



¹. Mohammed Salleh HAMMAD, ². Abdelnaser OMRAN, ³. Abdul Hamid Kadir PAKIR

IDENTIFYING WAYS TO IMPROVE PRODUCTIVITY AT THE CONSTRUCTION INDUSTRY

ABSTRACT:

In the current environment, contractors are had pressed to find ways to gain a competitive advantage and improve slim profit margins. In any given geographical area, construction labor, material and equipment costs are essentially the same. One of the few opportunities to improve the bottom line is to increase productivity. This paper is attempted to identify some ways to improve productivity at the construction site in Libya. Interviews were carried with contractors, owners and consultants. The paper has concluded that the consultants understand both best industry practice and the current construction technologies that can improve productivity. Perhaps most important, the consultants can provide the supervisor and crew with the training that will yield the greatest productivity improvements.

KEYWORDS:

Productivity, Improvement, Construction industry, Interviews, Libya

INTRODUCTION

Productivity is one of the key components of every company's success and competitiveness in the market. Productivity translates directly into cost savings and profitability (Proverbs et al., 1998). A construction contractor stands to gain or lose, depending on how well his company's productivity responds to competition. Construction companies may gain advantage over their competitors by improving upon productivity to build projects at lower costs; yet, most contractors do not systematically and properly address this strategic issue or evaluate its impact on the project's profit. It is no longer sufficient to outbid a singular, neighboring contractor because many companies compete nationally and/or internationally for construction contracts. Contractors must strive to improve productivity continuously or risk losing important contracts. A company has the ability to increase its competitiveness through enhanced productivity by raising the level of value-added content in products and/or services more rapidly than competitors. The concept of productivity is importantly linked to the quality of input, output, and process. Productivity is also a key to long-term growth (Helander, 1981).

A sustainable improvement in productivity, when associated with economic growth and development, is that productivity generates noninflationary increases in wages and salaries (Banik, 1999; Rojas & Aramvareekul, 2003b). A productive industry also

may be profitable, allowing for growth and innovation while having a positive effect on society. For example, productivity improvement in the housing construction market may contribute to the supply of more affordable housing (Haas et al., 1999); however, sometimes the very nature of construction industry makes the productivity concept a complex one, due to such variables as small firm sizes, low profit margins, industry fragmentation, environmental issues, limitations on the supply of skilled labor, and other resources (Bernstein, 2003). Despite the importance of the productivity concept, productivity enhancement in construction has been overlooked for decades. While the manufacturing industry drew benefits from proven production management techniques (Neumann et al., 2003), the construction industry lagged due to insufficient research in the area of productivity.

Methods for improving construction productivity to assist managers in identifying productivity barriers and offer solutions were limited. In contrast, there are few studies of enhanced productivity in the construction industry. In reality, increasing productivity benefits the stakeholders' in several ways:

- ❖ Projects are completed more quickly;
- ❖ Project cost is lowered;
- ❖ The contractor can submit more competitive bids; and
- ❖ The project can be more profitable

Most of the previous studies indicated that workers on a construction project are unproductive for 50 percent of their time on site. Waiting eats up more than half of an employees' unproductive time and about one-third of total project time. It can wreck a schedule and reduce the contractor's profits. Some studies indicated that a third of waiting periods result from factors under managements control. By improving management practices, a construction company can therefore reduce waiting time significantly. Besides long periods of waiting, there are many other drains on productivity at the construction site, including:

- ❖ Poorly planned materials management;
- ❖ Cleaning up the job site;
- ❖ Materials waste and theft;
- ❖ Accidents;
- ❖ Substance abuse;
- ❖ Redoing standard work and completing client punch lists

Improving site productivity is easy to pose as a strategic objective, but not so easy to achieve given the complexity of the construction process. The study is carried out to identify some effective ways to increase the productivity in a construction company. A quantitative approach has been conducted with 25 project managers, contractors, consultants who are working with in the city of Benghazi in Libya. Based on their opinions and suggestion, the useful effective ways has been discussed briefly in the next section.

RESULT FINDINGS

From the interviews, it can said that these are the most effective ways that recommended by the interviewers who are working the construction filed within the city of Benghazi in Libya. They are as following:

Analyze the entire construction process in detail

A construction company should analyze each phase of its process to determine what the barriers are to improving productivity. It should begin by measuring key factors and setting benchmarks and goals for improvement. For example, the company can carefully observe the percentage of productive and nonproductive time at a site. By comparing project, the company can determine why one project was more productive than the other. For instance, perhaps productivity always slides when a certain piece of equipment is used. The construction company or firm can set a goal for using the equipment more efficiently, and then provide the training the crew needs to reach the goal.

Providing better planning

There will never be a magic solution that eliminates all work changes, but better planning will mitigate the impact of work changes and also eliminate the unnecessary waits that result from imprecise planning. For example, if contractor do not order material to arrive at the date it is needed, the crew will be forced to wait until the material arrives. Therefore, better planning is essential. There is also need to develop a measurement for determining how

accurate the current planning process is, plus develop a realistic benchmark for improvement.

Train supervisors and the crew

Interviews confirmed that an important key to improving productivity is to train the crew. This is especially for construction supervisors, whose knowledge and skills can make or break a project in sound management principles and techniques. Construction companies rarely hesitate to train employees in specific skills such as how to operate a new piece of equipment. The benefit of training is measurable almost immediately: the employee is more productive as soon as he or she has mastered the new skill. Supervisor training should be specifically related to how to improve productivity at the job site. Supervisors must be trained to look at the job non on a day-to-day basis, but a work process with many discrete steps that must be completed over an extended, if limited period of time.

Regular meetings

In order to resolve the productivity problems associated with the management, a weekly informational staff meeting is recommended among the project manager, the project superintendent and their assistants. The weekly meeting would benefit productivity and profitability of project through prompt exchange of information. Weekly issues facing the project, information received from the engineer and owner, the project schedule, safety, critical materials and the machinery were among the topics to be discussed in the weekly meetings between the project's key personnel.

Safety planning

From the interviews, it can be indicated that some of the new workers seemed not to have a clear understanding of safety culture on the project. Some of the new workers did not utilize fall protection (despite the availability of this equipment on site), when standing at the edge of an excavation deeper than six feet. There were some workers who wore no hearing protection when working at different areas of the site that had a high level of noise. There was no orientation program for new hires and no training was performed for hazard identification and elimination. There were no safety incentives in place for recognition of goal directed behavior. Therefore, safety planning is an important element for increasing the productivity at construction sites.

INTRODUCTION

Productivity is a serious issue for the construction industry, which because of its large size has a dramatic impact on the economy. This research was carried out in the developing economy of Libya. It may be that the issues of the key factors, the model developed and the alternative solutions here can provide guidance to the other economies in transition. Concepts such as practicing productivity in construction sites are not well understood by construction personnel. They often do not realize that there are many alternative ways that can lead the productivity and improve its achievements and values. The 5 identified ways can



actually contribute to an increase in the value of construction productivity and could increase the performance level as well.

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AUTHORS & AFFILIATION

¹ Mohammed Salleh HAMMAD,

² Abdelnaser OMRAN,

³ Abdul Hamid Kadir PAKIR

¹⁻³. SCHOOL OF HOUSING, BUILDING AND PLANNING, MINDEN, UNIVERSITI SAINS MALAYSIA, MALAYSIA



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