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Knowledge of Tenant Employees in Fire Emergency Response Efforts at Airport Terminals: A Study of Its Influence

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ABSTRACT

Fires in transport terminals are a serious threat that can cause material loss, physical damage, and risk loss of life. Bali's I Gusti Ngurah Rai International and Domestic Terminal is one of the most important transport hubs, serving thousands of visitors every day. It is important for tenant employees operating within these terminals to have adequate knowledge in fire emergency management. The purpose of the study is to ascertain how tenant employee knowledge affects the management of fire emergencies at I Gusti Ngurah Rai Bali airport's domestic and international terminals. This study uses a type of quantitative research using the method of distributing research questionnaires through google form with tested using IBM SPSS version 25. The research sample was drawn using probability sampling technique by adding a margin of error of 5% to obtain a sample of 50 people. The results obtained Partially, the knowledge of tenant employees has a significant influence on overcoming fire emergencies, with a determination value of 0.613 or in the form of a percentage of 61.3%, and obtaining a significant value of 0.000 <0.05 in the T test. The spearman rank test results show that the correlation coefficient is 0.683, strong and positive, and that the significant value is 0.000 <0.05. This indicates that the two variables are moving in the same direction, meaning that as tenant employees' knowledge increases, so will emergency response. Based on the measured results, it is necessary to innovate to increase the knowledge of tenant employees who are cost and time friendly in the form of educational videos on emergency management at airport terminals that can be accessed via android.

Keywords: **Airport Terminal, Fire Emergency Management, Influence Study, Tenant Employees**

A. INTRODUCTION

An airport is a location of employment where flames could break out. Despite the provision of protection facilities, there have been reports of numerous fires in recent times, allegedly due to the influence of preparedness workers. Disaster preparedness involves arranging to assist the community that is at risk of fire in order to anticipate and prevent fires (Erismawati & Adhi, 2023)**.** A port is defined as "an area with certain boundaries on land or in waters, equipped with aviation and safety facilities, as well as basic facilities and other supporting facilities," per Law Number 1 Year 2009. According to the Directorate General of Civil Aviation of the Ministry of Transportation, there are around 340 airports in Indonesia, of which 32 are international airports. The I Gusti Ngurah Rai airport in Bali is one of the international airports. I Gusti Ngurah Rai Airport is situated in the southern Bali region in the districts of Tuban, Kuta, and Padang Regency. Both an international and a local terminal are available at I Gusti Ngurah Rai Airport. According to the Director General of Civil Aviation PR 30 Year 2022 regulation, Airport Rescue Fire Fighting (PKP-PK) services must be provided by airport operators and business entities in compliance with technical and operational service standards and airport categories for PKP-PK. Airport Rescue Fire Fighting is a unit that is crucial to airport rescue operations (Faturrahman & Eny Sri Haryati, 2023)**.** Providing Airport Rescue Fire Fighting which hereinafter is called PKP-PK services to save lives and property of an aircraft involved in an incident or accident at the airport and its environs is one of the duties of the airport's PKP-PK unit. Prevent, manage, put out, and safeguard persons and property at airport facilities that are at risk of fire. PKP-PK unit service is one of the units at the airport, which is an emergency response facility. Relationships between individuals and teams are very influential in successfully carrying out daily activities. Good social relations between personnel support the productivity of personnel at work, on the contrary, poor social relations and less conducive can interfere with the work of personnel (Masruri et al., 2021). Units PKP-PK is an emergency response unit located at airports with PKP-KP vehicle facilities, PKP-PK operational equipment, and personnel to perform aircraft rescue and firefighting at each airport (Kharisma Sevi Nur Safitri & Rahimudin, 2022). I Gusti Ngurah Rai Airport is an international airport that has quite a number of international flight routes. The airport also has several sources of income including Aeronautical and Non-Aeronautical with user fees where the function of this income is among others to prepare and provide good business services and one of them is tenants. I Gusti Ngurah Rai Airport has many tenants. The number of tenants with different categories that can be a potential fire

hazard. The potential for fires in public places, one of which is a shopping centre, is said to be high because of the large number of tenants who sell flammable goods such as clothing, fabrics, and blankets. The example of a building fire at the terminal at the airport.

