# THE EFFECTS OF WORKER STRESS ON THE JOB PERFORMANCE IN ELECTRONIC MANUFACTURING

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## **ABSTRACT**

Electronic manufacturing are under a great deal of worker stress and due to many antecedents of stress such as workload, organization change, physical environment and individual factor. One of the affected outcomes of stress is on job performance. The purpose of this study is to identify the relationship and effects of worker stress on the job performance of electronic manufacturing in Kuantan, Pahang. The data related to the worker stress and job performance were collected from 52 employees in production department of BI Technology Corporation Sdn Bhd. Data was anayzed using Statistical Package of Social Science (SPSS) software version 20.0. Statistical test regression, correlation, reliabilities and t-test used to analysis the data. The results are significant with positive correlation between worker stress and job performance and shows that worker stress has effects on the job performance. So, all alternative hypothesises that state are accepted. The results suggest that organization should facilitate supportive culture within the working atmosphere of the organization.

**Keywords:** worker stress, job performance, electronic manufacturing

#### **ABSTRAK**

Sektor pembuatan electronik adalah sektor yang memberi banyak tekanan kepada pekerja dan disebabkan itu beban kerja, perubahan organisasi, persekitaran fizikal dan faktor individu dapat menerangkannya. Salah satu daripada hasil terjejas akibat tekanan pekerja adalah prestasi kerja. Tujuan kajian ini adalah untuk mengenalpasti hubungan dan kesan-kesan tekanan pekerja keatas prestasi kerja dalam sektor pembuatan elektronik di Kuantan, Pahang. Data yang berkaitan dengan tekanan pekerja dan prestasi kerja telah dikumpulkan daripada 52 pekerja dari jabatan pengeluaran di BI Technology Corporation Sdn Bhd. Data telah dianalisis menggunakan Pakej Statistik Sains Sosial (SPSS) versi 20.0. Ujian statistik iaitu regresi, korelasi, kebolehpercayaan dan t-test digunakan untuk menganalisis data. Hasil kajian menunjukkan tekanan pekerja dan prestasi kerja adalah signifikan dengan korelasi positif dan menunjukkan bahawa tekanan pekerja memberi kesan kepada prestasi kerja. Maka, semua hipotisis alternatif yang dinyatakan diterima. keputusan menunjukkan bahawa organisasi harus memudahkan budaya sokongan dalam suasana kerja organisasi.

**Keywords:** tekanan pekerja, prestasi kerja, pembuatan elektronik

# TABLE OF CONTENTS

		Page
SUPE	ii	
STUI	iii	
DED	iv	
ACKNOWLEDGEMENTS ABSTRACT		v
		vi
ABS	ГКАК	vii
TABI	viii	
LIST	OF TABLES	Xi
LIST	OF FIGURES	xii
LIST OF ABBREVIATIONS		xiii
СНА	PTER 1 INTRODUCTION	
1.1	Introduction	1
1.2	Background of Study	2
1.3	Problem Statement	3
1.4	Objective	3
1.5	Research Question	3
1.6	Theoretical Framework	4
1.7	Hypothesis	5
1.8	Scope of Study	5
1.9	Significance of Study	6
1.10	Definition of key terms	7
1.11	Expected Finding	8
СНА	PTER 2 LITERATURE REVIEW	
2.1	Introduction	9

2.2	Worker S	Stress	10
	2.2.2 2.2.3	Workload Organization Change Physical Environment Individual Factor	12 13 14 14
2.3	Job Perfo	ormance	15
	2.3.2	Job Quality Attitudes Job Efficiency	16 16 17
2.4	The Relat	tionship Between Worker Stress and Job Performance	17
СНА	PTER 3	METHODOLOGY	
3.1	Introducti	ion	19
3.2	Conceptu	al Framework	20
3.3	Research	Design	21
3.4	Research	Process	22
3.5	Populatio	on and Sampling Techniques	23
3.6	Data Coll	lection Techniques	24
3.7	Developn	ment of Instrument	25
	3.7.2	Questionnaire Design Nominal Scale Ratio Scale	26 26 27
3.8	Data Ana	llysis	27
	3.8.2 3.8.3 3.8.4 3.8.5	Descriptive test Normality Test Hypothesis Testing Correlation Test Mean, Standard Deviation and t-Test Reliability Test	28 28 29 29 30 30
3.9	Conclusio	on	31
СНА	APTER 4	FINDINGS	
4.1	Introducti	ion	32
4.2	Demogra	phic Analysis	33
4.3	Reliabilit	y Analysis	37

