

MANAGING CONSTRUCTION LABOUR PRODUCTIVITY IMPROVEMENT IN GAUTENG

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Labor is an important factor in the development of the construction industry and therefore understanding its contribution productivity performance is crucial. This is a requirement for informed targeted actions that would induce productivity gains to the industry. This is particularly relevant as the South African government considers labor as a key driver of productivity across different sectors of the economy. To this end, structured questionnaire was drafted and distributed to workers in twenty-three project sites in Gauteng Province of South Africa to explore the role of motivating factors of labor productivity in construction. The exploratory study discover that managements support and encourage productivity improvements through targeted incentives and career advancement opportunities made available to workers in addition to soliciting ideas from workers. The study also amplifies the need to use education and training as a productivity improvement and empowerment tool among workers in the construction industry of Gauteng.

Keywords: Construction, Labor, Management, Productivity, Gauteng

1. INTRODUCTION

Despite the size and great significance of the construction industry to the economic development of a nation, its productivity is one of the most controversial and least understood factors (Haskell, 2004). Conditions in South African construction remain difficult compared to other industrial sectors (Snyman, 2013; Thwala and Monense, 2008). Senthilkumar and Shafee (2013) added that the industry is diverse in nature and faces various productivity related challenges and sense of urgency in project delivery has grown significantly in terms of productivity improvement. It is widely perceived that construction labor productivity in South Africa has been declining since 1993 when it was at its historical peak (Dzada and Crafford, 2015). Recent research using construction macro-economic data found out that in 2012, labor productivity was at its lowest in 46 years (Adoobe, 2012). Employing about 7.71% of the total workforce in South Africa, the construction industry's contribution towards national economic growth cannot be underestimated (Statistics South Africa, 2013) One way of improving these factors is for the industry to innovate and provide insights into why people perform at work as they do, and as a result provide managers with techniques to

improve labor productivity. Therefore this study was undertaken to evaluate the role of management in improving construction labor productivity in Gauteng.

2. LITERATURE REVIEW

Performance relative to the of project parameters of cost, H&S, quality, and time is poor in the South African construction industry (Manthe, 2008). This poor performance related to cost, H&S, quality, and time in turn hampers the smooth delivery of infrastructure projects. The poor performance can be occasioned by recurrent waste in the construction process (Han, Lee, Fard, and Pena-Mora, 2007). In effect, ineffective management of the construction supply chain results in the industry suffering from delivered construction projects that are unsatisfactory from the perspective of clients because of high costs, non-conforming work, late delivery, and low profitability for those within the numerous construction supply chains (Cox and Ireland, 2002). Thus, these anomalies within the construction process may further stagnate / or reduce the competitiveness of organisations, the supply chain, the industry, and also impact the economy of a nation. In line with the foregoing, Kazaz and Ulubeyli (2007) posited that productivity is one of the most important factors affecting the overall performance of any organization, large or small and construction productivity is influenced by many factors other than labour, including: material; equipment; tools; construction method; and management skills. However, these resources are inanimate, and meaningless if not transformed into productive tools by the human element. So labor productivity plays a key role in determining the financial success of a project (Khan and Ajmal, 2015) and therefore any improvement in labor productivity will contribute a high deal to the improvement of the overall productivity and improvement in the whole performance (cost, time, and quality) in construction industry. One of the most important factors in improving labor productivity is the motivation of labor. Suitable motivation of labor can be hypothesized as a key contributor to maximizing labor productivity (Kazaz, Manisali and Ulubeyli, 2008). It is management responsibility to motivate labor to derive better work from them. Employees have higher levels of motivation when they perceive that management cares about their welfare, when they are involved in the management process, and when the management-labor environment is positive (Kalburgi, and Dinesh, 2010). When workers lack motivation they tend to resort to anti-work behaviors such as absenteeism, negligence of duty, late-coming, failure to meet deadlines, and display of open frustration, which are all detrimental to work performance and productivity improvement (Stella, 2008).

The research reported upon evaluated management role in motivating labor for the purpose of productivity improvement. This evaluation is done by using different motivational factors. Then the results are summarized in a form of tables. This study will help management decision-making and in initiating effective management skills in improving labor productivity.

