PalArch's Journal of Archaeology of Egypt / Egyptology

THE RELATIONSHIP BETWEEN AWARENESS, TRAINING AND PREPAREDNESS WITH BEST PRACTICES FOR EMERGENCY MANAGEMENT DECISION IN SABAH

Nur Hidayah Roslan*, Ahmad Azan Ridzuan, Noor Azmi Mohd Zainol, Haslinda Abdullah, Safar Yaacob, Nora Ibrahim, Mohd Nor Yahaya & Mohd Haniff Sofian

Department of Defence Human Resource Management, Faculty of Defence Studies and Management, National Defence University of Malaysia, Kuala Lumpur, Malaysia

(*Corresponding author's e-mail: hidayah_sun@yahoo.com)

Abstract

Natech disaster is a new type of disaster that worry all human being in the world. This is because the effect of this type of disaster is huge than a single disaster hitting the prone area. The consequences of man-made of technological hazards are massive because this hazard are comprising all the dangerous substances from the chemical and industrial accidents, nuclear and radiological emergencies as well as accidents in the transport sector and those associated with the particular case of Natech threats. Therefore, the objective for this study is to determine the relationship between awareness, training and preparedness with best practices for emergency management decision in Sabah. A survey method was conducted and 236 self-report questionnaire were collected from the respondent from all the community level at Penampang, Sabah. The survey points out that there is relationship between awareness, training and preparedness with best practices for the emergency management decision among the community in Sabah. The result indicates that best practices is a key variable linking the awareness, training and preparedness to emergency management decision. The limitation from this survey and recommendations for future research are made.

Keywords: Awareness, Training, Preparedness, Best Practices and Emergency Management Decision

Introduction

In today modern of living, the disaster is not only focus on natural disaster but also technology disaster. This is because the natural disaster has triggered the technological disaster where it is growing to be considered as a new risk of disaster especially at prone areas. Natural disaster can trigger hazard disaster such as toxic air releases, spill of hazardous materials, fires or explosions. These combination of natural and technological disaster is called as Natech disaster. Natech accidents refer to the unsafe chemical such as accidental of chemicals leaking, gas release and blast that involving the dangerous materials caused by a natural disaster. This disaster also refers to the tragedy of the accidental of oil and chemical spills, gas releases and fires or explosions which involving hazardous substances from fixed installations and from oil and gas pipelines (Krausmann & Baranzini, 2009).

Natech disaster is a new type of disaster that worry all human being in the world. This is because the effect of this type of disaster is huge than a single disaster hitting the prone area. The consequences of man-made of technological hazards are massive because this hazard are comprising all the dangerous substances from the chemical and industrial accidents, nuclear and radiological emergencies as well as accidents in the transport sector and those associated with the particular case of Natech threats. Furthermore, the design of some technological innovation is not suitable and vulnerable to the natural disaster. Their design is not appropriate to hold up the current and future impacts of disasters. Hence, it is important for the community to understand and aware about the natural disaster triggered technological disaster (Natech).

Hoping that by be aware of this disaster will help the community to find the best practices to be implement in the emergency decision in order to strengthening the disaster risk governance in the country, investing in disaster risk reduction for resilience, enhancing disaster preparedness for effective response and recovery, rehabilitation and reconstruction. Moreover, community is the one who are getting the direct impact of the disaster before the others. When Natech strike, it is the biggest impact toward the community. So, it is necessary for the community to have the preparation on disaster management. In doing so, the community should have the effective emergency management decision where this decision can reduce the impact of the disaster before the disaster hit the community area (United Nations International Strategy for Disaster Reduction [UNISDR], 2018).

Additionally, the decision on disaster management should be made by the community authorities to choose the best practices that can be implement and apply before, during and after the disaster. This help the effectiveness of the emergency management practices in the community disaster organization (Food and Agriculture Organization of the United Nations [FAO], 2011). Therefore, the aimed for this study is to determine the mediating factor of best practices between the relationship of awareness, training and preparedness with emergency management decision of Sabah community. Hence, the researchers are going to do a research on best practices for effective emergency management decision in natural disaster triggered technological disaster (Natech). Hoping that this study will contribute in reducing the risk of Natech disaster in future for the prosperity of the Sabah community.

Literature Review

Disaster is defining as a mess that involved the widespread of material, human, environmental and economic losses which affect the

economic growth, safety and health, human suffering, poverty and many others (UNISDR, 2009). Meanwhile, Natech is the new disaster that combined both of natural and technology disaster that give a giant impact towards the community surroundings (Girgin, Necci & Krausmann, 2019). Thus, this study is aimed to determine the relationship between awareness, training and preparedness with best practices for emergency management decision in Sabah. The detailed will be explain more below.

