

MANAGEMENT COMPETENCIES FOR PREVENTING AND REDUCING STRESS AT CONSTRUCTION SITE

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ABSTRACT

Construction industry involved very complicated process and extensive linkages to more than hundred of upstream and downstream industries. Therefore, an effective leadership at managerial level of construction organization is needed to well manage and control their subordinates in order to make sure the efficiency and productivity of the construction work. However, both managerial level of the construction organization and their subordinates also would experience stress due to increase of workload and work pressure. Hence, management competency has become significant in human resource practice in order to increase individual and organizational effectiveness. Consequently, a study on management competency of the managerial level is conducted for preventing and reducing stress at construction site in Johor. A total of 78 sets of questionnaires have been collected from several professions within 20 organizations. Among the 78 number of respondents, 21 persons were from managerial level and 57 persons were from subordinates' level. From the survey, managerial levels have the highest level of competency in managing conflict meanwhile the subordinates level assess their managerial level as the participative/empowering is the most competent in preventing and reducing stress at work. Generally, the managerial level and subordinates level have the same opinion that managerial level are most competent in managing and communicating existing and future work. The managerial level behaviour is an important determinant of their subordinate stress levels. Thus, throughout the study, the managerial level of the construction organization can have better understanding on stress as well as the skills, abilities and behaviours needed to implement the management standard and manage their subordinates in a way that minimizes work-related stress in construction works.

Keywords: Occupational Stress, Stress Management, Management Competency

1. INTRODUCTION

Stress is readily acknowledged to be a common feature of these modern lives (ILO, 2001). However stress has a very high cost for individuals, companies and organizations if the stress is gradually increased. According to ILO (2001), the costs of stress for the companies or organization include absenteeism, higher medical costs and staff turnover, with the associated cost of recruiting and training new workers.

In construction industry, there is accumulating evidence that stress levels among construction professionals are gradually increased from days to days (Loosemore and Waters, 2004). According to Sornmerville and Langford (1994), the level of stress inducement encountered by construction project managers is significantly higher than that of managers in other industries and this is due to the nature and characteristics of the industry. Therefore, the managerial level of the construction organization as well as their subordinates also would experience stress due to increase of workload and the pressure. Hence, management competency has become significant in human resource practices and is often applied in organizations to guide selection assessment, development, and performance appraisal (Heinsman, 2008). Consequently, this paper will looked into the management competencies of managerial level for preventing and reducing stress at construction site.

The Health and Safety Executive commissioned research has indicated that over half a million people in the UK experience work-related stress at a level that they believe is making them ill, up to five million people feel "very" or "extremely" stressed by their work and work-related stress costs society about £3.7 billion every year. In 2005/2006, a total of 10.5 million working days were lost to

stress, depression, and anxiety (HSE, 2005). Therefore, very few organizations are likely to escape the impact of stress-related absence and employee stress. Where the stress-related problems lead to an employee to absent from work with the average of 29 working days are lost (Donaldson-Feilder, 2008). In construction industry, the confrontational nature of construction projects produced significant levels of stress for the construction professionals (Loosemore and Waters, 2004). Loosemore and Waters (2004) also stated that the construction site managers, also discovered significant levels of stress and the high levels of stress among site managers damaged productivity, although the level at which stress became destructive was peculiar to an individual. From here, it clearly shows that the managerial level as well as the subordinates also would experience stress in construction works.

Therefore, the managerial level such as project manager is responsible for implementing people management practices on a day-to-day basis as well as managing the stress for preventing and reducing stress at work. From this study, the management competency of the managerial level such as project manager in the construction industry is evaluated in order to prevent and reduce stress at construction works.

The aim of this research is to study the management competencies for preventing and reducing stress at construction sites and the four objectives of this study are as follows: to study the stress prevention system at work; to identify management competencies for preventing and reducing stress at work; to evaluate the project manager own competencies for preventing and reducing stress at construction site; and to evaluate subordinates' viewpoint on their management competencies for preventing and reducing stress at construction site.

