



Factors Constraining Work Motivation in Construction Projects: A Case Study in Vietnam

Nguyen Van Tam¹, Tsunemi Watanabe² and Nguyen Luong Hai³

¹ Graduate School of Engineering, Kochi University of Technology, Kami 782-8502, Japan;
tamnv2@huce.edu.vn

² School of Economics and Management, Kochi University of Technology, Kochi 780-8515, Japan;
watanabe.tsunemi@kochi-tech.ac.jp

³ Department of Construction Economics, University of Transport and Communications, Hanoi 10000, Vietnam; hainl@utc.edu.vn

Abstract

Motivation plays an important role in improving construction labor productivity (CLP). Although previous studies have identified various motivational factors affecting CLP, exploring factors constraining work motivation in construction projects has been rarely discussed. This study attempts to bridge the research gap by identifying and assessing the key barriers to the work motivation of the construction workforce. This study differs from past studies in CLP research by investigating the severity level and occurrence frequency of barriers to work motivation in construction projects, and a more realistic ranking of these factors by adopting a risk mapping approach. Based on a comprehensive literature review, this study managed 35 factors constraining work motivation in construction projects. These factors were presented in a questionnaire to investigate the severity and frequency of occurrence. The risk mapping approach was adopted to evaluate the 215 completed responses. The results indicated that the following barriers as the most significant factors constraining work motivation in construction projects: (1) payment delay, (2) lack of financial incentive schemes, (3) lack of professional training and advanced learning opportunities, (4) poor work conditions, (5) unskilled workforce, and (6) work dissatisfaction.

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1. Introduction

Despite the significant technological advancements, construction remains an intensive labor industry [1]. Improving construction labor productivity (CLP), therefore, is very important for implementing construction project performance successful. This domain has been frequently discussed within the research community and construction practitioners; consequently, various factors affecting the productive capacity of the labor force have been identified and assessed to reveal reasonable strategies for effectiveness and efficiency of construction workforce management, enhancing CLP particularly [1-3]. Previous studies emphasized the importance of human-related factors affecting their productivity in construction projects. These factors, for example, experience [4, 5]; attitude [6-8]; self-confidence [8, 9]; behavior [6, 10]; motivation [5, 11-13]; aptitude [8, 14]; solving problem ability [8, 15]; and desirable [8]. Among them, motivation was demonstrated as a significant element affecting labor productivity, which is one of the most driving factors for the overall productivity of a construction organization [11, 13].

Although previous studies have identified and assessed various motivational affecting CLP, exploring factors constraining work motivation in construction projects has been ignored. This knowledge gap hampers further efforts to explore new determinants that promote work motivation and increase CLP. In the Vietnamese construction industry, the literature on work motivation or CLP issues is still very limited. This leads to ambiguity in both the academics and the Vietnamese construction industry regarding the practical importance of exploring factors constraining work motivation in construction projects.

To assess motivational or demotivational factors affecting CLP, previous studies have adopted several approaches such as mean, Relative Importance Index by only using the level of influence without considering the frequency of occurrence of each factor. This could not provide a comprehensive picture to reflect the fact role of these factors in construction projects.

This study was designed to fill these gaps by investigating factors constraining work motivation in construction projects. These factors were assessed by adopting a risk mapping approach based on considering severity level and their occurrence frequency in the Vietnamese construction industry context. The results of the study have evidential uniqueness, methodological novelty, and contribute to the knowledge of construction workforce motivation barriers, thus making a visible contribution to the science of human resources management.

2. Research method

This study managed 35 factors constraining work motivation in construction projects by referencing previous studies and considering the specific context on construction industry in Vietnam. These factors were then tabulated in a questionnaire.

A total of 215 workers involved multi-storey residential buildings in Vietnam were chosen for the interview to fill out the questionnaire. The majority of the respondents were male (87%), which reflects the male-dominated characteristic of the Vietnamese construction industry; whereas, only 13% were female. They worked in two main trades, including 122 rebar workers (56.7%) and 93 masonry workers (43.3%). In terms of educational levels, 65 (30.2%) completed primary education or no schooling, 94 (43.7%) acquired secondary education and 26% (n = 56) had credentials covering high school or above. Out of the 215 workers, 23 (10.7%) aged less than 23 years old, 139 (64.7%) aged from 23 to 35 years old, and workers have more than 35 years old were 53 (24.6%). In terms of work experience, 94 (43.7%) workers have less than 5 years of experience, 84 (39.1%) workers with experience of 5 to 10 years, and 37 (17.2%) workers have more than 10 years of experience.

This study adopted the risk mapping to measure severity level of each barrier to work motivation and its probability of occurrence in construction projects. We decided the limits of each zone by looking at past studies applying the risk mapping [16, 17]. Accordingly, the low-risk zone would have a severity times frequency (SF) value from 1 to less than 10, the moderate-risk zone would have a value from 10 to less than 14, and the high-risk zone would have a value from 14 to 25. To calculate SF, the severity index (SI) and the frequency index (FI) are estimated by using mean value of each barrier. The SF will be calculated according to equation (1) as follows:

$$SF = \text{Severity index (SI)} \times \text{Frequency index (FI)} \quad (1)$$

3. Results and discussions

Table 1 indicates the analysis of 35 factors constraining work motivation in construction projects. Each barrier's average severity level and its frequency of occurrence, the multiplication, and the risk zone is based on all completed responses.

