

## **Motivation of Engineers in Construction Industry**

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**Abstract:-** Engineers and workers in construction industry suffers from the lack of motivation, which generally cause late in project submission, conflicts in work, and depression, as well as changing the workplace more often. This paper reviewed the lack of motivation of engineers in Construction Industry based on reviewing case studies worldwide. Studies proved that generally the lack of communication between directors and workers, as well as the human development factors that are related to the age of workers plays a major factor in the level of satisfaction. This papers concludes that a new motivation approach to Engineers in Construction Industry should be created and used, and such approach should include more factors that affects the motivation of Engineers.

**Keywords:-** Motivation, needs theories, construction industry, human behaviour, job satisfaction.

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### **I. INTRODUCTION**

Lack of motivation is a problem that traces back in the history of humans. Several theories were developed during the last century like the theory of social man developed by Mayo in 1945, Economic man developed by Taylor in 1947, Self-actualizing man developed by McGregor in 1960, and complex man developed by Schein in 1980. (Reddy, 2004)

Early theories of motivation were based on the will. They based on the human willingness to do something as the main reason behind his behaviour and performance. The will power was considered as the crucial factor that affects the performance of workers. Then, new theories were developed like Hedonism that based his theory of motivation and human behaviour on humans seeking pleasure and avoiding pain. Other theories were also developed like Instinct theory used by William James, William McDougall, and Freud to explain the human behaviour. (Cherrington, 1989)

Maslow's motivation theory based on Needs hierarchy gave a new contribution to the understanding of human performance and its relation to the motivation. His used his experience as a therapist and counsellor to create a hierarchy that was in a big matter close to explain what motivates workers to perform. He found that there are five universal needs; Physiological, safety and security, social, ego and esteem, and self-actualization needs. Maslow believed firstly that, once the need from one lower level is fully fulfilled, the worker starts to seek for the next in row need. After that, he explained that there is a ratio that should be achieved before seeking the next need in row. (Cherrington, 1989)

Alderfer developed new theory that was based on Maslow's theory, but he reduced the number of need levels from five to three; Existence needs, Relatedness needs, and Growth needs. Alderfer believed that it is not obligatory to fulfil one need before seeking other needs. (Alderfer, 1972)

While Alderfer and Maslow analysed motivation as a reaction to a need, McClelland (1940th) believed that needs can be acquired and learned by the kind of events and happenings people experiences, and due to cultural factors and aspects. He categorized workers due to the type of need into three categories: Need for achievements (nAch), Need for affiliation (nAff), and Need for power (nPow). Workers, according to his classification, will behave differently regarding their need, and can be motivated according to the need they seek to. (Ray French, Charlotte Rayner, Gary Rees, Sally Rumbles, John Schermerhorn, James Hunt, Richard Osborn, 2005).

### **II. MATERIALS AND METHODS**

Several published papers on the area of motivation in construction companies will be reviewed, in order to preview previous experiences with motivation systems that were used worldwide.

Increasing the productivity of workers cannot be achieved without having in mind the factors that can affect the productivity. Many researches were focused on pinpointing the areas in which the efforts should be directed in order to achieve better performance. The paper published by Mawdesley & Al-Jibouri (2010) is based on data collected from the construction industry in the UK. This paper aimed to determine what factors affected the productivity at site level, to determine how these factors are interacted, and to determine the significance of the factors. By the literature review, 34 factors were identified and after quantitative surveying methods, 5 of them were classified as important factors. Mawdesley & Al-Jibouri (2010) found that investment

in planning and control has most benefits on project productivity. Also, it found that investment in safety, motivation, and reduction of disruption are also beneficial.

The construction industry is characterized as being poor innovator if compared to other industries according to Abbot, Jeong, & Allen (2006). In this paper, Abbot, Joeng, and Allen tried to implement innovative methods of motivation through a case study that includes a small heating and plumbing company. They find that a connection between universities and small construction companies should be established and improved in order to ensure better results in work motivation and innovations that may enhance better motivation for workers. They used qualitative methods of analysis in which they created a model and analysed its effect on a real company.