2. LITERATURE REVIEW

Stress can be defined as a state of anxiety produced when events and responsibilities exceed one's coping abilities (Seaward, 2004). From the perspective of workplace, work-related stress can be defined as the adverse reaction people have to excessive pressures or other types of demand placed on them at work (HSE, 1999). However, NIOSH (1999) has defined the job stress as harmful physical and emotional responses that occur when the requirements of the job do not match the capabilities, resources, or needs of the worker. Stress can be divided into two type, namely good stress (eustress) and bad stress (distress). Eustress provides challenges that motivate individuals to work hard and meet their goals meanwhile distress results from the stressful situations that persist over time and produces negative health outcomes (Landy, 2007).

Basically, work stressors fall into two major categories: physical/task stressors such as noise, light, heat, and cold; and psychological stressors, which involve a multitude of subtle and not so-subtle factors that an individual may find demanding (Landy, 2007). The psychological stressors include lack of control/predictability, stress related to job condition, role stressors, interpersonal conflict, career development, organizational structure and home-work interface. In this study, the organizational structures such as lack of managerial support for individual initiative and creativity etc, is an important determinant of the subordinates stress levels.

There is evidence of the effects of occupational stress on employee-related outcomes, including health and well-being, reduced productivity, absenteeism, turnover and work-related accidents (Clarke, 2004). Due to stress is so widespread, it has a very high cost for individuals, companies and organizations. For individuals, stress at work may lead to other costly behaviours such as smoking and aggression which may lead to some health problem (Dollard, 2003). For companies or organizations, negative effects of workplace stress include reduced efficiency, decreased capacity to perform, dampened initiative and reduced interest in working, increased rigidity of thought, a lack of concern for the organisation and colleagues, and a loss of responsibility (Fairbrother, 2003). Therefore, the costs of workplace stress for company or organization may take many forms which include absenteeism, higher medical costs and staff turnover, with the associated cost of recruiting and training new workers (ILO, 2001).

Stress in the workplace is ubiquitous and increasingly costly. Therefore, this study is significant to assist the managerial level of construction organization to manage stress in construction works. Throughout this study, the managerial level of construction organization can get the clear understanding on management competency needed for preventing and reducing work-related stress at construction site. The successful implementation of management competency in the organization can bring a lot of advantages (Heinsman, 2008). Therefore, the managerial level of construction

organization is important to take concern on their management competency as the stress in workplace may affect the efficiency and productivity of their subordinates. Consequently, this study can be used as the guideline for future development and the construction's managerial level to recognize stress and try to reduce it in order to create a healthy working environment.

3. METHODOLOGY

In this study, the following methodology has been adopted in order to achieve the objective of the study and the methodology of study.

- i. In order to achieve the first and second objective, a review of the literature was conducted such as stress prevention system as well as the collection of skills and behaviours required by the managerial level to prevent and reduce stress at work.
- ii. The third and final objective was achieved through the questionnaire survey in order to evaluate the management competency needed for preventing and reducing stress at construction site

In this study, the secondary data have been gathered from several resources such as books, journals, articles, previous researches and electronic resources like e-journal, websites and online material. Meanwhile, the primary data have been collected from the questionnaire surveys which have been send to the profession within the construction organizations.

After the compilation of data generated from questionnaire, data analysis had been carried out with the help of Microsoft Office Excel 2007. The data then were analyzed by using the average index formula, percentage score etc and the chart diagram such as bar chart and radar plot were used to visualize the results from the analysis.

