

CERTIFICATION PAPER

# Motivational Theories and Their Application in Construction

Hassan Ali Halepota, PE, CCE

**ABSTRACT:** Motivation is a factor that significantly influences productivity. A higher level of motivation can result in higher productivity. This article explains different motivational theories, addressing how one can improve labor productivity with the application of these theories. The theories discussed in this article are: Cussin's approach or management by threat which gives an overview of the construction labor management history and was common for managing construction labor in 1950s, Maslow's theory or Maslow's hierarchy of needs discusses the needs of the individuals to be motivated for higher productivity, McGregor's two theories (theory X and theory Y) touches on two totally different perceptions of labor and their related management styles for guiding human energy, Expectancy theory deals with human expectations after making efforts, Herzberg's theory looks to be an extension of Maslow's hierarchy of needs and expectancy theory. Wherever possible, examples are presented to show where an intentional or unintentional use of motivation theories has led to improvement in productivity. With the help of these theories one can learn how to motivate construction crews for higher productivity. Besides better management practices in all levels of organizations playing important role, this article will also discuss the role of construction managers and construction management in terms of helping to motivate better productivity.

**KEY WORDS:** Construction, motivation, management, performance, productivity, and theories

These days, motivation is a most talked about topic, but not clearly understood and very often poorly practiced. This article is intended to provide a better understanding in regards to the importance of human motivation in the construction industry. Most of companies are looking into ways to improve efficiency, productivity, and quality. This article will discuss several motivational theories and their application. Also discussed are motivation principles and how to apply these to achieve benefits of improved efficiency, productivity, and quality.

The people side of producing construction is usually tied to a quantitative measure of craft productivity, morale, and quest of quality. At the same time, people represent the highest single cost figure, they also are considered to be the most unpredictable, difficult to control, and they are by far the one critical factor that nothing much can be done about. Much of the industry have turned its energies to solving more technical issues and has turned away from dealing with human factors as the primary key to improving profit.

Motivation is the key factor in influencing humans to work better, so an increase in motivation will result in higher

productivity and more profit, which is the ultimate goal of the construction industry. Understanding and having knowledge about motivation theories can help to create a motivational atmosphere, and application of these theories can result in achieving higher productivity.

The leadership style of a manager has a lot of influence on the motivation of workers. Construction is still considered as a tough guys business. Most construction managers and supervisors consider a democratic leadership style as a weakness. However, research has proved that democratic supervisors have achieved higher performance and better results than any other leadership style [3].

There are number of misconceptions about what motivates humans and there is no simple answer to this question. These misconceptions and the factors that effect human motivation will be discussed in detail later in this this article.

To create a motivational environment for construction workers, managers should have an understanding of all the concepts and theories on motivation. This article explains several theories of motivation and construction management principles, and their applications on construction projects to improve productivity.

## Motivation

Motivation is defined as, "a person's active participation in and commitment to achieving the prescribed results" [3]. The concept of motivation is somewhat abstract, different strategies produce different result at different times, and there is no single strategy can produce guaranteed favorable results all the time.

One of the difficulties in motivating workers is that they all are different and react differently to the same kind of change or action. Many motivation researchers agreed that managers can create a positive motivational atmosphere that can help in motivating workers for higher productivity, but they will likely not motivate everyone, because everyone is motivated by different things.

Most companies are looking into ways to improve efficiency, productivity, and quality. The question is how to make workers work more productively? This is a question of fundamental importance to any manager. The answer to this question is both complex and vague. Parnies and Levin (2001) explained it by saying, "the project manager must effectively and comfortably wear many different hats when leading a project" [5].

A construction manager's job is to get work done by the workforce. The construction manager's leadership style has a significant role in workforce motivation. Researchers have identified the major leadership styles as, laissez-faire, democratic, and autocratic. According to behavioral scientists, the democratic leadership style has achieved higher productivity and effectiveness.

## Concept of Motivation

Concepts of motivation are somewhat abstract. To analyze factors that influence motivation, five motivation theories will be discussed in detail in this article.

Figure 1 shows a conceptual model of motivation [6]. At point A, a person has needs and tries to fulfill those needs. At point B, the person finds the sources of fulfilling those needs. At point C, he engages or motivates himself to achieve tasks to fulfill his needs. At point D, once he achieves his goal, new needs or variations of those original needs will be achieved. In this way, he will remain motivated.

## Motivation and Productivity

The behavioral researcher Robert H Warren [10] states that the productivity and motivation are interdependent; the increased motivation can cause increased productivity. This is true but it is only half the story, the other half is that increased productivity causes increased motivation, and that motivation is in return dependent upon productivity. Figure 2 illustrates an interdependent relationship.

