore, inferred that his monkeys placed an exchange value on their efforts with rewards they received. The betrayed monkeys refused to play Tolman’s game thereafter because they had been deceived by the researcher. Psychologists tend to infer onto human behavior what they learn from their animal experiments.

Tombari (1980) found that in a federal health care organization first-line supervisors perceived job-related inputs (planning, structuring, and labor-management relations) as important to determining equity of rewards. Reward systems, if adjusted, were found to be important in perceptions of equity rewards. In a different study on equity, Greenberg and Ornstein (1983) undergraduate subjects differed in a high status titled that was earned rather than arbitrarily granted on a proofreading assignment. The earned job titled they claimed proved to be adequate reward for the inputs students put out, thus, keeping students feeling that they were being paid equitably—and to maintain performance task. They also found student who received the title arbitrarily at first over compensated for reward but later decreased performance because they felt undercompensated.

Romanoff, Boehm, and Benson (1986) argued that when considering compensation that employees’ feeling of fair, equitable compensation should be considered. By defining equity as “anything earned through providing or investing something of value,” they list the following four categories: 1. external equity, 2. internal equity, 3. individual equity, and 4. personal equity. Although there is a good amount of literature that confirms equity theory to be good theory, there is little research where management communication has been examined in relation to equity theory.

Equity Theory is important and is communication oriented. Effective managers tend to use 11 concurrent managerial strategies: positive expectations, goal setting, positive feedback, being available for the employees, communicating trust, employee improvement, distributing information, letting employees participate in decision making, rewarding employees, and using two-way communication. Managers who use communication to criticize all of the time make employees feel defensive (Huseman & Hatfield, 1990).
CONCLUDING REMARKS

Taylor’s scientific management asserts that employee’ efficiency leads to greater profits. Adams’s Equity Theory can be used by managers to communicate with their subordinates to understand that equity and fairness exists among employees. Many times if managers simply talked with their subordinates and explained what was required at a given position to get a certain raise, or how a given amount of monies were distributed, their employees would be more likely to understand and neither reduce their output nor leave the organization. When workers see that the manager cares and is trying to be equitable, they are more likely to be satisfied in their given position. Of course, this assumes that management is trusted by the employees. Often, employees will not consider management behaviors or claims to be credible.

Vroom’s (1964) research showed that pay raises provided very temporary satisfaction for employees. Employees are more interested in having management show that they care about them as an individual. Most minimally-skilled employees will not be thinking about their time and motion in relation to the bottom line unless they are taught. It is important for managers to use Taylor’s scientific methods of determine the component tasks identified with a specific job and how long it takes to perform each component in order to know if the work load is balanced between all of the workers, or if the work needs to be reapportioned.

When managers lead by example rather than allowing employees to find out and interpret information on their own, both the company and the employees win. Transparency is more important today because of people’s feelings for social equity. Nevertheless, some of the managerial problems then still remain. Many managers do not know how to teach their employees the value of doing specific operations with machine-like precision. The following scenario depicts equity theory in action.

IMPLICATIONS FOR MANAGERS

An effective method of explaining the relevance of scientific management and Equity Theory’s is to present the hypothetical case of Joe Parson communicating to his call center employees.

Case Study—the Need for Efficiency and Equity in Customer Care Center

There were three owners of a small internet service provider (ISP) named Fastlink. Fred Smith, an owner with 51% of the shares was president; Michael Franks, an owner with 30% of the shares was chief operating officer; and Bill White owned the remaining shares and was serving as director of engineering—responsible for all the routers, servers, and other technology relating to delivery of services the ISP sold to its customers. The owners knew the call center had problems, and they knew that the solutions to these very costly problems would require the talents of an excellent Customer Care Director.