Risk is the possibility of something happening that might have an impact on the goals of an organization. This demonstrates the necessity for heightened awareness and fire safety measures. Risk control is the process of identifying the appropriate course of action to deal with risk in order to prevent loss for the firm. There is a possibility of potential fire risks at Airport because there are still potentials that cause fires such as oil spills, civilians are still active around the airport terminal area. The purpose of this research leads to the potential fire hazards at the airport and recommends more ways to minimize the occurrence of fire (Gani et al., 2023). Fire is an unpredictable disaster, it can happen anytime and anywhere(Aeron Satria Bayu Aji, 2020). Fires and losses to environmental life are caused by uncontrolled fires, so it is hoped that companies can carry out efforts to prevent and control the occurrence of fire hazards(Amin, 2010). Fire is a hazard that can occur anywhere, therefore prevention efforts are needed. Prevention can be done in various ways, such as the provision of fire extinguishers, fire alarms and hydrants (Iraniana, 2009). Every building needs to evaluate the implementation of fire protection systems based on applicable regulations (Rusman et al., 2021). Some incidents of building fires in terminals at airports include (1) At I Gusti Ngurah Rai Airport Bali, 2019, a fire incident occurred due to the negligence of tenant employees in using the stove, there was a burning blanket near the stove which resulted in a fire that spread to the international terminal. (2) At Soekarno Hatta International Airport, 2019, the fire occurred due to the negligence of tenant employees when leaving the stove on continuously. (3) At Nabire Airport Papua, 2018 The fire was initially overcome by tenant employees because the fire could still be controlled, because tenants did not know how to use APAR, the fire grew and spread to the surroundings. Some of these incidents motivate the need for socialization and training efforts to deal with fire emergencies at airports. A programme that can support anticipatory or preventive actions is needed. So that accidents or disasters can be controlled, losses can be minimized, and business at the airport can operate properly.

The building must adhere to the facility's role, requirements, and/or operation as specified in Law No. 28 Year 2002 in order to meet the security criteria. Ensuring the safety and security of visitors during emergencies, such fires, is one of the standards that needs to be fulfilled. Buildings must therefore have efficient fire protection management. An emergency response

unit, which conforms with the regulations outlined in Minister of Public Works Regulation No. 20 Year 2009 on technical standards of fire management in metropolitan cities, is one part of a fire protection system. With successful implementation, the building has created a system to avert emergencies, with favorable results (Agustin et al., 2016). Fires in the workplace are detrimental to companies, workers and national development interests, and therefore need to be dealt with; b. that in order to deal with fires in the workplace, it is necessary to have adequate fire protection equipment, specially appointed fire prevention officers, and emergency response procedures; c. that in order for fire prevention officers in the workplace to carry out their duties effectively, it is necessary to regulate provisions on fire prevention units in the workplace by Ministerial Decree (Kementerian Tenaga Kerja, 1999). Industries with all three components are susceptible to fires, which can cause damages to the company's assets, including its personnel and buildings. As a result, among the most frequent emergency situations in the sector is fire (Lubis et al., 2019).