In figure 2, the X-axis represents motivation productivity and the Y-axis represents productivity motivation. It can be seen that, as motivation increased from Y1 to Y2, productivity increases from X1 to X2. The research has showed that an increase in one is likely to cause an increase in the other, and similarly a decrease in one is likely to cause a decrease in other. Hence, they are interdependent [10].

## Theories of Motivation

Five basic theories of motivation are discussed here to highlight the different factors that affect the motivation of an individual. Practical examples are quoted, wherever applicable, to show benefits achieved through application of motivational theories.

### Cussin's Approach or Management by Threat

The most widely used method for managing construction labor in the 1950s and even in the 1960s is known as Cussin's approach or management by threat. This theory is based on the idea that, the more you yell and curse at laborers, the more productive they will be. In other words, anyone who could yell the most ought to get promoted to a supervisory position. This approach is still used to manage laborers in rural areas of under developed countries, but is vanishing as workers are becoming more aware of their rights.

Cussin's approach not only survived during the Great Depression and World War II, but it actually flourished. In those days, many labor workers were war veterans. The military had used the Cussin's approach and might even have invented it. Jobs were in scarcity, work was needed merely to survive, and so the veterans had no option but to work in these cruel conditions. This approach did not motivate the laborer to increase productivity; all it produced was an

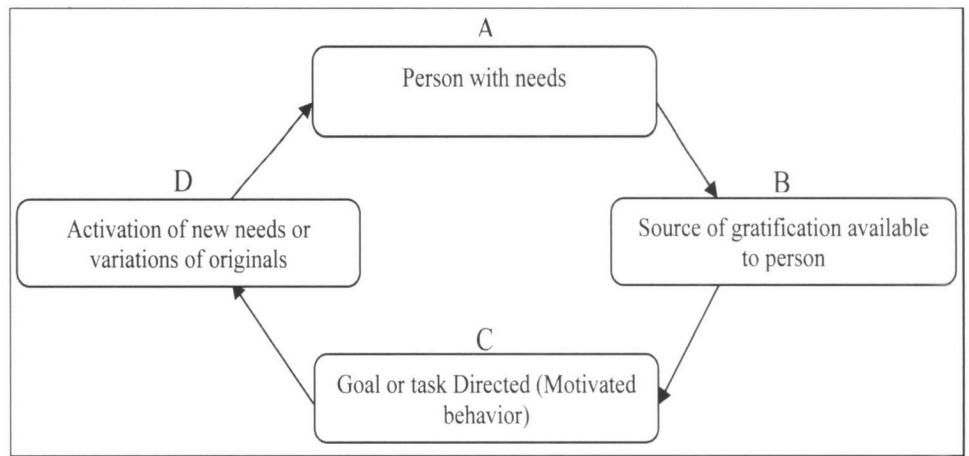


Figure 1— Conceptual Model of Motivation

atmosphere where people would try to not be yelled at by the supervisor.

Cussin's approach is historical today, enabling us to understand how past management practices worked or did not work, at manipulating the construction work force.

### Maslow's Theory

Abraham H. Maslow, a behavioral scientist and chairman of the department of psychology at Brandies University, published his theory, also known as the hierarchy of needs theory in 1954. According to Maslow, a person's needs are the main motivator that drives a human. He categorized the need in the following five levels: physiological needs, safety needs, social needs, esteem needs, and self-actualization needs (see figure 3).

For construction workers, the physiological needs include: wage, salary, and working conditions. The safety needs include: job security, other benefits like sick pay and safe working conditions. The social needs include team work and other activities to develop relationships between coworkers. The esteem needs include positive feedback and opportunities for advancement. Self-actualization needs include creating challenging tasks that are stimulating.

Maslow's theory helps us to understand human behavior and to select motivational strategies appropriate to individuals whom we are motivating. Different things motivate different individuals. A reward, which is very important and valuable for one person, may not have importance or value for another person. Understanding this differentiates workers and their needs. Using this knowledge, a manager or

supervisor can set meaningful rewards for good performance.

A point worth mentioning is that, a person who has had all of his or her lower level needs fulfilled, and is looking to meet higher level needs, may go back to the lowest level needs if there is a sudden reversal in the environmental [2].