3 RESEARCH METHODOLOGIES

This research is sought perceptions of people and solicited their view on how to improve productivity in construction industry. But since a questionnaire was extensively used it is also quantitative in nature. In this study therefore, primary data were obtained using structured questionnaire. A questionnaire is defined as a formalized set of questions for obtaining information from respondents. The overriding objective is to translate the researcher's information needs into a set of specific questions that

respondents are willing and able to answer. A questionnaire is the main means of collecting quantitative primary data (Malhotra, 2011). A questionnaire enables quantitative data to be collected in a standardized way so that the data are internally consistent and coherent for analysis. In all cases the role of the questionnaire is to provide a standardized instrument across all respondents. This is so that when the questions are asked or presented, it is always in exactly the same way (Brace, 2013). To avoid a plethora of different responses that could be saying the same thing put in hundred different ways, questionnaires were thought to be the best tool to provide standard responses that could easily be analyzed. One hundred and fifty (150) structured questionnaires were administered to the labor in the industry that is involved in construction process in 23 construction sites. The views of the respondents were assess by using Likert scale to measure the factors that improve productivity in the construction processes and a total of eighty one (81) questionnaire were returned and found useful which amounts to a return rate of 54% which is considered adequate against the norms within the industry. The response rate achieved for this research is similar to that achieved in other surveys (Sutrisna, 2009; Okorie, Emuze and Smallwood, 2015). It could be inferred from Sutrisna (2009) and Dainty (2008) that performing a statistical analysis in survey within the response rate equal to or above the threshold of thirty (30%) is acceptable. Thus 54% response rate achieved in this survey provides reasonable data for analysis. The data collected were analyzed with the use of mean percentage and Mean item score (MIS).

4 Findings and Discussions

The professional categories of respondents include 53% of mason, 9% of carpenter, 16% of painters, 7% of plumbers, 6% of joiners and 7% were electricians as depicted in Table 1.

Table 1: Distribution of the professionals who responded to the questionnaire

PROFFESIONAL	NUMBERS	PERCENTAGE
Mason	43	53%
Carpenters	7	9%
Painters	13	16%
Plumbers	6	7%
Joiners	5	6%
Electrician	7	9%

An important feature in understanding the subject of construction productivity is the experience within the construction industry. Table 2 suggests that majority of the respondents had reasonable working experience within the industry to contribute effectively to the study. Over 74% of respondents had over five years in construction industry, 19% of whom had over 15 years of experience working in the industry.

Table 2: Years of working experience the respondents have in construction industry.

YEARS OF EXPERIENCE	FREQUENCY	PERCENTAGE
0<5	21	26%
6<10	20	25%
11<15	24	30%

16<20	12	15%
>21	4	4%

The results in Table 3 indicate what the respondents perceive to be rating of factors that could help improve labor productivity in Gauteng construction industry. A five point Likert scale was used to determine the various factors obtained from the reviewed literature. The adopted scale is 1= Most not important, 2= Not important, 3= Neutral, 4= Important and 5= Most important. The five-point scale was transformed to mean item score (MIS) for each of the factors as assessed by the respondents. The indices were then used to determine the rank of each item. The ranking made it possible to cross compare the relative importance of the items as perceived by the respondents. The MIS was based on the previous studies (Aibinu and Jagboro, 2002; Ayodele and Alabi, 2011). This method was also used to analyze the data collection from the questionnaires survey. The computation of the MIS was calculated from the total of all weighted responses and then relating it to the total responses on a particular aspect. This was based on the principle that respondents’ scores on all the selected criteria, considered together, are the empirically determined indices of relative importance.

The index of MIS of a particular factor is the sum of the respondents’ actual scores (on the 5-point scale) given by all the respondents’ as a proportion of the sum of all maximum possible scores on the 5-point scale that all the respondents could give to that criterion. Weighting were assigned to each responses ranging from one to five for the responses of ‘Most not important’ to ‘Most important’. This is expressed mathematically below. The mean item score (MIS) was calculated for each item as follows, after Lim & Alum (2015):

$$MIS = \frac{1a + 2a + 3a + 4a + 5a}{\sum(N)} \text{-----equation 1}$$

Where;

- n1 = number of respondents foremost not important;
- n2 = number of respondents for not important;
- n3 = number of respondents for neutral;
- n4 = number of respondents for important;
- n5 = number of respondents foremost important;
- N = Total number of respondents

Following the mathematical computations, the criteria are then ranked in descending order of their mean item score (from the highest to the lowest).

