How can Stress Affect Employee Performance? An Empirical Study of Japanese Business in Thailand Industrial Sectors

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***Abstract* - This study has focused on stress at work and its correlate with employee's performance in Japanese business organization. A sample of 196 were randomly selected across Thailand industrial sectors mainly come from automobile and its assemble business approximately 36% located in Eastern Economic Corridor (EEC) include Chachoengsao, Chonburi, Rayong. The result show that psychology and behavioral stress have correlated with job performance while physical symptoms has no significant related. Work hour has correlated with work stress at 0.01 level of significance. Obviously, work hour has a negative correlated relationship with job performance at 0.05 level of significance. The highlight of the study implied that work stress has a negative impact on employees' performance, however, increase in stress level at the optimum level make employee exerts better performance.**

***Keywords*- Stress, Job Performance, Industrial, Thailand, Japanese Business**

I. INTRODUCTION

In the competitive business world companies are facing challenges and pressure at every decision making and action plan steps. With highly increase in competition the stress at work becomes the negative issues in the organization and also generated the negative impact on holistic organization performance [1]. The role ambiguity of employees and unclear management was identified as sources of stress in an organization [6]. The consequence of stress becomes harmful for an organization in general and in particular. Stress in general applied to pressures employees' feel in emotion and erode their quality of life. In particular, when the employees stress become excessive then applied to various symptoms of stress such as illness, fatigue, anxiety, depression, decrease in job satisfaction, absenteeism and turnover, these are adversely harm to their performance [8]. Employees who are under stress may become nervous and accumulate developed become to chronic worries. Poor employee working conditions cause to sustained conflicts with managers, generate goal incongruent between supervisors and subordinates, these are the sources of stress lead to anguish, neuroses or even suicide.

Japanese working culture is well known about *'hard worker'*, whereby they spend much longer hours in the office then those in other countries [5]. Japanese worker logged more than 80 hours of overtime each month, thus, the official threshold at which prospect of death from work become serious. About 21.3% of Japanese employees work 49 hours or more, we above 16.4% reported in US, 12.5% in Britain and 10.4% in France. As the results of overwork load culture in Japan, **Karōshi** (过劳死) syndrome which can be translated literally as *'overwork death'* is occupational sudden mortality. The major medical causes of **Karōshi** deaths are heart attack and stroke due to stress and a starvation diet. This phenomenon is also widespread in Japan as reported by Japan health ministry shows that 2,159 cases of suicides in 2015 occurred partly from work pressure [7]. These evidents indicate that employees who have heavy workloads are risk to be under the pressure situation and quality of life. Especially, overload workers are unable to balance their life between work and family which cause their emotionally exhausted [4].

As stress at workplace become a prevalent topic whereby part studies found that people under the high pressure conditions are at risk of various health and psychological problems [12]. In other hand, stress play a challenge energizes psychologically and physically. The Curtain level of acceptable of pressure can improve performance and motivates to learn new skills and master of work [5]. According to [11] describe *'law'* in psychology. The idea of *'law'* introduced in the inverted U sharp relationship (see Figure 1) to describe the relationship between stress and work performance. The level of stress arousal by sources of stress then the stress increasing alertness until optimal level with the higher degree of performance. As of this manager should be motivate the degree of worker stress at the optimum stage for organization benefit. Thus, the aim of this study is to investigate the stress at work as a correlate of job performance in Japanese organization.

II. LITERATURE REVIEW

In 1908, Yerkes and Dodson [11] had taken an observation research about perception of learn by separate mouse in two boxes. One of the boxes was white, the other black and electric shock then records the result of learning time of mouse. Research has found that different tasks require different levels of arousal for optimal performance. Difficult or intellectually demanding tasks may require a

lower level of arousal whereas tasks demanding stamina or persistence may be performed better with higher levels of arousal. From this relationship is commonly illustrated with invert u-curve to describe relation between stress and work performance when stress improved performance also improved. But if it is over optimal point the result will be opposite.

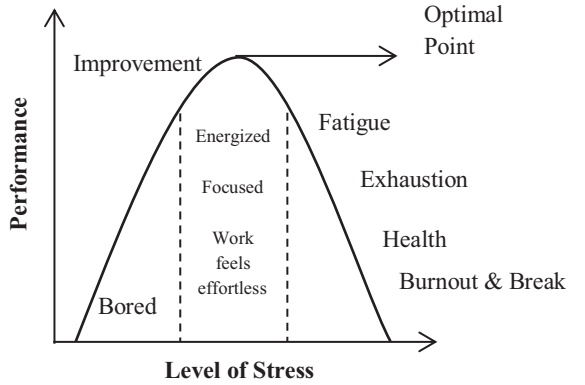

Fig. 1 The Correlation between Stress and Job performance [11]

Robbins and Judge, (2017) [8] has demonstrate factors cause of stress include with environment factors, organization factors, and individual factors. Environmental factors are sustainable that affect to organization structure maybe economic crisis or politic crisis and technology change that lead to be pressures and stress. Organization factors are pressures that occur from expectation, unclear job role, and result. Personal factors are trouble of individual for example family or personal economic that maybe cause stress. Individual differences that mean the responded of event of cooperating with others. It can separate into perception, experience, social support, and personality.