An emergency is characterized as an unforeseen, challenging circumstance that needs to be handled right away to prevent mishaps or cancellations. In this instructional activity and fire emergency response scenario, students will receive material briefings on flammable materials, fire hazards, and how to put out a fire if it breaks out. Following the fire education program, boarding school students will participate in an emergency response simulation designed to make it easier for them to handle stressful situations in the event of a fire emergency response. The goal is to avoid serious damage to buildings and the potential for human casualties. Additionally, fire extinguisher training is done in this scenario. This is one of the uses for Occupational Safety and Health (K3) applications (Suryani et al., 2019). Government Regulation (PP) No. 50/2012 requires every organization with more than 100 workers to have emergency response procedures and teams. On the concept of emergencies that may occur in educational institutions, the minimum competencies required by the emergency response team, and the number of people responsible as an emergency response team is one of the important points. (Dhani & Rachmat, 2019). The lack of information on how to cope and how to save yourself from fire disasters is the background of the need for fire emergency management education (Fajriati et al., 2021). Huge costs result from human helplessness brought on by inadequate emergency preparedness and management (Yuliati, 2020). Emergency response is a set of actions taken right away following a disaster to address the negative impacts produced. Preparedness is a series of activities carried out to anticipate disasters (Santosa & Rudyarti, 2022)**.** Emergency Identification is carried out in the event of serious injury, fire or explosion,

damage to facilities, oil spill incident, medical evacuation, neighborhood and natural disaster (Fitri Sari Dewi & Iratna Pangalih, 2019). An emergency response system is needed as a disaster management effort so that efforts can be made to save people and property to minimize losses. It is necessary to provide procedures for dealing with emergencies equipped with supporting facilities and facilities such as communication facilities, firefighting equipment, exit routes and evacuation sites as well as emergency response teams (Syaifuddin,Harninto, 2011). When a disaster strikes, the emergency response phase is required for victim rescue and evacuation as well as property protection. Participation of the community in disaster mitigation and emergency response phases is necessary to reduce the impact of tangible and immaterial losses resulting from disasters (Oktarina et al., 2023)**.** Airports are obligated to provide PKP-PK services in accordance with the airport category for the necessary PKP-PK, as per KP 420 of 2011 (Lukiana, 2017). The work unit at the airport known as the PKP-PK, is tasked with delivering services to support Aviation Safety operations. In providing these services, the PKP-PK unit has the task of providing assistance to Aviation Accidents, especially aircraft accidents that occur on the ground (Yogik Hendra Saputra, 2022). Firefighting so far at the airport is handled by firefighters at the PK unit (Kustori, 2017). PKP-PK is a unit part of emergency management at airports that has technical and operational standards that have been regulated by regulators. Given the important role of PKP-PK at an airport, it is appropriate for PKP-PK to have personnel who are competent in their fields. This can be obtained through education and training organized by the Aviation Education Institute (Nugraha et al., 2021). PKP-PK personnel activities include preventive and corrective maintenance activities(Yusuf & Kusumawati, 2019).

B. METHOD

This research uses descriptive quantitative research with a simple linear regression test approach with data processing using SPSS version 25. Data collection techniques through observation, interviews and research questions via google form. The location of this research is I Gusti Ngurah Rai International Airport Bali. Respondents in this study were tenant employees who worked in the terminal building area of I Gusti Ngurah Rai International Airport Bali with a total population of 100 people, therefore, the research sample was drawn using probability sampling technique. Simple random sampling technique was used. The number and characteristics of the population comprise the sample (Sugiyono, 2011). Since the study's population is known, the author utilizes Slovin to determine how many samples to take:

$$n = \frac{N}{1 + Ne^2}$$

Note:

n = sample size
N = sample population
e = *margin of error*

Because this study uses a margin of error of 5%, Sugiyono (2018: 138) states that rounding up is done because it is based on the sample size table and the margin of error for the 10% research allowance. If the calculation is carried out by formula, the minimum number obtained is 50 respondents.

A. Result and Discussions

a. Respondents
   1) Gender

Table 1. Gender of Tenant Employees

Gender	Total	Percent
Woman	22	44%
Man	28	56%
Total	50	100%

Based on the table above, it can be seen that the results of the frequency distribution carried out by the researcher can be seen that the number of female respondents is 22 people or 44% of the total, while the men are 28 people or 56% of the total. From this data, it shows that the respondents in this study had fewer female respondents than male respondents.