Emergency Management Decision

Disaster has been strike Malaysia almost every year. However, there are two types of disaster that usually hit in Sabah comprising of slope failure and flood (Roslee &Tongkul, 2018). It is important to have a plan before people go to manage the disaster. Thus, this make an emergency management decision crucial for disaster management especially for Natech disaster.

As in Mauritius, the government has strongly support the emergency management in their country in order to increase the awareness among their community. The policy has been imposed to the local and tourist to protect the coastal and marine resources. The government also has supporting the industry by giving the indirect incentives in the form of tax credits for them to invest new production of equipment and technology to reduce the pollution (Ramessur, 2013). Many agencies around the world have made the decision on emergency management to strengthening the communities' resilience and increasing the communities and agencies preparedness for disaster response and recovery. These agencies have agreed to prevent the new disaster to happen while reducing the existing disaster risk through the implementation in term of structural, economic, technological, social, cultural, legal, environmental, political, health, educational and institutional (Dickinson, Aitsi-Selmi, Basabe, Wannous & Murray, 2016). Therefore, it is important to implement the best practices for disaster management. By identifying the risk surrounding has aware people to be protected. The educational system is one of the approaches that can train the community to prevention from the bottom line. Moreover, reducing the disaster for resilience and effectively response towards disaster recovery is a main concern for the government to manage the disaster (Collins, Tatano, James, Wannous, Takara, Murray, Scawthorn, Mori, Sarah Aziz, Khalid M. Mosalam, Hochrainer-Stigler, Alca ´ntara-Ayala, Krausmann, Li, Cruz, Samaddar, Groeve, Ono, Berryman, Suzuki, Parry, McGowran & Rees, 2017).

Best Practices

Best practices for the emergency management decision involving the cooperation among three groups of emergency managers, first responders, and citizens. During the emergency in South Carolina, it is found that lacking on personnel, equipment, planning, training and funding are the troublesome for emergency response (Cooks, 2015). However, the overlook of primary actions can be avoided by practicing well-prepared plan for emergency management. A clear understanding on the duty in charge is critical for everyone responsibilities to response and implement the right practices for the emergency management decision. Supported by the good communication and systematic chain of command increasing the disaster management performance. Then, all the activities, costing, logistics, agreement and people who are involved in the emergency mission have to be documented for the future references. Thus, the best practices involving many things and documentation (FAO, 2011).

There are five stages for disaster management cycle in Malaysia under Directive No. 20 comprising of prevention, mitigation, preparedness, response and recovery. These stages are the practices that accommodates the

practitioners with multi-disciplinary backgrounds (CFE-DM, 2016). NaDMA is operate under Directive No. 20 where it is currently in the process of amendment for better planning in disaster management in Malaysia. All issues related to the disasters are deal with Centre for Disaster Management and Relief Committee, the State Disaster Management and Relief Committee, and the District Disaster Management and Relief Committee. All these three-tier committees are chaired by the Deputy Prime Minister, Secretary of State, and District Officer respectively (CFE-DM, 2016; Chan, 2012; National Security Council, 1997). Moreover, to narrow down the focus and aim for disaster management, there are seven service themes were established. These theme including of search and rescue, health and medical services, media, support, security control, welfare and warnings and alert (CFE-DM, 2016).

About 79 of agencies are responsible to carrying out any activities involving the Disaster Risk Management. However, there are 11 agencies that have no specific activity but practicing top-down approach category as committee members of Centre for Disaster Management and Relief Committee (CDMRC). Meanwhile, only National Civil Defence (APM) including central, state and district and MERCY agencies are implementing bottom-up approach in Disaster Risk Management. These four agencies employ the knowledge of the local and involve the community in all Disaster Risk Management processes. These practices are implemented to reducing the number of disaster risk in future (Noraini Omar Chong & Khairul Hisyam Kamarudin, 2017).

Awareness

Emergency management can be introduced from the learning process whereby the education can deliver the awareness to people from the very young age to strengthening their disaster resilience. School of disaster readiness is the crucial role to educate the students, teachers and parents as well as the local community to raise the disaster awareness and to ensure the preparation activities on hazard management are in place (Faizatul Akmar Abdul Nifa, Sharima Ruwaida Abbas, Chong Khai Lin, & Siti Norezam Othman (2017). Moreover, awareness also exposed to the developing the new strategies and actions where communities will be alert more on the disaster risk reduction through the new rules and policies. Additionally, Malaysian government has emphasized that learning from the previous disaster experiences can also raising the awareness especially to be careful on the dangerous location of buildings, construction, local cultures on political preferences and the country development (Ruhizal Roosli, O'Keefe & Md Azree Othuman Mydin, 2013). Therefore, the Malaysia National Security Council (MNSC) Directive 20 has clearly stated the responsibilities of the various agencies in Malaysia regarding the disasters management within the scope of national and international legislation to have the strategies to reduce the risk in future (Malaysia National Security Council [MNSC], 1997).