Fastlink was bringing in a good deal of monthly revenues from multiple sources of income, including a menu of basic dial-up services, high-speed digital connections, and wide area networks and local area networks to residential customers as well as high-end clients. Fastlink’s business was expanding and industry growth had not yet tapered off nor declined. Thus, many “mom-and-pop” ISPs were emerging, and a good deal of Fastlink’s growth was attributed to its strategy of acquiring smaller ISPs for as little as $10,000. Some of these ISPs were desirable to Fastlink because they had only one owner, very few employees, 300 to 1,000 customers, and an established point-of-presence (POP) in a desirable location. Fastlink went from having 300 customers in 1998, the year it was founded, to more than 80,000 customers, serving six states in December 2002.

Fastlink was growing rapidly—a bit too rapidly; it was on par with the growth rate of similar size ISPs but slower than the major players at the time, (e.g., Roadrunner, Earthlink). Nonetheless, business revenues were very good. However, profitability from those revenues was declining. And, the owners knew exactly what the problem areas were and where the problems were located. The call center was costing Fastlink its customers nearly as fast as it could sign them up. The call center operations could not keep up with customers’ demands—costing Fastlink $100,000 in monthly lost sales and 5,000 customers were leaving each month; the new customer contracts had also declined from 20,000 to 10,000 per month.
By 2002, the owners had hired and lost five people in the job of Customer Care Director, and in the past six months had just lost another. Fastlink’s poor organizational structure, a lack of formal policies that guided processes and procedures, and some offensive bullies among the technical support employees whose behaviors and threats intimidated the previous five Customer Care Directors, prompted them to leave almost as quickly as they came. The owners knew that a solution for the call center operations was to hire a good person to run the department. Along comes Joe Parson.

When Joe was interviewed by Fred Smith, president, Fred promised Joe that he would have the full support and backing of the owners of the company. Parson was a no-nonsense manager whose reputation preceded him. Although very expensive, demanding $100,000 salary plus other perks and benefits, the three owners agreed to pay Joe that salary because it was much cheaper than $1.2 million in lost annual sales revenue. The most amazing thing Joe did before he accepted the job was to negotiate a budget that he controlled, basically making him signatory on pay increases and incentives. Another thing Joe negotiated was that he be given authority to run the center without interference from the owners on all call center policy matters.

With these agreements in place Joe started on a Monday in January 2003, a high-volume time for Fastlink whose business was seasonal because of enrollment in the 30,000 student university located in the small Missouri town where Fastlink was headquartered. The first thing Joe did was to identify the bullies in the technical support area; he knew about them through candid discussions with the three owners during his interview. Many of these employees were also the workers who had made sacrifices for the owners when Fastlink was a fledgling business, working cheaply in 1998. The owners could not bring themselves to terminate the employment of these problematic employees. Nonetheless, Joe had no problem with terminating any employee whose behaviors jeopardized the goals of the call center. After terminating three of the worst offenders, the 40 other call center employees fell in line. This was still not enough.

Although these employees were not trouble makers, they still needed motivation. Joe motivated the staff by offering them incentives to go beyond what he called “just order taking motions!” Joe explained to his employees the call center was losing money and customers and they were the only people who could turn it around. The employees, trusting Joe because he was new, confided in him that they all did not trust the owners of the ISP very much. These feelings not only hurt sales, but when employees merely take orders, it gives customers the option to discontinue their service each month with little to no switching cost; the employees were selling only monthly dial-up connections when customers called to order internet service.

The employees were not motivated to sell more expensive services because they felt only the owners of the business were “getting rich!” Joe decided to offer hourly workers a bonus for selling services beyond their personal monthly sales averages. By offering hourly workers a bonus for selling internet services beyond their individual monthly averages, Joe was able to give hourly employees an incentive to sell everything Fastlink offered. They became hyper motivated under Joe’s new policy.

For example, a typical employee working in the sales area sold $15,000 in monthly internet connections. They also sold mostly monthly contract services to customers. Joe trained all the employees that to become bonus eligible they would need to sell more than $15,000 in services, but once they met the minimum for the month, they would become eligible for 2% of their entire month’s sales. The most incentives came if employees focused on selling the annual service contract, which reduced Fastlink’s customer churn by locking its customers in for an entire year. Joe was known to preach, “Each time you pick up the phone sell an annual contract!”

