

Relationship Analysis between Work Factor and Commitment of Individual with the Occurrence of Unsafe Act (Study in Division of General Engineering PT. XYZ Surabaya)

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Abstract: Occupational accident is accident happened-related work, including diseases arising from employment relationships. Work accident may occur caused by unsecured environmental factors (unsafe condition) and human behavior, which is not safe (unsafe act). Unsafe Action or behavior is unsafe behavior of workers who deviate from the principles of salvation or not in accordance with the working procedures are at risk for the onset of the problem. PT. XYZ is a company engaged in the field of shipbuilding, repair services, as well as general engineering with a particular specification upon order. Occupational accident data obtained at PT. XYZ showed that highest factor of accident in 2012-2013 was unsafe conditions or behaviors. This research aims to analyze the relationship between individual characteristics, employment, and individual commitment with unsafe act in General Engineering Division at PT. XYZ. This is a quantitative research with cross sectional design research that has been carried out in December to January 2014-2015. The research results obtained from 39 respondents, 23 respondents behave safely and 16 respondents behave with unsafe action. Job factor was a factor with a value of highest relationship in the formation of the unsafe act; it was indicated by the value of the Sign. -2.581, through calculations with SPSS logistic regression. The suggested recommendations in the management, could be by providing oversight of the use of the tool of self protection (gloves, a protective covering or face) of the complete and correct at the time the process worked well in a long time working or not. Another step is making a program concern on importance of awareness to apply occupational health and safety in working process and do some briefing with persuasive method to raise the awareness of workers on occupational health and safety.

Keywords: unsafe act, job, commitment

1. Introduction

PT XYZ is a company engaged in the field of shipbuilding, considered have a lot of hazardous potential by viewing the operation of its work. Assembly process with the same type of activities, such as welding, which is become a large block that has many types of Assembly. Hence, it requires many workers. However, the dangers that may occur are impacted, stung when electric welding processes, and exposed with a spark, gas, burning and several other potential of hazard. Data from PT. XYZ Surabaya about cause of accident during 2012-2013 that are five factors (environmental factors, human error, social behavior and unsafe conditions, accidents and injuries) as the main cause of the accident that occurred during the years 2012 and 2013, the total of all the highest cause of accident occurrence caused due to behavior or unsafe conditions. As these reasons, then this research aims to analyze more about the factors associated with the occurrence of the unsafe act PT. XYZ Surabaya.

2. Methods

The method of this research is quantitative research approach with the kind of observational and approached with cross sectional method. This research has conducted in the offices of PT. XYZ Surabaya, East Java. Duration of this research conducted in December 2014 – January 2015. The population in this research was overall 43 workers. Based on calculation by simple random sampling formula, the sample was considered as much as 39 workers.

Independent variable of this research consists of characteristics of respondents (age, period of employment, and education), work factors (knowledge and training, supervision, regulation, availability of facilities), while individual commitment as intervening variable. The dependent variable is the unsafe act in work, where a worker

was scrutinized aspects always give priority to safety in doing his job. Data collection techniques using interview techniques with the help of questionnaires, observation with the help of a checklist, and study the documentation. Data has been analyzed using multivariate testing and bivariate test with logistic regression.

3. Result

3.1 Relationship of Individual Characteristics of Worker's Unsafe Behavior

Based on table 1 obtained the highest level of unsafe 32-worker at the age of 43 years. Workers with the highest safe behavior were those at age of 44 to 55 years. The lowest was in unsafe behavior category in age of 44-55 years old i.e. 2 respondents, and the lowest was in the safe behavior category those were 32-43 years old.