Table 1. The results of barriers to work motivation in construction projects

Barrier	SI	FI	SF	Risk Zone
Bad treatment by supervisors	3.79	3.35	12.68	Moderate-risk
Changing on workmates	3.42	2.47	8.44	Low-risk
Delay in responding to Requests for Information	3.60	2.43	8.76	Low-risk
Delay in payment	3.92	3.67	14.37	High-risk
Health personal problems	3.81	3.64	13.87	Moderate-risk
Inadequate managerial competence	3.88	3.50	13.60	Moderate-risk
Inappropriate evaluation and feedback	3.76	3.47	13.04	Moderate-risk
Inclement weather	3.44	3.48	11.97	Moderate-risk
Incompetent teammates	3.77	3.07	11.56	Moderate-risk
Laborers' disloyalty	3.72	2.30	8.57	Low-risk
Lack of cooperation	3.39	3.44	11.67	Moderate-risk
Lack of discipline on site	3.75	3.45	12.92	Moderate-risk
Lack of financial incentive schemes	3.91	3.91	15.26	High-risk
Lack of participation in decision making	3.76	2.24	8.43	Low-risk
Lack of periodical increment	3.98	3.34	13.28	Moderate-risk
Lack of professional training and advanced learning opportunities	4.30	3.64	15.63	High-risk
Lack of recognition of efforts	3.76	3.24	12.17	Moderate-risk
Material unavailability	3.60	3.71	13.36	Moderate-risk
Not enough challenging task	3.56	2.67	9.48	Low-risk
Not enough responsibility	3.77	3.41	12.86	Moderate-risk
Overcrowded work areas	3.42	2.40	8.22	Low-risk
Overloads and working long hours	3.40	3.50	11.89	Moderate-risk
Personal life interference	3.73	2.46	9.15	Low-risk
Poor communication	3.40	3.22	10.94	Moderate-risk
Poor inspection and supervision	3.70	3.47	12.85	Moderate-risk
Poor relationship	3.41	3.55	12.11	Moderate-risk
Poor work conditions	3.93	3.76	14.79	High-risk
Quarrels and hassles	3.38	3.42	11.56	Moderate-risk
Rework	3.60	3.52	12.66	Moderate-risk
Strict company policy	3.83	2.33	8.92	Low-risk
Tool unavailability	3.00	3.80	11.39	Moderate-risk
Underpayment for the work done	3.90	3.55	13.85	Moderate-risk
Unrealistic contract duration	3.78	2.31	8.73	Low-risk
Unskilled labor force	3.83	3.76	14.40	High-risk
Work dissatisfaction	3.83	3.74	14.33	High-risk

As provided in Table 1, among 35 identified barriers, 9 barriers were classified in the low-risk zone which revealed these constraints have a low impact on work motivation of workers participating in construction projects; 20 barriers were located in the moderate-risk zone, representing medium risk factors; whereas, 6 constraint factors were located in the high-risk zone of the risk mapping. This means these six barriers have the highest negative impact on work motivation in construction projects. These six barriers assessed in the present study were of great severity, and their negative impacts should be taken into consideration. Accordingly, the surveyed respondents ranked the following barriers as the most significant constraints were (1) payment delay, (2) lack of financial incentive schemes, (3) lack of professional training and

advanced learning opportunities, (4) poor work condition, (5) unskilled workforce, and (6) work dissatisfaction.

Based on the findings, several recommendations were proposed to enhance work motivation in construction projects as follows:

Payment on time should be ensured by construction companies because delaying salary payment may lead to a decrease in their motivation because they tend to be unwilling to perform designated tasks in an efficient manner, resulting in a low productivity level.

It is necessary to promote and reward construction laborers as a way of enhancing motivation and work satisfaction to improve labor productivity in the work environment [18]. Being rewarded, while not being financially exclusive is key motivational factor that improved the construction workforce's productivity [19].

Lack of professional education for the construction workforce is now a reality in Vietnam where workers have mostly improved their skills only through the apprentice-craftsman relationship on sites. Due to the insufficient professional construction workforce, recruiting skilled laborers is challenging for many Vietnamese contractors. To meet the demands and fill the skill gap, it is essential for construction companies to invest in human resource development programs that increase the availability of a skilled pool of professional workers through short training programs, on-the-job training, or seminars in occupational establishments.

In the construction site, a better work conditions enable workers to do their harder and more efficiently and effectively in their tasks. Ambient temperature, lighting condition, ventilation, air quality, and facilities on site such as restrooms, food, and rest areas should be carefully considered by construction managers in order to motivate them willing to participate in tasks; which leads to reaching higher productivity.

Unskilled and poorly trained laborers are commonly characterized by low and faulty outputs coupled with unjustifiably high inputs. Construction managers should pay more attention to well-arranged tasks onsite to mix unskilled and skilled workers among a construction crew in order to reduce rework and optimal work performance.

Lack of development opportunities, poor relationships with teammates or supervisors, and unchallenging work were the most influential elements causing worker's dissatisfaction [20]. Construction managers should tackle these issues early on in order to enhance worker's satisfaction which may result in higher productivity, enhance work motivation, and promote collaboration which contributes to construction project implementation successful.

4. Conclusion

This study aimed to identify and assess the most influential work motivation barriers in construction projects. A literature review was carried out to reveal a list of 35 barriers. The data was collected from 215 workers in Vietnam by using the questionnaire survey to investigate the severity level and occurrence frequency of barriers. A Cronbach's test was adopted to validate the reliability of internal consistency. The risk mapping approach was used to measure the severity level and occurrence frequency of each barrier. The results showed that the most significant constraints on work motivation in construction projects were: (1) payment delay, (2) lack of financial incentive schemes, (3) lack of professional training and advanced learning opportunities, (4) poor work conditions, (5) unskilled workforce, and (6) work dissatisfaction. This provided a better understanding for construction managers to minimize and eliminate the adverse effects of the most barriers to enhance work motivation and labour productivity and, consequently, increase the chance of implementing construction projects successful.

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