Because Joe got rid of the trouble makers, and taught the employees that every time they picked up the phone they needed to focus on selling the annual contract, he was able to double the call center’s sales revenues twice within his first six months as director. Also, employees benefitted from being efficient because bonuses for their monthly sales were 2% of their total monthly sales over $15,000. Many of the college students working in the sales area were cashing bonus checks for as much as $400 each month, in addition to their hourly rate of $8.50. Technical support and billing staff had similar incentives; however,
theirs were mostly related to reducing customer churn by keeping Fastlink’s customers connected to the internet.

Can you answer the following questions? Please read and answer the case questions on your own prior to reviewing the answers provided in the Appendix.

**Case Questions on Communication**

1. What was the most striking communication action Joe did to integrate a scientific management approach to call center operations in terms of his communication skills?
2. How was Joe able to immediately resolve his employees’ distress from their feelings of inequity—employees feeling their efforts amounted to the owners getting rich—using his knowledge of Equity Theory?
3. Why did Joe succeed in the director’s job when five others had failed? What are three good reasons?
4. In his pre-employment negotiations with Fastlink’s owners, did Joe anticipate problems of inequity and inefficiency? If yes, what indicated his suspicion? If no, what other reasons are there that he would negotiate the terms of his employment the way he did?
5. How was Joe’s interpersonal dialogue with his employees similar to Taylor’s directive dialogue with the fictional Pennsylvania Dutchman Schmidt in convincing call center employees to be more efficient in making more sales of annual contracts?

**REFERENCES**


1. Joe was able to integrate a scientific management approach to his call center operations by first pinpointing the unscientific nature of employees' call center selling behaviors. Next, Joe was able to use face-to-face communication to encourage all his sales staff to use a “machine-like” consistency when they sold internet services, i.e., he encouraged all the sales staff to always (without fail) offer the annual account subscription each time they made a sale. This amounted to internet customers locked in for an entire year, thus, reducing churn and improving the bottom line.

2. The first thing Joe got right was to surmise that problems expressed to him by the owners of Fastlink were rooted in employees’ collective sense of unfairness. This was confirmed when employees told Joe they believed their efforts contributed to only the owners of Fastlink “getting rich.” The solution to the problem of distress among employees was to share in the wealth by giving the employees a sense of equity in the distribution of the riches. Thus, when a bonus structure was introduced that was based on sales volume, employees could rationalize that their inputs were in balance with their outputs. Specifically, employees’ efforts were on par with the perceived value of the rewards they received.

3. Joe succeeded in the director’s job when five others had failed because he correctly identified the management theories most applicable to the circumstances that had developed at Fastlink and used appropriate communication strategies to counter these problems. First, Joe talked specifically about the issues with owners and their employees. Second, Joe understood two classic theories that explain the phenomenon and could thus pinpoint the problematic rather quickly. And, third, Joe was able to use face-to-face dialogue to sort through the conflict—leading to several strategic terminations of problematic employees—as well as sorting through the main issues of perceive unfairness that lead to employees merely taking orders. Communication was used to create an environment where sales staff would enthusiastically sell internet subscriptions because they benefited directly by doing so. Apparently, previous directors did not establish such changes.

4. Yes. Joe anticipated problems of inequity. It is apparent that his experience in other companies gave him some sense that these are problems typical of small firms, especially fast-growing technology firms. This is why all Joe needed to do was to observe, communicate with employees and confirm or refute his theories as to the root of the problems.

5. Since the Schmidt character in Taylor’s essay is considered the “defining allegory” of scientific management, it is clear that just like Taylor used face-to-face communication to convince Schmidt (a proper workman) to follow the prescriptions of scientific management for a benefit ($1.15 to an increase of $1.85 or a 60% increase in hourly wage) Joe also had to use this method of communication. Therefore, Joe talked to every employee selling internet services and made each of them realize the benefit of using a machine-like consistency in upselling each caller to purchase an annual account. This effort resulted in much more efficiency among the sales staff and generated prosperity for both employer (greater profits from call center operations) and employees (bonuses for selling internet service above $15,000 each month).