2) Education

Table 2. Education of Tenant Employees

Last Education	Total	Percent
SMA	25	50%
D-I	25	50%
Total	50	100%

Based on the table above, it can be seen that the results of the frequency distribution carried out by the researcher can be seen that the last education of each respondent is high school and D-1, high school is 25 people or 50%, and D-I is 25 people or 50% of the total. From this data, it shows that the last education of each respondent is high school and D-1.

3) Period of Service

Table 3. Tenant Employee Period

Period of Service	Total	Percent
1 year	15	30%
2 year	18	36%
More than 2 years	17	34%

Based on this data. 15 respondents have been working for 1 year, then 18 respondents have been working for 2 years, and the remaining 17 respondents have taken > 2 years of service.

Validity Test

Table 4. Variable Validity Test

Variabel	Indicator	R Count	R Table	Status
X	1	0,781	0,273	Valid
	2	0,761	0,273	Valid
	3	0,693	0,273	Valid
	4	0,725	0,273	Valid
	5	0,835	0,273	Valid
Y	1	0,535	0,273	Valid
	2	0,530	0,273	Valid
	3	0,570	0,273	Valid
	4	0,604	0,273	Valid

Based on the test results, the questionnaire was distributed to 50 respondents so that it was obtained from table IV-4 above. In this table it states that each statement indicator is valid, because r count> r table, namely 0.273.

Reliability Test

The tool for measuring data reliability is to use Cronbach Alpha, where a variable is said to be reliable if the measurement result is <0.60. In testing the reliability of variable X data can be seen from table 5 below using 50 samples. In this study to test the reliability of variable X data using the IBM SPSS version 25 application. For more details, it can be seen as in the table below:

Table 5. Cronbach Alfa Test

Reliability Statistics

Cronbach's Alpha	N of Items
.905	10

In the X variable reliability test so as to get the Cronbach Alpha value per X variable indicator as below:

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Cronbach's Alphaif Item Deleted
X1	24.18	47.320	.610	.899
X2	24.37	47.612	.609	.899
X3	24.33	47.141	.586	.901
X4	24.39	46.034	.623	.899
X5 Y1	24.31	44.967	.782	.889
Y2	24.12	45.360	.669	.896
Y3	24.06	46.100	.659	.896
Y4	24.24	45.814	.703	.893
Y5	24.31	46.384	.648	.897

Based on the table above, it can be seen that the Chronbach Alpha value of variable X > 0.60 so that variable X is reliable. For the average value of Chronbach Alpha variable X with 50 respondents. From testing each variable per statement indicator, it can be seen that the data is reliable data, this is evidenced by the Cronbach Alpha value of variables X and Y of more than 0.60

Classical Assumption Test

1) Normality Test

One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		50
Normal Parameters[a,b]	Mean	.0000000
	Std. Deviation	2.54083408
Most Extreme Differences	Absolute	.118
	Positive	.118
	Negative	-.058
Test Statistic		.118
Asymp. Sig. (2-tailed)		.078[c]

a. Test distribution is Normal.

b. Calculated from data.

c. Lilliefors Significance Correction.

Based on the normality test carried out based on the Kolmogorov Smirnov (KS) test with a value of 2 sides (two tailed). The criteria used are if the results of the Kolmogorov Smirnov calculation> 0.05 then the data is normally distributed. So based on the normality test in the table above shows that the result of the Kolmogorov Smirnov calculation value is 0.078 which means> 0.05. From this comparison, it can be said that the data processed in this study are normally distributed.

2) Heteroskedasticity Test

The significance value of the heteroscedasticity test results is 0.389, it can be concluded that it exceeds the significance value of 0.05. So that in this data processing there are no symptoms of heteroscedasticity.