Table 1. Relationship with Individual Character of unsafe behaviors of aged Workers

Independent Variabel	Dependent Variabel: Worker's Behavior				Total		Coefisien Asosiasi	Sign. (2- tailed)	Conclusion
	Safe		Unsafe						
	n	%	n	%	N	%			
Age									
20-31 years old	9	52,90	8	47,10	17	100,00	0,371	0,127	Insignificant
32-43 years old	3	33,30	6	66,70	9	100,00			
44-55 years old	11	84,60	2	15,40	13	100,00			
Work Period									
1-15 years	12	48,00	13	52,00	25	100,00	0,286	0,034	Significant
16-30 years	11	78,60	3	21,40	14	100,00			
Education									
Junior School High	1	50,00	1	50,00	2	100,00	0,197	0,389	Insignificant
Senior School High	22	61,10	14	38,90	36	100,00			
University	0	0,00	1	100,00	1	100,00			

The results showed that the higher the age of workers obtained the lower level of incidence of unsafe act and higher establishment of safe act. The results of data analysis between man-hours and behavior showed the value of unsafe act of worker reduced on each addition of a category of work. The incidence rate in the highest category of unsafe working was in period 1-15 years, while the lowest in category of work was in 16-30 years period. The highest level of safe work was in the 16-30 years old, and the lowest was at 1-15. Results analysis data for the variables of education of respondents with the highest levels of unsafe behavior has demonstrated on the education of junior and first grade diploma. The highest level of safe was also in secondary school respectively 22 respondents. Based on information in table 1-3 showed a great relationship between behavior of large value and the highest was on the relationship of the individual characteristics of the age.

The result of the processing of data in the table 2 shows there is a connection between the job factors with the behavior of worker's unsafe. The value obtained on the highest category of unsafe factors of good works, the value of the highest obtained at the safe category factors work enough. The value the bigger the unsafe in line with increasing the value of the category, otherwise the value of the safe declined to add to it the value of the category.

Table 2. Relationship of Job Factors (training, supervision, Facilities, penalties and rewards) and workers ' Unsafe Behavior

Independent Variabel	Dependent Variabel: Worker's Behavior				Total		Coefisien Asosiasi	Sign. (2- tailed)	Conclusion
	Safe		Unsafe						
	n	%	n	%	N	%			
Job									
Less/Enough	19	73,10	7	26,90	26	100,00	0,376	0,010	Signifikan
Good	4	30,80	9	69,20	13	100,00			

3.2 The Relationship of Individual Commitment (Job, Carrier, Organization) With the Worker's Unsafe Behavior
 In the table 3 variable of individual commitment has a relationship with the behavior of workers. Workers with high commitment and conduct safe action there are as much as 19 respondents. Workers with low commitment and conduct unsafe action there are as much as four respondents. The higher the commitment of individual workers would get the safe conduct of workers getting high anyway.

Table 3. Individual Commitment Relationship with unsafe behavior

Independent Variabel	Dependent Variabel: Worker's Behavior				Total		Coefisien Asosiasi	Sign. (2- tailed)	Conclusion
	Safe		Unsafe						
	n	%	n	%	N	%			
Commitment									
High	19	70,40	8	29,60	27	100,00	0,328	0,030	Signifikan
Low	4	33,30	8	66,70	12	100,00			

4. Discussion

4.1 Relationship Characteristics of Respondents with the Unsafe Act PT. XYZ Surabaya

Based on data obtained in the study, respondent, those are 32-43 years old have proven conduct unsafe act higher than those are 44 to 55 years old. Suma'mur argues in his book, that the experience for vigilance against accidents is growing both conforms to the increasing of ages, and his work at the workplace (Suma'mur, 1981). Variable of working period as research results showed a connection between jobs and unsafe Behavior. Sumakmur (1981) in his book, said that to classify the level of accidents due to the factor of the work very difficult. The level of the work is directly proportional to the age of the worker. The longer working periods then the age of the workers are getting older.

Educational level of workers obtained 36 educated worker had graduated from senior high school/vocational school, two workers had graduated from junior high school and respectively 1 worker from diploma. This data yields value that there is no relationship between levels of education with unsafe behavior. Observations in this field was obtained, that with the level of the average educated workers graduated from high school still obtainable with protective equipment which was used by workers with incorrect way, such us ignore complete protective equipment.

Research conducted by Cahyani (2004), level of education and inadequate knowledge about the risks and dangers of the work and of work accident will make workers behave nonchalance and made possible a worker doing unsafe and detrimental to the safety of himself or herself. Notoadmodjo (2003) in his theory stated that, person's behavior based on knowledge, awareness and positive attitude then the position will last a long time (long lasting), conversely, if the behavior is not based on the knowledge it will not last long. In this case, the workers have had the knowledge of the dangers posed by the work that he did, but the level of knowledge they have is not balance with an awareness of the importance of doing the action safe as preventive steps work accident.