Formula used for the calculation is shown as follow:

$$\text{Average Index (AI)} = \frac{\sum a_i X_i}{\sum X_i} \quad \text{where, } a_i = \text{constant expressing the weight given to I;}$$

X_i = variable expressing the frequency of the response;

i = 1,2,3,4,5 and illustrated

$$\text{Percentage score for each of sub-competency} = \frac{\sum (\text{AI of each item})}{(\text{Dimension Score})} \times 100\%$$

where, dimension score for sub-competency of Integrity = 25;

dimension score for sub-competency of Managing Emootions = 30;

dimension score for sub-competency of Considerate Approach = 30

$$\text{Percentage score for competency} = \frac{\text{Total percentage score of each sub - competency}}{3}$$

The classification of the rating scales was based on the classification proposed by HSE (2008). The proposed classification of the percentage score for this study has been shown as below:

Effective (90 ≤ Percentage Score ≤ 100)

Reasonable (75 < Percentage Score < 90)

Development Need (0 ≤ Percentage Score ≤ 75)

Then, all the results were discussed in detail and the conclusions were made accordingly.

4. RESULTS AND DISCUSSIONS

The results presented below were based on the objective of the study. The objective 1 and objective 2 have been achieved through a review of the literature .

- **Objective 1 - Stress Prevention System**

In the past, stress has often been approached as problems to be tackled (ILO, 2001). Whatever the preventive approach used, prevention is certainly the most effective way to tackle effectively stress (Martino, 2001). Although it is not possible to give a universal prescription for preventing stress at work, it is possible to offer guidelines on the process of stress prevention in organizations (NIOSH, 1999). Consequently, a step-wise approach is essential that anti-stress action can be carried on in a systematic way by a series of fundamental steps.

These stress prevention system include:

- i. Stress Recognition – The important of early recognition of pre-conditions and signals of stress needs to be emphasized since it allows to intervene before stress becomes a major problem.
 - ii. Stress Assessment – Before considering the prevention of work related-stress, an assessment or diagnosis of the relevant hazards and situations at risk.
 - iii. Anti-Stress Intervention – Once the existence of stress has been recognized, the action to deal with stress should be taken. Wide-ranging types of interventions can be considered such as environmental intervention (to improve the general environment), organizational intervention (such as improving job content) and intervention on the individual (such as provide training and education).
 - iv. Monitoring and Evaluation – At last, it is important to activate effective monitoring and evaluation systems such as reporting and recording all the incidents related to stress as well as evaluate the effectiveness of anti-stress measures after they have been introduced.
- **Objective 2 – Identify the Management Competency for preventing and reducing stress at work**

Management competency frameworks refer to a complete collection of skills and behaviours required by an individual to do their job (Boyatzis, 1982). Therefore, in order to allow the managerial level of the organization to examine the relevant management behaviours for the effective and ineffective management of stress and well-being in staff, a set of competency have been identified.

Table 1: Management Competency for Preventing and Reducing Stress at work

Competency	Sub-competency		Examples of managerial behaviour
Respectful and Responsible: Managing Emotions and having integrity	Integrity	Positive	- treats team members with respect
		Negative	- speaks about team members behind their backs
	Managing Emotions	Positive	- acts calmly in pressured situations
		Negative	- passes on stress to employees
Considerate Approach	Negative	- imposes ‘my way is the only way’	
		- relies on others to deal with problems	
Managing and Communicating existing and future work	Proactive work management	Positive	- develops action plans
			- works proactively
	Problem Solving	Positive	- deals with problems as soon as they arise
		Negative	- is indecisive
Participative / empowering	Positive	- acts as a mentor	
	Negative	- gives too little direction to employees	
Reasoning/managing difficult situations	Managing Conflict	Positive	- deals objectively with conflicts
		Negative	- acts to keep the peace rather than resolve issues
	Use of organization resource	Positive	- seeks help from occupational health when necessary
			- seeks advice from other managers when necessary
Taking responsibility for resolving issue	Positive	- follows up conflict after resolution	
		- supports employees through incidents of abuse	
	Negative	- doesn’t address bullying	
Managing the individual within the team	Personally accessible	Positive	- provides regular opportunities to speak one to one
			- is available to talk to when necessary
	Sociable	Positive	- socializes with the team
			- is willing to have a laugh at work
Empathetic Engagement	Positive	- tries to see team member’s point of view	
	Negative	- assumes rather than checks that employees are okay	

Basically, there are 4 main behaviours/competency, namely respectful and responsible: managing emotions and having integrity, managing and communicating existing and future work, reasoning/managing difficult situations and managing the individual within the team. Then, each of competencies will be separated into 3 sub-competencies as shown in Table 1.