Oyedele, (2010) aimed to identify critical factors influencing architects' and design engineers' motivational level in design firms. This paper examined motivational theories to identify possible attributes that influencing motivation. As a methodology, a questionnaire survey of architects and engineers in Northern Ireland design practices. The results showed that the four factors that affect the performance are favorable project working condition, organizational support, design process efficacy, and effort recognition.

The role of management is to use the organizational resources to achieve the firm's goals and objectives. Theory suggests that motivational factors follow a hierarchical format where higher level needs becomes dominant when lower level needs are fulfilled, such as Maslow's theory. Parkin, Tutesigensi, & Büyükalp (2009) looked at factors affecting the motivation of workers on Turkish construction sites. As a methodology, 370 construction workers filled the questionnaire. It found that money earned is the foremost motivating and de-motivating factor in the eyes of the construction workers. This paper suggested that workers on Turkish construction sites are managed in way which limits their opportunities to fulfil higher level needs, which affects negatively their motivation and productivity.

Herzberg's two-factor theory of motivation is well-known in the management world. Its validity was questioned in different work settings. Construction industry is unique and has characteristics that have special effects on the workers' motivation. Ruthankoon & Ogunlana, (2003) tested the two-factor theory on Thai construction engineers and foremen following Herzberg's interviewing procedure and compares the results to Herzberg's. It is founded that achievement contributes to satisfaction of engineers and workers. It concluded that two-factor theory cannot be entirely applicable in the Thai construction setting.

Based on both literature review and questionnaire surveys, Tabassi & Bakar (2009) explored the execution of construction workers training and motivation methods in HRM practices. 120 questionnaires were sent to construction companies in Mashhad, Iran. This paper exposed some barriers in the training and motivation of the construction workers. It did provide solutions for the government and companies in Iran. According to this study, workers without their essential existence issues solved will not be motivated to attend training and to improve themselves, which will de-motivate them, so Government and companies should ensure better conditions for their workers.

Zakeri, Olomolaiye, Holt, & Harris (1997) aimed to identify factors affecting motivation of Iranian construction operatives. Quantitative research methods were used. After analysing the results of questionnaire surveys, qualitative researching methods were used to analyse and discuss the results more detailed. This study found that the five most important motivation factors are fairness of pay, incentive and financial rewards, on-time payment, food working facilities, and safety in work. It is recommended that construction companies in Iran start paying attention to these issues, as they can have instant impact on the performance of workers.

### **III. DISCUSSION**

Reviewed papers highlighted several motivation problems for construction Engineers and workers. All papers referred to the lack of motivation. Some of these papers found there is a lack of economic motivation. Reviewed papers were conducted in countries with low life standards, and economic safety is not ensured for construction workers, so they tend to solve existence needs. While in countries with better and higher life standards, workers feel the lack of non-economic motivation factors, such as need for affiliation and self-actualization.

It is needless to invest in improving the competence of unsatisfied engineers, as they will not be willing to improve unless their main life existence needs are satisfied. Engineers are not only motivated only by salary raise or economic factors, as they seek for affiliation, safety at work, reduction of disruption, and organized planning of work.

Another important factor that motivates Engineers is the recognition of works done. Engineers in the construction industry are more motivated if they receive a recognition of jobs done well. The recognition might not be only by additional payment, but by praising them in their companies in front of others, which makes them feel more valuable at the working place.

#### **IV. CONCLUSIONS**

Several motivation theories were examined to test the motivation of Construction Industry Engineers. However, none of these theories proved to be entirely applicable and useful for motivation. A new motivation models should be prepared and used to motivate Engineers in such specific industry that requires refreshment and enhancement often. Engineers' lack of motivation causes several negative effects on the process of construction, such as delays in the date of submission, conflicts and low productivity at work, changing the work place after short time, and finally, leaving the current country to seek for satisfaction in other more developed countries. New models of motivation should include a wide range of factors that depends on the age of Engineers, academic titles, experience, family status and other demographic factors that proved to be of major importance in motivation at work.

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