4.4	Normality Test	38
4.5	Regression Test	
4.6	Correlation Analysis	
4.7	T-Test	42
СНА	PTER 5 CONCLUSIONS AND RECOMMENDATION	
5.1	Introduction	43
5.2	Summary and Discussion of Findings	43
5.3	Recommendations	44
REFERENCES		46
APPENDICES		49

# LIST OF TABLES

Table No. Title		Page
3.1	Correlation Coefficient	30
3.2	Cronbach' Alpha	31
4.1	Profile of respondents	36
4.2	Reliability analysis for the major variables	37
4.3	Normality Test (One Sample Kolmogorov-Smirnov Test)	38
4.4	Model Summary	39
4.5	Multiple linear Regression Analysis; Job performance as dependent variable	40
4.6	Inter-correlations of the major variables	41
4.7	Summary of T-test	42

# LIST OF FEGURES

Figure No. Title		Page	
1.1	A schematic diagram of the conceptual framework	4	
2.1	Karasek's job demand control model	11	
2.2	Yerkes-Dodson human performance and stress curve	18	
3.1	A conceptual framework	20	
3.2	Collection and data analysis process	22	
3.3	Likert Scale	25	
4.1	Frequency of Gender	33	
4.2	Frequency of Age	34	
4.3	Frequency of Marital Status	34	
4.4	Frequency of Religion	35	
4.5	Frequency of Working Period	35	

# LIST OF ABBREVIATIONS

AVAG A v The Attorney-General

OCB Organizational Citizenship Behavior

SPSS Statistical Package for Social Science

#### **CHAPTER 1**

#### INTRODUCTION

## 1.1 INTRODUCTION

Nowadays, stress has become an important part in every sector. Most the people in this world experience the stress, and I believe that many people also can roughly understand what is meant by stress. Actually, stress can be defined and explained in vary ways. Generally, stress can be defined as a reaction of individual's mental and physical to a stressor in the environment (Antai-Otong, 2001). Usually, people look stress as the harmful or negative but sometime stress has the positive side. It is the body's non-specific reaction to any surrounding environment, made upon it.

Stress is a common state in everyday human life. It also exists among different levels of job and employees. Tseng (2001) has proposed that work stress among hi-tech employees much higher than in traditional industries. This is because that has different work scope and environment. The employees in hi-tech industries got more pressure than traditional industries. Worker stress is defined as the interaction between the persons and the sources of the interaction between the individuals and the sources of their work environment, it results when higher from resources (Long, 1995). Worker stress will give the direct impact to the individual and workplace.

The economy recession and crisis on 2009 was contributed the higher levels of stress among employees. The condition of stress can come from various ways that are workplace, financial, relationship, health and academic. In the organizations, to make more efficient in use of resources, they have gone through entire restructuring and layoffs. This is make unstable relationship between employer-employee and cause big

deal of stress among employees. The competition at the workplace is part increasing the levels of stress.

Stress has the positive and negative effects to the individuals and their environment. It depends on the individuals whether they can manage the stress or not. Although some worker stress is normal, but over stress can interfere with your productivity and impact the emotional and physical health. The ability to deal with stress can mean the difference between failure or success. Stress has a positive effect on employees of any organization but it depends on which is employees can cope with it, sometime it over limits and give the negative effect to employees.

## 1.2 BACKGROUND OF STUDY

Most of the previous studies have shown that worker stress had a great impact on the operations of an organization. Besides that, worker stress can also cause problems to the worker themselves and their families as well as the surrounding communities. The worker stress always given the attention due to the very powerful effect because it can affect the workers and work behaviour, and the most dramatically is the employee's health. It can consider that more than one half of the physical illnesses are related to stress. Some common illnesses that related to stress are high blood pressure, heart disease, colitis, migraine and ulcers. Stress also can make common flu, infections and colds become bad and take longer time to recover.