4.2 Relationship Factors Work With Unsafe Act

Factor analysis of test results of work obtained the value that is associated with the formation of unsafe behavior. The data is obtained, i.e. the respondents argue factors work well worth doing unsafe, risky act compared to respondents who argue valued job factors. Variable with sub job factors in the form of training, availability of facilities, supervision, punishment and rewards have a dominant influence in the behavior of the stimulate secure a worker. Based on observations and observations in the field found some protective equipment has been damaged, for example a protective glass on the face began to be scratched. At the time of observation in the field, although the workers use protective face perfectly (there are no scratches or other damage) is still only found the workers use protective tools incorrectly. Workers also found that not either using protective equipment, in the form of gloves, helmets or standard, or covering the face. Workers contended that the work they are doing is not only takes a long time so they do not require the use of protective equipment in full.

Many also found new workers to use protective gear when supervisors do an inspection to their place of work. If workers, then more continuously do it and more workers who conduct unsafe act that could endanger themselves or others around them. Regulation and training held by the management on the importance of implementation of occupational health and safety and action safety (safe act), but the consciousness of workers regarding safety in work is still lacking. According to Geller (2001), the rate of compliance in workers behave can be increase by means of enforcement, i.e. a worker doing something on the basis of understanding, knowing the importance of doing an Act and its application in such a State. Observational results, the application of penalties and rewards by the management give a positive impact to the application of the safe act workers. Punishment is a form of the consequences received by the worker or group of workers resulting from conduct that violates the rules. Penalty deterrent effects on workers provide that workers are more careful in doing the action. Roughton (2002) mention that the punishment is not only oriented to punish workers who violate the rule, but applies as well as control over the work environment so that workers are protected from unsafe act or work accident. Unsafe behavior of workers can be suppressed with the granting of reward for workers or groups of workers who can perform the work with implementing the safety and occupational health. The award is one of the forms of appreciation by the management, which granted on individual workers or working group with positive behavior expects maintenance and administration support. The award can give you confidence, self-control, and optimism for workers so that workers can continue to do the job in a safe (Geller, 2001).

4.3 The Relationship of Individual Commitment to the Unsafe Act PT. XYZ Surabaya

Analysis of the test results obtained with the commitment of a connection between the behaviors of unsafe. The respondents had a high commitment, risk doing unsafe compared to respondents with low commitment. High low commitment of individuals will have an impact on the behavior of workers in an organization work and the work itself. The commitment of the workers against the company is the relationship between individual workers with a company which is the orientation of the workers for the company so as to make the workers willing to give energy and committing yourself through activity and participation within the company in order to achieve the objectives of the company (Mowday,1982).

The commitment of the workers is high, making workers more excitement in working to achieve satisfactory targets, or targets of the company. Workers with high commitment will work with not know tired nor time until the target is reached. It occasionally makes workers forget about safety themselves when working. The commitment of the workers in the prevention of unsafe act is also influenced by the company's commitment in the implementation of occupational health and safety in the workplace policy. Any training, supervision, provision of protective equipment facilities for the workers themselves make the worker aware of in terms of safety at work. The attention of the management increase workers ' commitment, this increase is in tune with the emergence of a sense of responsibility and caution workers in work which can lower the risk of unsafe act happening.

5. Conclusion

Based on the results and discussion, conclusions can be obtained as follows:

- a. Characteristics of respondents, i.e. age, based on the results of the analysis of data obtained that increased age at onset rates of respondents will make unsafe is reduced and the addition of the establishment of the safe Act.

- b. Factor Analysis results obtained from the work of significant value (in touch), data obtained from the respondents argue valued job factors, tend to do the safe act is higher compared to the respondents argue affordable job factors.
- c. Individual Commitment with the creation of unsafe behavior of analysis results obtained the value of that deal. Respondents with high commitment tend to perform safe compared to respondents with low commitment.

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