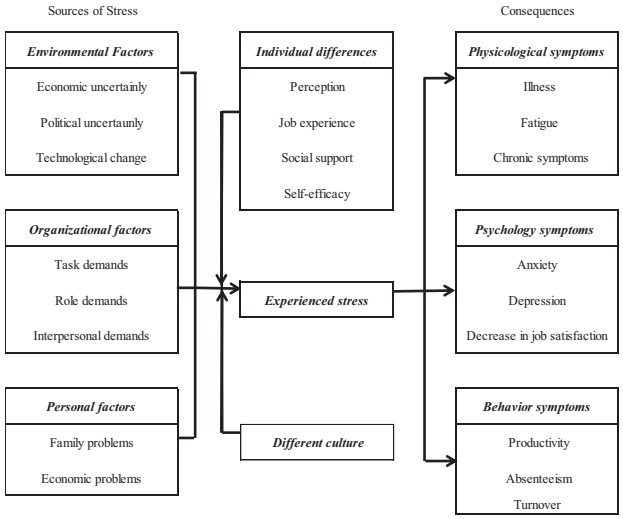

Fig. 2 Stress Model [8]

The consequences of stress had spreading into three categories namely physiological symptoms, psychology symptoms and behavior symptom. Physiological symptoms refer to minor symptoms like headache, backache by time to time up to serious symptom immune system failure, break dawn and paralysis. Psychology symptoms refer to emotional and mental symptoms. In case of dis-concentrate or short temper may lead to psychopathy and depressed. Behavior symptom that came from physical or mental change affect to behavior change.

III. METHODOLOGY

Research Instrument development

The work stress questionnaire measurement 38 items were development from [2] and job performance measurement 14 items were development from [10]. All questionnaire instrument were tested content validities and reliability whereby Cronbachs' Alpha Coefficient > 0.70 (Cronbach, 1990)

Population and Sampling Sized

The objectives of this study were investigated by quantitative research method. The population of the study were engaged in Thailand manufacturing including automobile and its assemblies, electric equipment, chemical and trading which located in three provinces Chachoengsao Rayong and Chonburi called East Economic Corridor (EEC). The actual number of population are difficult to identified, thus, Cochran formula was applied in the study.

$$n = \frac{P(1-P)\,Z^2}{d^2}$$

When
- n - population need
- P - proportion of sampling size
- Z - the acceptable sampling error Z at significant 0.05 = 1.96
- d^2 - the variance of an attribute in the population

$$n = \frac{0.15(1-0.15)1.96^2}{0.05^2}$$
$$n = 196$$

Thus, the total number of 196 causes will be representatives of the overall population and analysis in the next steps.

IV. RESEARCH FRAMEWORK

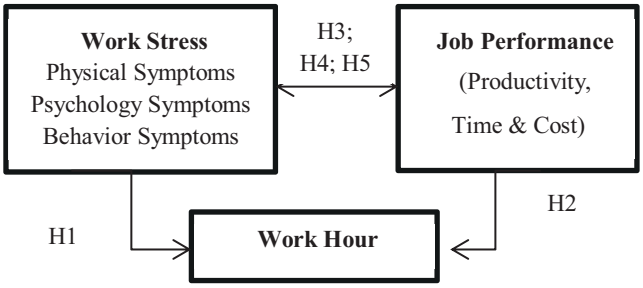

Fig. 3 Research Framework

The study research framework was originated derived from [9] who proposed work stress into three stages (1) alarm reaction stage (2) stage of resistance and (3) stage of exhaustion. [9] said that factors of pressure and stress should be control at the stage of resistance before go to stage of exhaustion that adversely affect on mental health. Based on this theoretical concept, stress model was

extensive developed by [8] who identified general factors causes to stress and pressure namely (1) environment factors (2) organizational factors and; (3) personal factors (see more detail in Figure 2 stress model). Thus, as of the consequence of several stress factors [8], come out with physical, psychology and behavior symptoms were hypothesizes to be a significant impact on job performance of employees as exhibited in Figure 3: Research Framework.

V. RESEARCH FINDING

From those hypothesis analyzed with collected representative sampling. Summary data of this study and thirty eight questions have been designed and used in the questionnaire to identify source of work stress. And the rest fourteen questionnaires to identify job performance. Data was analyzed at 0.05 significant level of acceptable.