Respondents were asked to rate their opinion based on the managerial factors that help in improving labor productivity in the industry. Based on the ranking of the weighted average from the mean item score (MIS) for the listed factors (Table 3), it was established that Making it clear that managements supports and encourage productivity improvements; considering incentives to reward workers for contributions with MIS of 4.97 ranked 1st, Providing construction artisans with opportunities to grow in their jobs with MIS of 4.82 ranks 2nd and Management developing methods for achieving productivity improvement, such as soliciting ideas from workers ranked 3rd. In addition good working environment is set by management with MIS of 4.46 ranked 4th and on

time payment is given by management ranked 5th while management developing productivity measures for all operation ranked 6th. The management must ensure that on their part they must always has a way of encouragement for their labors. Encouragement helps them move forward and do even better, and makes the labor feel happy as the results suggested. Innovative ways of motivating them spurs them even more. Rewarding the hard work put in by labors makes them continue to work in the same fashion, and if the employee feels that his work is not appreciated, he may gradually stop doing so, since he may feel that others working less are given the same too, so he need not work more. Rewards, and other ways of keeping employees happy makes them feel that their effort is being recognized and that they are needed by the company. When workers lack motivation they tend to resort to anti-work behaviors such as absenteeism, negligence of duty, late-coming, failure to meet deadlines, display of open frustration and all these factors work negative to the performance and credibility of an organization. In so doing productivity will drop drastically.

Table3: Ranking of motivation factors of labor productivity improvement

FACTORS THAT IMPROVE LABOUR PRODUCTIVITY	MEAN ITEM SCORE	RANKING
Make it clear that managements supports and encourage productivity improvements; consider incentives to reward workers for contributions	4.97	1
Providing construction artisans with opportunities to grow in their jobs.	4.82	2
Management developing methods for achieving productivity improvement, such as soliciting ideas from workers	4.60	3
Good working environment is set by management	4.46	4
Education and training of labor is available in organization	4.58	5
Management developing productivity measures for all operations	4.46	6
Linking the performance of construction artisans with the appropriate monetary rewards and incentives	4.24	7
Providing construction artisans with flexible working schedules	3.99	8
Labor get participation in decision making by organization	3.86	9
Motivational plans and activities are part of company policy.	3.73	10
Management establishing reasonable goals for improvement	3.61	11
On time payment is given by management	3.57	12

Job security is provided to labor.	3.49	13
Labor are giving recognition on the job	3.37	14
Medical care facility is given to laborers as a welfare package	3.29	15
Management measuring improvements and publicize them.	3.27	16
Transport facilities are part of organization welfare scheme.	3.23	17
Good supervision is provided on working places.	3.17	18
There is some sort of financial help by management; salary advance	2.98	19
Labor have the right to choose work mate	2.76	20

5 DISCUSSIONS

From the foregoing, it can be clearly seen that, there are imminent factors that needs to be accorded priority as the study suggest in improving the labor's productivity. Many of the reasons for low productivity can be corrected by management, by simply being aware of their major causes, which the study pointed out; making it clear that management supports and encourage productivity improvements; consider incentives to reward workers for contributions; providing construction artisan with opportunities to grow in their job and soliciting ideas from workers, this go a long way in inducing productivity gains within the industry. The management should focus on addressing the issue raised here in the study. As mentioned earlier, there is a need to identify productivity killers in the workplace. A good manager will find ways to carefully observe the work environment in search of problem areas that adversely affect labor productivity. Typical productivity killers include toxic people, abrasive personalities, lack of organizational vision, and absence of opportunities for professional development, poor communication systems, autocratic management styles, and the feeling of lack of appreciation (Boitnott, 2016). Addressing each of these requires a variety of approaches but they are limited to the findings; everyone needs to know that they are learning and growing. Without that, the workplace grows static and dull. Professional development for each of the labor allows them to grow in their careers and also it enables them to know that the organization has their interest at heart. Vertical management styles needs to be uphold, where everybody is somebody because the more collaboration, the more investment in the labor professional development thus leads to optimum productivity (Daskal, 2016).

6 CONCLUSIONS

The findings in this study confirm that there is a need for the construction professional to put in concerted effort in checkmating on how to improve construction productivity as pointed out in the study every laborer loves to feel he has the ears of the management who will recognize him and listen to what he says. Display of inter personal skills in

which the management appears humane is paramount with respect to construction productivity. As the best performing laborer is the happy laborer, and the management has to find ways of making his laborer happy. Besides working conditions and the work culture implemented, management has to devise ways of making the work challenging and interesting in order to motivate their workers. Laborers are delighted when they can enhance their skills and get additional learning opportunities sponsored by the management. This helps them learn, feel indebted for the money being spent on them, which also adds to their resume, and are obliged to perform better by applying all the knowledge gained in these courses. So the findings from the research would inform a targeted actions that will probably lead to the development of a mechanism for the management of such factors and it is expected that this study would lay the foundation upon which a mechanism or framework for viable implementation within the industry would be developed.

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