The research finding indicates that communities tremendously need the disaster safety education. The reason including the changes of the ways of a mental and spiritual level of a person can change the everyday lifestyle. Thus, through both formal and informal education, a person gained the knowledge and be aware on the disaster risk surrounding. Without the awareness, local communities will have to face the effect of the disasters (Bhat, Anees, Geelani, Nusrat, Jan & Zargar, 2017).

Training

Training become the priority for certain matters because there are the skills need to be develop more for the specific needed. It is proven that training participated by communities affected the disaster preparation where the

previous disaster experiences and communities demographic are part of the training for disaster preparedness (Seyed, Roqieh & Ali, 2013; Mishra, Mazumdar & Suar 2009). In fact, training is related with on-the-job skills acquired for specific role on the mission. Thus, training on disaster management is a vital for the communities including agencies who are involved directly or indirectly with disaster (Masadeh, 2012).

Before a person go to the emergency management mission, they must expert the four primary skills comprising personal skills, people skills, applied knowledge skills and also workplace skills. The expert can come out with the new strategies on disaster planning and organizing by merging science, mathematics, reading, writing and technology. In addition, the professionalism and reliability is the key for the disaster management where people understand the teamwork, know how to communicate and respect each other (National Network of Business and Industry Associations, 2014). The consistency of the training program with the community needs is critical to maintain the welfare and becoming the priority emergency plans for lower strata societies. Hence, through the specific training on disaster management, people are skilled and knowledgeable for disaster relief and rescue. Rules and regulations are also affected from the training program because the legislation changes and amendment is depending on the current situation when disasters occur (Seyed, Roqieh & Ali, 2013).

Preparedness

Preparedness plans and procedures are designed to establish emergency authorities, leadership structures and community level to assign resources and define roles and responsibilities for the execution of the plans once an event triggers their use. All community level office may specify certain individuals as evacuation coordinators to in charge the information from the public (Huff, George, Jr., 2006).

To be effective, emergency management programs should be multi-disciplined, both internally and externally. It is imperative that stakeholders view emergency management as a shared responsibility. A comprehensive and strategic approach for the emergency management should address each aspect in an integrated fashion. Any organization can sustain their success by expanding, increasing and improving the performance of their people. Developing someone capabilities and skills is the excellence strategies and worth to invest for emergency management preparedness (Mustafa, 2013).

Besides that, welfare is one of the main concern for the relief effort and preparedness plans to recover their lives, property and relationships. Lacking of welfare management lead to psychological disturbance during the emergency situation whereby increasing the chaotic atmospheres which require lengthy periods of recovery (Sahilala, Sarwono, & Hanafi, 2015). Moreover, commitment is needed as it is a process of committing to a path, acting, noticing the results and then making gradual shifts in the approach until it works. The more people committed towards disaster management, the greater the momentum can be generating for them to strengthen disaster preparedness for effective response at all levels and importantly for the community level (Kirton, 2013).

In general, based on the previous studies, there are several hypotheses developed. These hypotheses are as follows:

H_1: There is positive correlation between awareness and best practices

H_2: There is positive correlation between training and best practices

H_3: There is positive correlation between preparedness and best practices

H_4: Correlation between awareness and emergency management decision is mediated by best practices

H₅: Correlation between training and emergency management decision is mediated by best practices