Table I : Percentage of gender

Gender	Percentage
Male	**56.6**
Female	**43.4**
Summary	**100**

Table II : Percentage of Working Hours

Average work hours per week	Percentage
40 - 50 hours	**52.6**
51 - 60 hours	**25.5**
61 - 70 hours	**15.3**
more than 70 hours	**6.6**
Summary	**100**

Table III : Perception of Work Stress

Work stress	$\bar{x}$	S.D.	Level
Physiology Symptoms	2.28	0.63	Low
Psychology Symptoms	2.28	0.66	Low
Behavior Symptoms	2.22	0.69	Low
Summary	**2.26**	**0.6**	**Low**

Table IV : Perception of Job performance

Job performance	$\bar{x}$	S.D.	Level
Productivity	2.86	0.86	Medium
Costs	2.89	0.78	Medium
Time	2.98	0.93	Medium
Summary	**2.91**	**0.80**	**Medium**

Hypothesis 1: The relation between work hours and work stress is positively correlated and considered one of the main factors causing high failure of job performance.

Table V : The Relation between Work Hours and Work Stress

Pearson Correlation	Sig. (2-tailed)
0.213	**0.003****

Hypothesis 2: The relation between work hours and job performance is negatively correlated. The result implied that when increase of work hours then the outcome of job performance become decline.

Table VI : The Relation between Work Hours and Job Performance

Pearson Correlation	Sig. (2-tailed)
-0.165	**0.021***

Hypothesis 3: The relation between physiology symptoms and job performance is insignificant correlated. This indicates that physiology symptoms such as illness, fatigue and chronic symptoms have not significant impact on employee job performance.

Table VII : The relation between physiology symptoms and job performance

Pearson Correlation	Sig. (2-tailed)
0.129	**0.071**

Hypothesis 4: The relation between psychology symptoms and job performance is significant correlated. These indicators, anxiety, depression and employee dissatisfaction are the main factors cause of high failure rate in job performance.

Table VIII : The relation between psychology symptoms and job performance

Pearson Correlation	Sig. (2-tailed)
0.168	**0.019***

Hypothesis 5: The relation between behavior symptoms and job performance is significant correlated and considered one of the main factor cause to job performance.

Table IX : The relation between behavior symptoms and job performance

Pearson Correlation	Sig. (2-tailed)
0.196	**0.006****

According to the results shown in Table 5, 6, 8 and 9 are all significant at $p<0.05$ level, excepted hypothesis 3 (n/s) as the result show in Table 7. Thus, the hypothesis results are summarizing in Table 10 below;

Table X : Summary of Research Hypothesis

No.	Statement	R	Sig. (2-tailed)	Results
H1	Work hours has correlate with work stress	0.213	0.003**	Strongly
H2	Work hours has correlate with job performance	-0.165	0.021*	Moderate
H3	Physical symptoms has correlate with job performance	0.129	0.071	n/s
H4	Psychology symptoms has correlate with job performance	0.168	0.019*	Moderate
H5	Behavior symptoms has correlate with job performance	0.196	0.006**	Strongly

Note **Significant Level at 0.01
* Significant Level at 0.05

VI. DISCUSSION AND CONCLUSION

Stress at work can become an organization crisis as well as the outcome of stress affecting on worker quality of life and their job performance. Japanese work culture well known as *'hard worker'* where *'heavy workloads'* become a serious problem in Japan. The consequence of stress causes people to illness, fatigue, anxiety, depress, low job satisfaction, low productivity, absenteeism, and turnover [8]. The overwork load employees are unable to established a balance between work and family then lead them to emotionally exhausted [4]. With these part research confirm by the result of this study indicated that psychology and behavior symptoms has correlated with employee job performance in Japanese firms across several industrial. About 36% of research samples are from automobile industries which highly competitive in the Thailand market. The result shown that physical symptoms such as illness, fatigue and chronic symptoms has no correlated relationship with employee performance. Especially, work hour play a significance role with work stress and has a negative correlation with worker performance. As of the finding indicated that the higher of working hours a result in poor performance delivery. This is because work hours arousal by stress and anxiety until the optimum level of arousal is reached, then, the stress come over this point the employee performance become decline in negative results (refer to Figure 1). Similarly to [4] found that work overload is positively related to emotional exhaustion and emotional exhaustion is negatively related to job performance. Base on the Yerkes and Dodson law state that *'A little anxiety from time to time can be beneficial to task performance, this is illustrated by Yerkes and Dodson law which state that performance is improved by anxiety until an optimal level of arousal is reached'* [3]. The highlight of the study indicated that in spite if increase in stress, employees exerts better performance at the optimum point [6]. Thus, organization manager should be over monitoring the subordinate about their stress and assign the appropriate workload to maintain of individual performance effectiveness.

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