Schrader (1972) applied Maslow's hierarchy theory to construction workers. He wanted to identify the level of needs that should be addressed to improve the motivation of workers and ultimately their productivity. Schrader concluded that the lower level needs (like physiological and safety needs) are no longer a motivating factor for construction workers. This conclusion is based on the fact that the construction workers make good wage to fulfill their physiological needs and through unions they can maintain a relatively smooth level of employment, fulfilling their safety needs (job security).

Schrader also believes that the nature of work environments in which construction workers are involved, helps develop coworker relationships. In turn, this fulfills their social needs.

In an attempt to motivate construction workers, Schrader proposed that management needs to focus on higher levels of needs from Maslow's hierarchy theory. In order to fulfill higher needs, Schrader suggested involving employees in discussions about method improvement practices. He believed the keys are using a participative decision process and team building. Schrader also suggests that esteem needs and self-actualization needs of construction workers can be fulfilled through praise, listening, and involvement (Schrader, 1972).

## McGregor's Two Theories

Douglas McGregor of the School of Industrial Management at Massachusetts Institute of Technology introduced two different theories, which describe totally different ideologies of labor and a related management style for guiding human energy. His theories are known as theory X and theory Y.

### Theory X

Theory X holds management responsible for organizing humans, materials, and machines, to get desirable results. According to Theory X, management or managers should assume that workers are indolent, lack aspiration, avoid work when possible, do not take responsibility, put themselves before the organization, oppose changes, are easily fooled, and should be punished for their wrong doing and rewarded for their extra efforts.

McGregor's theory X does not seem functional, because this approach is based on invalid and wrong assumptions. That is the reason McGregor introduced a new theory and called it theory Y.

### Theory Y

Theory Y also held management responsible for organizing humans, materials, and machines, to get desirable results. However, according to theory Y, workers are not indolent or inconsiderate of the organizational needs by nature. Instead, in theory Y, McGregor said it is poor management or manager's policies that have made workers this way.

They have potential to be motivated for achieving organizational goals. If, according to this theory, workers are given freedom to work in their own way to achieve their goals. Management should show confidence in its workers so that their achievements will be beneficial to the organization.

The case of Hobart Brothers Company is cited as an example of McGregor's theory Y. The Hobart Brother Co. manufactures specialized welding materials and equipment like robotic welding, robotic vision and spray surfacing. Employees at Hobart Brothers are considered as family. Management has confidence in its workers so that even hourly workers are involved in company's value analysis program. Employees are

paid 20 percent of pretax profit under a profit shearing plan.

A fire accident that occurred in one of the Hobart Brothers plant's in May 1990, gives evidence of the motivation and commitment of its employees. The fire damage was to such an extent that the management thought they would be out of business for several months, but the tremendous effort exerted by employees brought the plant into operation in just two months. Some of their employees worked 12 hours a day and seven days a week in massive cleaning operations, and in installing new equipment and supervising repairs to the building [9].

### Expectancy Theory

The expectancy theory of motivation is based on the works of Victor Vroom and Porter and Edward Lawler. The theory advocates that motivation of an individual depends upon the individual's perception regarding his or her capability to do a particular job, the reward associated with the accomplishment of the job, and the value he or she places on the reward [4].

The expectation for reward is different from person to person. For instance, a person may undertake a job for self-satisfaction, others for a bonus and to keep a job. It is important to know the value of reward for each participating individuals.

Figure 4 [11] shows that an individual's desire of achievement creates expectation that this task or goal can be achieved. Once achieved, it creates an expectation for desired rewards like promotion, increased security, and so on. The key point of the expectancy theory is that the more attractive the reward, the stronger the perception will be. This is because of an expectation that the extra efforts will lead to reward.

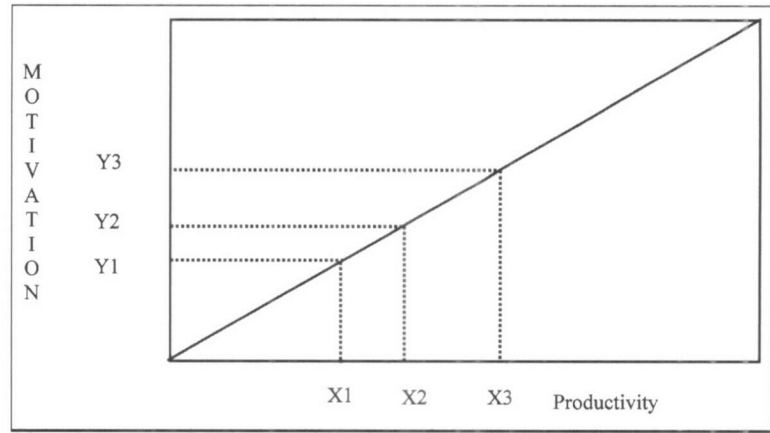


Figure 2— Motivation Versus Productivity

This theory can be used to predict the motivational consequences not only in pay changes, but also for promotions, changes in working conditions and assignments, use of overtime, training, and recognition of achievements, to name a few [10].