As mentioned by Clark (2005); Hart and Cooper (2001) it estimated that these all illnesses are attributed in part on worker stress, it cost billions of dollars annually in health care cost and in the employee turnover and absenteeism. Relationship between occupational stressors, the performance of worker as well as can affect the workers psychologically (Beehr et al., 2000).

## 1.3 PROBLEM STATEMENT

The extreme work stress also makes an employee feel do not valued and cause performance to decline. This is because employees can't think well and get lazy to work. As state by Cordes and Dougherty (1993) the emotional exhaustion, negative self-evaluations, and lowered self-esteem are also associated with worker stress. The enough stress can inspire employees' potential and the job performance will increase. However, job performance will directly influence by work stress (Jex, 1998). Tseng (2001) stated that hi-tech worker feel more stress then traditional industries.

So, it is necessary to conduct research to find out the main factors worker stress and suggest ways to overcome the problem of worker stress. This study is important because if the problem is not resolved it may cause problems to the organization and employees in the future. This study aims to find the relationship and effects of worker stress on the job performance electronic manufacturing at Kuantan, Pahang.

# 1.4 OBJECTIVE

- i. To identify the effects of worker stress on the job performance in the electronic manufacturing.
- ii. To find out the relationship between worker stress and job performance.

# 1.5 RESEARCH QUESTION

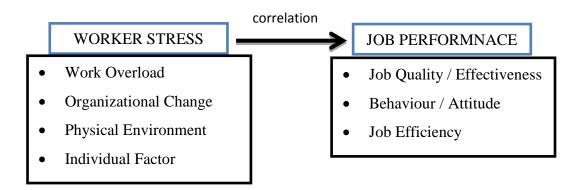
This research will try to find answers to the following questions:

- i. What are the effects of worker stress on the job performance in manufacturing?
- ii. What are the relationships between worker stress and job performance?

# 1.6 THEORETICAL FRAMEWORK

In this section a theoretical framework for worker stress is developed based on the objective of the study and previous literature review on this area. A model developed based on previous theory that estimates the effects of worker stress on the job performance. Worker stress and job performance are main constructs included in the proposed research model. Their relationship is illustrated in figure 1 below.

The previous researches by researcher found many forces are used as antecedents of stress. For this study workload, organizational change, physical work conditions and individual factor will become as parameter of worker stress. Job quality, behaviour and job efficiency are the parameter of worker job performance.



**Figure 1.1**: A schematic diagram of the conceptual framework

## 1.7 HYPOTHESIS

- i. H<sub>1</sub>: There is a positive effect of worker stress on the job performance
- ii.H2: There is a significant correlation between worker stress and job performance.
- iii.H<sub>3</sub>: There is a significant correlation between workload and job performance.
- iv.H4: There is a significant correlation between organization change and job performance.
- v.H<sub>5</sub>: There is a significant correlation between physical environment and job performance.
- vi.H<sub>6</sub>: There is a significant correlation between individual factor and job performance.

## 1.8 SCOPE OF STUDY

The scope of this research is to focus on the worker stress and it effect on their job performance in electronic factory. The study will focus on worker job performance in electronic manufacturing sector. Electronic are one of important industrial sector in Malaysia. The employee stress may have a great impact on the job performance an indirectly affect productivity of the company. Target focus is the study will be conducted in electronic factory at Kuantan, Pahang. Kuantan was chosen as the scope of the research environment because of the demographics of the Kuantan as one of the rapid industrial area in Malaysia. For this study, questionnaires will become the technique to collect of data. The questionnaires will also be given to the lower level manager and non-managerial employees.

# 1.9 SIGNIFICANCE OF STUDY

The main purpose of this study is to identify the effects of the worker stress on the job performance. Other than that, this study also will find out the relationship between worker stress and job performance. Thus, the results of this study will benefit the manufacturers, workers, prospective employees and the future researchers. This study is significant because it will provide the indispensable fact about effects of worker stress to the job performance in manufacturing sector, including the cause of worker stress, their department and gender.