• **Objective 3 and Objective 4**

In order to achieve the third and fourth objectives, a total of 78 sets questionnaires which been collected from several professions within 20 constructions organization have been analyzed. Among the 78 sets of questionnaires, 21 sets of questionnaires are from managerial level and the rest of 57 sets of questionnaires are from subordinates' level.

From the analysis, the result of percentage score obtained from managerial level and subordinates level have been shown in Table 2 and Table 3 respectively. The data obtained from sub-competency have been shown in Figure 1 for better understanding.

Table 2: Percentage Score of Management Sub-Competency

Competency	Sub-Competency	Percentage Score	
		Managerial Level	Subordinates Level
Respectful and Responsible: Managing Emotions and Having Integrity	Integrity	85.71	73.54
	Managing Emotions	82.54	71.93
	Considerate Approach	71.27	73.92
Managing and Communicating Existing and Future Work	Proactive Work Management	87.72	77.15
	Problem Solving	85.95	77.28
	Participative/Empowering	81.80	77.97
Managing the Individual within the Team	Personally Accessible	92.62	77.54
	Sociable	66.03	72.87
	Empathetic Engagement	80.24	71.62
Reasoning/Managing Difficult Situation	Managing Conflict	92.76	75.16
	Use of Organizational Resources	69.84	76.96
	Taking Responsibility for Resolving Issues	78.10	74.74

From the analysis, the managerial level assess their own's sub-competency of managing conflict was the most effective in preventing and reducing stress at work, followed by the sub-competency of personally accessible. Meanwhile, from the perception of subordinates level, the managerial level have the most effective sub-competency of participative/empowering in preventing and reducing stress at work.

Overall, the managerial level and subordinates level have the same opinion that managerial level are most competent in managing and communicating existing and future work. From the survey, the managerial levels are less effective in managing the individual within the team but it still in the reasonable level where they still show a good awareness of the behaviours needed for effectively preventing and reducing stress at work. However, from the perception of subordinates' level, managerial levels are less effective in respectful and responsible: managing emotions and having integrity.

5. CONCLUSIONS

The conclusions that can be drawn from this study are as follows:

- i. The first objective was to study the stress prevention system and been achieved by doing the review of literature. From the review of literature, there have several approach of

stress prevention system have been identified and a step-wise approach has been made. It involve a series of fundamental steps includes stress recognition, followed by stress assessment, then anti-stress intervention and finally monitoring and evaluation.

- ii. The second objective was to identify the management competencies for preventing and reducing stress at work. A total of 4 behaviour/competency and 12 sub-competencies have been identify from the review of literature. Each of the sub-competencies was reflect to the competency respectively as discuss in previous section.
- iii. The third objective is to assess the managerial own's competency in preventing and reducing stress at work. From the finding, the percentage score of sub-competency were ranging from 66% - 92% and the percentage score of competency were ranging from 79% - 85%. Therefore, as conclusion, the managerial levels were effective in managing conflict. In overall, the managerial levels are effective in managing and communicating existing and future work.
- iv. The final objective is to assess subordinates' viewpoint on their management competency in preventing and reducing stress at work. From the finding, the percentage score of sub-competency were ranging from 71% - 77% and the percentage score of competency were ranging from 73% - 77%. Therefore, as conclusion, the subordinates level assess their managerial level as effective in participative/empowering and the competency of managing and communicating existing and future work for preventing and reducing stress at work.

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