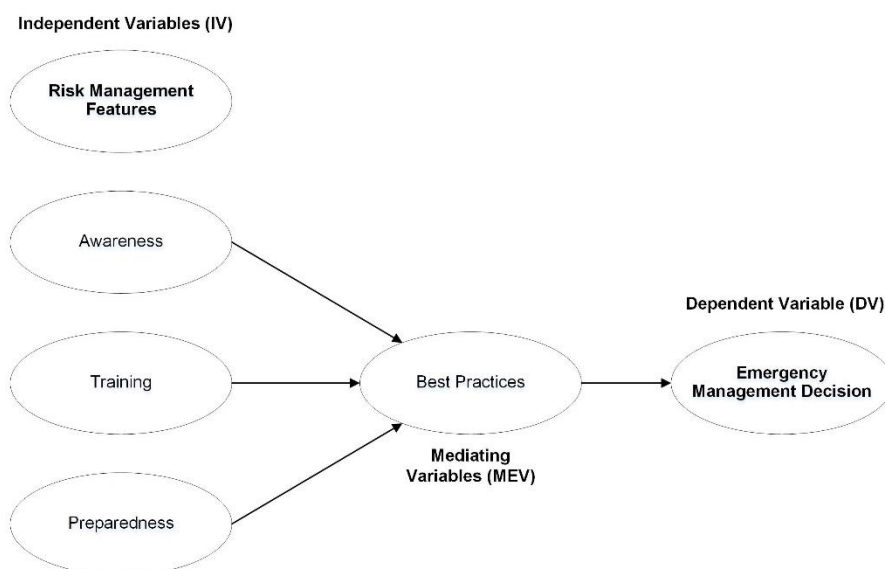H₆: Correlation between preparedness and emergency management decision is mediated by best practices

Figure 1: Theoretical framework

Methodology

A cross sectional research design is being used because it permits the researchers to integrate the awareness, training and preparedness literature and survey questionnaires as an important procedure of collecting the data for this study. According to eminent researchers, this procedure assists in minimizing the drawbacks of the single research method, thereby enabling precise, unbiased, and high-quality data to be gathered (Sekaran, 2000; Creswell, 2012). In the preliminary stage of the study, a survey questionnaire is designed with reference to literature on best practices and emergency management decision. Then, a back translation technique was employed involving the English and Malay languages, thereby increasing the result validity (Creswell, 1998; Wright, 2996; Brislin, 1970). The target population of this study is 400 respondents from the community at each level. The random sampling is used where 400 survey questionnaire was distributed to the community in Penampang, Sabah. However, only 236 useable questionnaires have been successfully collected by the researchers. The replies to the survey questions by participants are voluntary and consensual.

The Statistical Package for Social Sciences (SPSS) software is utilized in assessing the reliability and validity of instrument and in hypotheses testing are similar to the one suggested by Hair, Black, Babin and Anderson (2010). Exploratory factor analysis is utilized firstly to determine the reliability and validity of measurement scales. Secondly, descriptive statistics and Pearson correlation analysis are used to determine the collinearity problem. Lastly, stepwise regression analysis is utilized in assessing the magnitude and direction of each independent variable, and the variability of the mediating variable in the correlation involving the many independent variables and the dependent variable (Foster, Stine and Waterman, 1998) participant's characteristics are

treated as controlling variables in the regression analyses. Mediating effect is clearly recognized if the independent variables (e.g., awareness, training and preparedness) are significantly correlated with the mediating variable (best practices) and the mediating variable is significantly correlated with the dependent variable (emergency management decision) (Hair et al, 2010). Standardized coefficients (standardized beta) are utilized in all regression analyses (Wong, Hui and Law, 1995). Following suggestion by Cohen (1988), $R2$ values for endogenous latent variable are evaluated as substantial effect (0.26), moderate effect (0.13) and weak effect (0.02).

Findings and Discussion

Result indicates that the respondent age between 21 – 40 years old (64.0%) from Sabah has formed the highest group contributed in this research. Most of them are male respondent (55.9%) meanwhile the others are female respondents (44.1%). Most of the respondents also are married (61.4%) and the highest education level of the respondents are SPM (57.2%). This study indicates that the respondents from government (69.9%) sector is the highest group contributing to the findings comprising of supportive level (38.1%) followed by other (36.0%) and management (25.8%) working position where their service duration are less than 10 years. Based on the result, 66% of respondents have experience with the disaster where most of them staying near to the disaster area about less than 10 kilometre.

Measurement Model

Table 1 show that the instrument reliability and validity analyses results. The survey questionnaire consists of 53 elements involving 5 variables; awareness (11), training (11), preparedness (11), best practices (10) and emergency management decision (10). The factor analysis with direct oblimin rotation was carried out for five variables involving all the 53 elements. The Kaiser-Mayer-Olkin Test (KMO), measuring sampling adequacy is conducted for every variable with acceptable results. The statistical outcomes indicate that (1) each and every variable used surpasses the Kaiser-Mayer-Olkin Test acceptability value of 0.6, (2) each and every variable used indicates significance in Bartlett's test of sphericity, (3) each and every variable used has eigenvalues bigger than 1, (4) each and every elements for each variables used surpasses the factor loadings 0f 0.40 (Hair et al., 2010), and (5) each and every variable used surpasses the acceptable standard of 0.70 for reliability analysis (Nunally and Bernstein, 1994). Statistical result thus substantiates the instrument passing the various reliability and validity tests.