3) Linearity Test

Based on the linear test results as in the table above, the significant value of the linearity test is 0.146 or> 0.05. Thus, it can be said in the test that there is linearity between variable x and variable y

Hypothesis Test

1) Determination Coefficient Test

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.788[a]	.621	.613	2.567

a. Predictors: (Constant), XTOTAL

Based on the results of the coefficient of determination analysis test above, a relationship is formed on the influence variable of tenant employee knowledge on fire emergency management of 0.613 or in the form of a percentage of 61.3%.

T Test

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	2.184	1.343		1.626	.111
XTOTAL	.868	.098	.788	8.873	.000

a. Dependent Variable: YTOTAL

Based on the T test results in the table above, the basis for decision making can be taken, namely if the Significant value> 0.05 then H0 is rejected and H1 can be accepted because the value at Sig is 0.00

Rank Spearman Test

Correlations

			XTOTAL	YTOTAL
Spearman's rho	XTOTAL	Correlation Coefficient	1.000	.683**
		Sig. (2-tailed)	.	.000
		N	50	50
	YTOTAL	Correlation Coefficient	.683**	1.000
		Sig. (2-tailed)	.000	.
		N	50	50

**. Correlation is significant at the 0.01 level (2-tailed).

Based on the output above, it is known that the significance value or Sig. (2- tailed) of 0.000 because the significance value of 0.000 is smaller than the value of 0.05, it can be said that there is a relationship between tenant employee knowledge and emergency management. From the output table above to see the level of strength of the relationship between the two variables using the correlation coefficient value of 0.683, which means that the level of correlation is strong. From the correlation coefficient value of 0.683, it is a positive value, so it can be interpreted that the relationship between the two variables is unidirectional. Both variables are unidirectional, meaning that if the knowledge of tenant employees increases, emergency management will also increase.

Descriptive Statistics Test

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
XTOTAL	50	5	25	13.22	3.749
YTOTAL	50	5	25	13.66	4.129
Valid N (listwise)	50				

Variable X from the data can be described that the minimum value is 5 while the maximum value is 25, with an average value of 13.22. So as to get a standard deviation value of 3.749. With the assessment reference as in table IV-14 above, the value is good. Variable Y from the data can be described that the minimum value is 5 while the maximum value is 25, with an average value of 13.66. So as to get a standard deviation value of 4.129. Based on the assessment table as in table IV-14 above, the value is good. From the description above, it can be concluded that the knowledge of tenant employees gives a value to emergency management is good. However, this needs to be improved

C. CONCLUSION

From the results of data analysis that has been done, namely testing the validity and reliability of the data is valid and reliable, because in the validity test r count> r table then the item is said to be valid, and in the reliability test Cronbach alfa value> 0.60 then the item is said to be reliable. Partially, the knowledge of tenant employees has a significant influence on fire emergency management. This is evidenced by linear regression testing where the results

are H0 rejected and H1 accepted, which means that there is a significant effect of tenant employee knowledge on fire emergency management. With a determination value of 0.613 or in the form of a percentage of 61.3%, and in the T test getting a significant value of 0.000 <0.05. Based on the results of the spearman rank test, the significant value is 0.000 <0.05 and has a correlation coefficient of 0.683 which is strong with a positive value which means that the two variables are in the same direction, the two variables are in the same direction, meaning that if the knowledge of tenant employees increases, emergency countermeasures will also increase. Based on the questionnaire, many do not know the source of fire, the potential caused by fire, the types of fires caused by fire, the losses caused by fire, then there are still many tenant employees who do not know the actions taken to deal with fire emergencies, the location of the fire alarm, the location of APAR in each shop where they work, the location of the hydrant box, the location of the assembly point, and who to contact in the event of a fire emergency. The average tenant employee doubts or does not even know about the indicators asked in the questionnaire, therefore it is necessary to educate in the form of effective socialization through animated video links / barcodes that can be accessed via android and affixed in crowded areas of visitors both in international and domestic terminals.

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