This study will serve as the basis for future plans of action by electronic manufacturer and worker to manage the stress so as not effects the job performance. Among the persons who will be directly or indirectly involved are manufacturers, workers, potential workers and the future researchers.

The finding by this research not only benefit the top manager of manufacturing but also the entire organization management as it will create a milieu of the important to manage of worker stress. May be with the availability this study, they can improve employees management system in manufacturing.

Other than that, this study also involved workers and prospective employees. Workers in manufacturing, including the future workers will have a better understanding of the effects of worker stress on their job performance. It can help them to manage the stress in order to not interfere with the job performance and life. It can also be used as preparation for potential employees to facing some stressful situations at work.

In addition, this study will serve as a theoretical model for the future studies in the same nature. Future researchers will benefit from this study, and it will provide the facts needed to compare their study during their respective time and usability.

# 1.10 DEFINITION OF KEY TERMS

**Stress** - is a biological term that refers to the cause of the failure of a human or animal to respond appropriately to emotional or physical threats to the organism. As mentioned by Selye (1950, 1956) the physiological response in nature involving an alarm stage followed by stage of resistance giving way, under some circumstances, to a final stage of exhaustion. Stress is a feeling that's created when we react to particular events. It's the way of body rising to a challenge and ready to meet a tough situation with strength, focus, and heightened intelligence. Stress can be in any situation that make you feel angry, nervous, frustrated or frustrated.

**Job performance** - job performance is an individual level variable. That is, performance is something a single person does. This differentiates it from more encompassing constructs such as organizational performance or national performance which are higher level variables. The work related activities expected of an employee and how well those activities were executed. Many business personnel directors assess the job performance of each employee on an annual or quarterly basis in order to help them identify suggested areas for improvement.

**Attitude** - An attitude can be defined as a positive or negative evaluation of people, objects, event, activities, ideas, or just about anything in your environment, but there is debate about precise definitions. Attitude is a predisposition or a tendency to respond positively or negatively towards a certain idea, object, person, or situation. Attitude influences an individual's choice of action, and responses to challenges, incentives, and rewards.

# 1.11 EXPECTED FINDING

1. Positive effect of worker stress on the job performance in electronic manufacturing.

The result of survey made me hope to identify the effect of worker stress and job performance. This is to ensure that worker stress have a positive effect on job performance in electronic manufacturing. The result will show the most factor of worker stress that impact on job performance.

2. The relationship between worker stress and job performance.

I expect this study will show the significant correlation between worker stress and job performance. This is because different worker have different way to express their stress. This study may impact on worker that whether they have stress or not.

#### **CHAPTER 2**

#### LITERATURE REVIEW

## 2.1 INTRODUCTION

Researchers had carried out with research, including the secondary data research in order to gather the related information. The similar studies that done previously by other researchers had been review, by this it helps to provide more ideas and info to conduct the study. The summary about previous research regarding the present topic will be discussed comprehensively in this chapter. This literature review is to convey the knowledge and ideas have been established on the stress topic. In this study, case studies, academic journals, books and magazines as well as other secondary data including online journals are the references used as a source of information. In this chapter, the definitions and theories regarding to the independent variables (worker stress) as well as the dependent variables which is job performance will be discuss. There is different opinion and statement from different resources about effects of worker stress on the job performance. The new framework in this research will play an important role in the studies. There are four factor of worker stress which is workload, organizational change, physical environment, and individual factor. The job performance can be measured by job quality, behaviour and job efficiency.

# 2.2 WORKER STRESS

Worker stress is defined as the interaction between the person and the sources of stress within their workplace, it become stress when demand exceeds from resources (Long, 1995). From previous researchers found that work stress arises when demand that exceeds on her/his and physiological balance. Cox, Dewe and Ferguson (1993) stated that stress is not totally internal attitude of individual or his environment but it is the interaction between them, also can call as ongoing transaction, the relationship of person and surrounding. In every organization and all level of workers an average level of stress is to find which mostly give effect on employee's job performance. Employees have potency towards high level of stress regarding working hour, longer hours which reduce employees urge for perform (Rose, 2003).