As an example, the Wallace Company, winner of the prestigious Malcolm Baldrige National Quality Award in 1990, can be used to exemplify the expectancy theory. At Wallace, employees had sufficient authority to work on their own and they were trained to improve quality. The reward for improvement was the Baldrige Award; and the workers were aware of value of reward, so this kept them motivated to continue working hard [4].

### Herzberg's Theory

Fredrick Herzberg, chairman of the psychology department of Western Reserve University, introduced a theory, which looks like an extension of Maslow's and the expectancy theory.

This theory was originally developed by interviewing 200 engineers and accountants to gain insight into their working relationship, attitudes, and performance motivators [7].

According to Herzberg there are two factors that cause motivation and demotivation in an organization. He refers to motivation as the job enrichment factor, and demotivation as hygiene factors.

Job enrichment factors are achievement, recognition, responsibility, freedom, and advancement. He believes these are motivators of workers in the work place. When an engineer is given a difficult task and made responsible to complete that task in his or her own way, this creates confidence. In turn, the engineer will do his or her best to accomplish the task. If as a reward of that

achievement, the engineer gets recognition and advancement, this will motivate the engineer to take such tasks in the future and to try his or her best to accomplish them.

Hygiene factors are referred to as work conditions, policies, administrative efficiency, style of supervision, and relationship between employees.

According to Herzberg, hygiene factors are demotivators. They demotivate workers at the work place in different situations. Using the same example as used to show the job enrichment factors—if the engineer was given a difficult task and initiated the work in his or her own way, worked according to the instructions issued, and accomplished the task. However, if the engineer then did not get any reward, no increase in salary, no recognition because of the organizational policies—these factors would have a negative impact on the engineer's motivation.

Similarly if he or she is working under the supervision of a person with whom he or she did not feel comfortable, this will also affect productivity.

In the construction industry, management can apply this theory by performing a survey of its employees and can gather facts about motivators and demotivators in their organization.

Efforts can then be made to curb the dissatisfiers. In other words, Herzberg's theory can be very helpful for construction management in identifying and fixing dissatisfiers, which can hinder the growth of an organization.

The application of this theory can help management create a fertile environment to introduce motivation-maintenance as a mechanism for achieving the organization's goals by providing opportunities for employees to achieve personal goal.

### Beyond Motivational Theories

An organization that practices construction management principles in making decisions and solving problems has a better chance of achieving its objectives (better productivity and motivation) in an effective manner.

Construction management influences productivity in two ways. First, it determines how smoothly the work will flow and how much work can be accomplished. Secondly and more