Support from management will help to reduce or increasing worker stress. Stamper and Johlke (2003) stated that management support work as a cushion which acts positively in decreasing worker stress. There have many causes of worker stress workload and family conflicts are some of the reason. If the organizational does not appreciates their hard work employees or contribute toward creates stress and intention to leave was create (Stamper and Johlke, 2003).

There have various models that developed by previous researchers. Some differences exist in model, but most theories are based on the process of real work stress reaction and its outcome. Some prominent models:

# 1. Process model of worker stress

This model constructed by McGrath. The organizational stress construct through fourphased, closed-cycle process (Lin, 2001) in the first phase is the objective circumstance in the social environment model. Individual will sense when something happening. They process of cognitive appraisal and choose an adequate reaction by make decision. It will expressed by the performance.

## 2. Person-environment fit model

The person-environment fit model based on the concept of emphasis the interaction between person and environment, focus on fitness. According to the model, work stress will come from different values between employee and organization. Stress will come out when individual take performance as own value and group performance as organization value (Kristof, 1996).

## 3. Demand-control model

Demand control model develop by Karasek. The job performance can be anticipated in this model. Karasek proposed that when worker are under high work-demand and low work-control, psychological and biological problem will happen. Karasek (1979) stated that more positive job performance level can achieve when worker under high work-control and high work-demand.

B. Active learning, motivation to develop new behaviour patterns

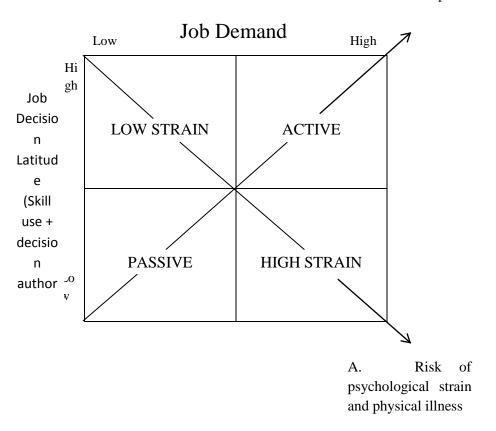


Figure 2.1: Karasek's job demand control model

## 2.2.1 Workload

The extent to which individuals feel their workload can be source of worker stress. According to French (1972), "work will creates pressure when it exceeds an individual's capacity level". For the few years now, work overload have become permanent factor that concern in Canadian. In a survey conducted by EKOS Research Associates (2001) among Canadian workers, 36% of respondents said that workload was heavy. Work overload is perceived as a very serious and obvious problem among manufacturing sector workers. This is because worker stress can affect individual's job performance and thus the achievement of the company.

If an individual have much work to do in insufficient time and unreasonable pressure to finish on deadline, they is going to feel stress. Health and Safety Executive (HSE, 2001) has stated that worker stress is a situation where a person feels pressure, or when the demands of situation are much larger than what someone can handle and if it continues for the long time without stop or pauses, then various behavioural, mental and physical problem may arise. Unrealistic deadlines and expectations, and unmanageable workloads will create worker stress even to the most capable employee. Under recruitment of staff will fill stress if they got the complex task that they do not know how to do it. Hart and Staveland (1988) described workload as "the perceived relationship between the amount of mental processing capability or resources and the amount required by the task".

Work reorganizations, technological change, worker force adjustments and budget cuts have forced worker to do more job with fewer resources. Worker was required to work harder, to the point where they do not longer do their work in normal business hours. Work overload has many consequences. Especially, it occupational disease risks, increases stress, absenteeism and more important lowers job performance. These problems must be under control to improve living conditions and working. Whelan (2004) found that the workload was excessive, the pressure unremitting, and, because of the inadequacies in the staff provided to the employee, unduly burdensome. These failures required her, while still acting as a supervisor, to carry the day to day caseloads of those members of her team who fell over for a variety of very compelling reasons.

# 2.2.2 Organizational Change

Organizational change is difficult for an organization and employees. The concept of organizational change more related to the organizational wide change that include the change in term of mission, collaboration, mergers, restructuring operations and others. Kotter and Schlesinger (2008) stated that organizational change means organization transformation. The employees will start to have the feeling of nervousness, lack of self-confidence and stress when changes happen in organizational such as restructuring, merging as well as downsizing (Ashford et al., as cited in Nicolaidis and Katsaros, 2007). Pritchett and Pound (1995) carried out their study that organizational change is one of most common factor for worker stress. Pietersen study (as cited in Dulger, 2009) for many people, the spectra of change make what is sometimes calls as the factor fear, doubt and uncertainty.

According to Pierce (2003), when the change is starts happen, the leaders can have the chances to leads the employees to a better perspective ways. In another words, it means that the leaders can move their organization into a new direction and provided the new direction is in agreement with their important values. According to Stassen, when there is organization changes happen, people tend to blame organization or top manager as normally they are the one who implement of changes such as shifts in the new market place, stiffer competition or new technology (as cited in Vakola et al., 2004). As mentioned by Doppler and Lauterburg (2000) that most of the individual do not like to change the way they working especially when they do not know the goal and who will gain the benefit from organization change (as cited in White, 2003).

# 2.2.3 Physical Environment

Most companies have procedures in place for health and safety, but some smaller company do not have it. An extremely stressful working environment happen went poor lighting, old or broken equipment, high levels of noise, uncomfortable furniture and temperature. Physical environment refers to tangible surroundings which can influence individual development and behaviour. Many researchers exploring work stress in form the relationship between worker and work environment (French et al. 1974; Cooper and Marshall, 1978; Beehr and Newman, 1978; and Chui, 1994). Abdulmuhsen (2012) stated that noise and crowing will make worker stress, this reduce the feeling of control and led to worse performance and task. According to Kasl (1973) stress is reaction of worker to environmental stimulus. Reaction to physical environment impact on job performance also defined stress.

#### 2.2.4 Individual Factor

If a worker got stress at workplace, it may be because their work, the personal problems or may be the combination of both. Brickell (2000) has stated that when a person stress, the small thing can aggravate situation. Worker had a number of personal issues which were also causing her stress. These included marital problem and responsibility for caring for her grandchildren. The Authority of A v The Attorney-General (AVAG, 2005) found that the cause of the employee's illness related to the various personal factors in the employee's life. They also found that the employee thing that was probably not suited to employment as a front line social worker in the first place. In the case of Nilson-Reid (2005) the Court found that there were a number of personal stressors. Some of that is a rumour that a co-worker and the employee's husband were having an affair, financial concerns stemming from the employee's husband leaving his job and starting a tour business venture and employee was undertaking university studies during this time.

# 2.3 **JOB PERFORMANCE**

Job performance is a human behavior the result of which is an important factor for individual work effectiveness evaluation. From this view, it could be said that organization's success or failure depends on job performance of the individuals in that organization. Job performance is individual productivity in both quantitative and qualitative aspects. It show that how well a person is doing his job and extent to which the employee meeting their job duties. Coetzet and Rothmann (2006) stated that job performance depends upon work settings, the atmosphere of office and social interaction. Goal setting level significantly affected different employee's job performance (Pantang, 2007) as holding the same goals influenced the staff to move in the same direction leading them to be successful in the long run. As a result, it could be concluded that higher goal setting has high effect on job performance.

Borman and Motowidlo (1993) divided performance into task and contextual performance. Task performance was defined as the effectiveness with which job incumbents perform activities that contribute to the organization's technical core (Borman and Motowidlo, 1997). Contextual performance was defined as performance that is not formally required as part of the job but that helps shape the social and psychological context of the organization (Borman and Motowidlo, 1993). Contextual performance has been further suggested to have two facets: interpersonal facilitation and job dedication. Interpersonal facilitation includes cooperative, considerate, and helpful acts that assist co-workers' performance. On the other hand, job dedication, includes self-disciplined, motivated acts such as working hard, taking initiative, and following rules to support organizational objectives (Scotter and Motowidlo, 1996).

Contextual performance and related elements of performance, such as organizational citizenship behavior (OCB: Bateman and Organ, 1983; Smith et al., 1983), prosocial organizational behavior (Brief and Motowidlo, 1986), and extra-role performance (Dyne et al., 1995), contribute to organizational effectiveness. According to the fact that the concept of contextual performance has several related constructs in other names, the existing theories and empirical studies reviewed in this study