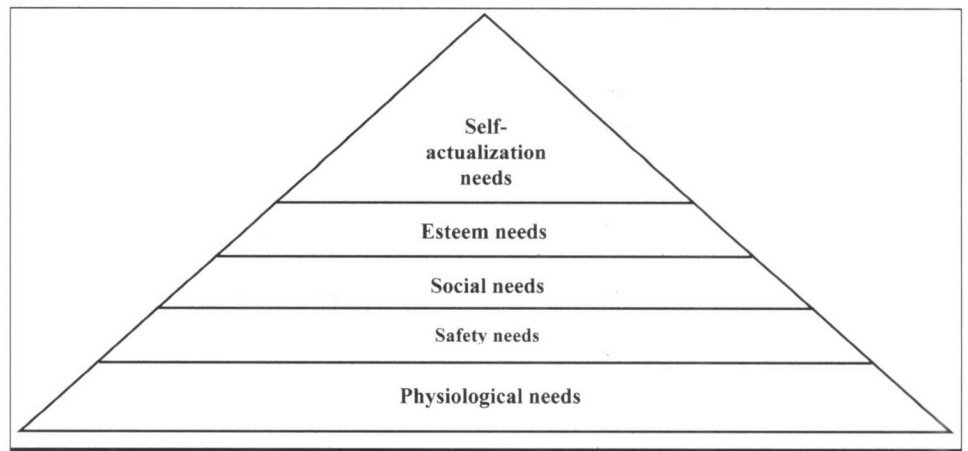


Figure 3— Maslow's Hierarchy of Needs

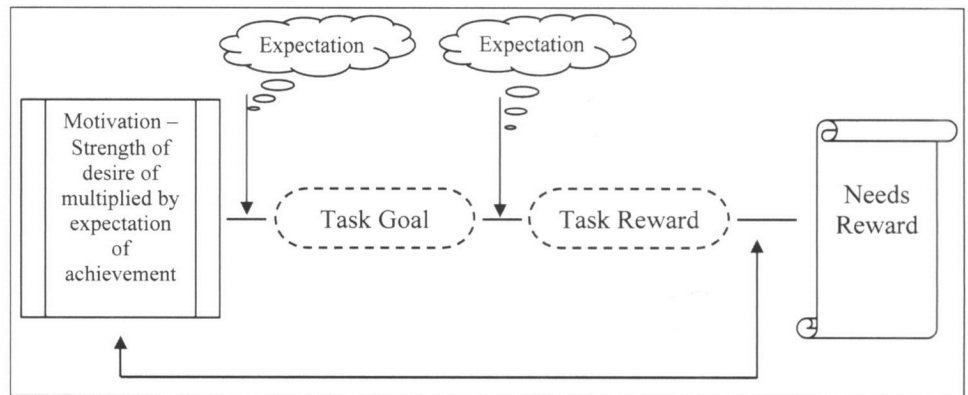


Figure 4— Expectancy Theory

importantly, it influences workers attitudes and becomes a major element in worker motivation, determining how much work will be accomplished.

There are many factors that influence construction site productivity. There are factors that cannot be controlled by construction management principles, such as environmental factors, labor availability, job factors and industry factors.

On the other hand, there are factors that can be controlled by construction management principles, such as planning and scheduling decisions, organization of jobs, supervision, proper feedback, etc.

Studies in this domain reveal that management's failure to adequately provide these vital functions has contributed largely to the low productivity found in the construction industry. An unorganized and poorly planned job creates frustration among workers and causes lower productivity and rework.

Collaboration is a way to give employees a feeling of importance. Eliminating obstacles creates an atmosphere where the staff is eager to perform.

Another approach is educating workers and matching them to projects that they find interesting and those on which they are knowledgeable. This helps increase their success rate which in turn helps improve their self-esteem.

Another way to increase productivity is with empowerment. Giving people the choice to make decisions and giving them tools and supports to their job will increase their inner motivational force.

A manager should define clear and achievable goals for his workers and should give them authority and resources to achieve those goals.

A manager should set standards of excellence, provide workers with training that will enable them to meet these standards, provide feedback on performance, and recognize them for their achievements and trust and treat them with dignity and respect [8].

In order to create a positive climate of motivation, management must provide direct support to its workers and then provide psychological nourishment to allow them to motivate themselves. Management should follow the steps outlined in this article to achieve its goals.

The Cusin's approach is not applicable in today's construction business. Management has a better chance of motivating construction workers through the application of Maslow's higher level of needs. The lower level of needs are no longer motivating.

McGregor's theory Y is promising and should achieve a higher level of motivation in construction. McGregor's theory X has no chance for motivating construction workers.

The expectancy theory is a more individualized theory that it is applied from individual to individual depending on their expectations and goals. The expectancy theory is more for supervisors in construction. The motivators and demotivators can be identified through surveys based on Herzberg's theory, and management should work hard to improve motivators and should eliminate the demotivators to achieve better productivity.

If management wants to improve worker motivation, it must take an active role in managing the motivational processes at work. Managing worker's motivation in the construction industry requires planning, organizing, staffing, directing, and controlling.

This study of these few motivational theories has shown new angles to human behavior, which affect the person's productivity. By considering these aspects, management in the construction industry (and especially construction managers) can improve the productivity of their workers.

A successful application of these theories requires an understanding of the situations and circumstances surrounding construction organizations. This understanding will help the manager decide which features of which theory can best be applied in their organization.

Management style plays an important role in motivating workers, and a manager must identify what style of management is most effective for each organization. Building morale is an important concept in motivating workers; it will help create productivity. Developing a shared vision is a way to begin building morale.

Understanding the needs and expectations of construction workers is basic to motivation. A knowledge of motivational theories can help a lot in this regard. It is important to point out that motivational theories must be used wisely.

Misuse of some theories and techniques could result in negative consequences.

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## ABOUT THE AUTHOR

Fassan Ali Halepota, P.E., CCE, is a lead cost engineer with Bantrel 1400, 100 6th Ave SW Bantrel Tw, Calgary, AB T2P 0T8, Canada. His e-mail address is: halepota@bantrel.com. He received his CCE certification in 2003. His certification paper was recommended for publication by Donald R. Bosken, CCE.

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