Table 1: Validity and reliability of the instrument

Measure	Item	Factor Loadings		KMO	Bartlett's Test of Sphericity	Eigenvalue	Variance Explained	Cronbach Alpha
Awareness	1 1	0.703 0.898	to	0.936	3340.919; p=0.000	8.698	79.077	0.815
Training	1 1	0.612 0.777	to	0.926	3202.323; p=0.000	8.233	74.849	0.782
Preparedness	1 1	0.729 0.855	to	0.958	3725.651; p=0.000	9.139	83.084	0.840
Emergency	1 0	0.568 0.732	to	0.954	2297.632; p=0.000	7.361	73.611	0.745
Best Practices	1 0	0.742 0.914	to	0.938	2946.461; p=0.000	7.969	79.692	0.842

Construct Analysis

Table 2 illustrates the Pearson correlation and descriptive statistics results. The variables have mean values ranging 4.13 to 4.31, showing that the degrees of the awareness, training, preparedness, emergency and best practices varying from a high of 4 to the highest level 5. The correlation involving the independent variables (of awareness, training and preparedness), the mediating variables (of best practices) and dependent variable (emergency) has a coefficient value smaller than 0.90 showing that data acquired do not have collinearity issue (Hair et al., 2010). The statistical outcomes provide additional confirmation of the constructs passing the various reliability validity tests.

Table 2: Descriptive statistics and Pearson correlation analysis

Variables	Mean	Standard Deviation	Pearson Correlation (r)			
			1	2	3	4
Awareness	4.134	0.8430	1			
Training	4.256	0.7834	.858**	1		
Preparedness	4.308	0.8067	.806**	.903**	1	
Emergency	4.319	0.6927	.804**	.846**	.843**	1
Best Practices	4.298	0.76531	.796**	.834**	.853**	.866**

Note: Correlation Value is significant at ** p <0.0 (Reliability estimations are illustrated diagonally)

In table 3, a 77.9% variance in best practices is noted when the analysis took into account awareness thereby providing significant confirmation to the general model (Cohen, 1988). Specifically, the outcomes of testing hypotheses display three key findings; firstly, awareness have positive and significant correlation with best practices (β=0.239; p<0.001), hence H1 is supported. Secondly, training has positive and significant correlation with best practices (β=0.152; p<0.001), hence H2 is supported. Then, thirdly, preparedness has positive and significant correlation with best practices (β=0.511; p<0.001), hence H3 is supported. This results demonstrates that awareness, training and preparedness are essential precursors of best practices in the community. This result demonstrates that awareness, training and preparedness are essential precursors of best practices in the community.

Table 3: The outcomes of stepwise regression analysis showing the relationship between emergency management decision and best practices

Variables	Dependent Variable (Best Practices)	
	Step 1	Step 2
Controlling variable		
Age	.017	0.35
Gender	.048	.042
Marital Status	.124	.031
Education	.081	.053
Working Sector	.166	.047

Variables		
Position	-.012	-.062
Services Duration	-.098	-.030
Community Involvement	-.229	-.030
Experience facing the disaster	-.026	.023
Distance within the disaster area	007	
Independent Variable		
Awareness		.239**
Training		.152**
Preparedness		.511**
R Square	.130	.779
Adjusted R Square	.091	.766
R Square change	.130	.649
F	3.355	60.059***
F Square change	3.355	216.878***

Note: *p<0.05, **<0.01, ***p<0.001; Beta = Standardized Beta

Extending from the hypotheses testing; 1) the relationship between best practices and awareness has a variance inflation factor value of 0.848 and 2) the relationship between best practices and training has a variance inflation factor value of 0.886 and 3) the relationship between best practices and preparedness has a variance inflation factor value of 0.898. The smaller value (<10.0), indicate there is no collinearity issue (Hair et al., 2010).

Table 4 illustrates that the addition awareness and best practices in the analysis have accounted for the 61.1% variance in the emergency management decision, indicating that it shows a substantial support for the general model (Cohen, 1988). Specifically, the outcomes of the testing hypotheses show that the relationship between awareness and best practices has a positive and significant correlation with emergency management decision (β=0.829; p<0.001), thus H4 is supported. This result demonstrate that best practices represent an essential mediating variables between awareness, training and preparedness and emergency management decision in the community studied.

Table 4: The outcomes of stepwise regression analysis showing the relationship between awareness, best practices and emergency management decision

Variables	Dependent Variable (Emergency Management Decision)		
	Step 1	Step 2	Step 3
Controlling variable			
Age	-0.29	-.023	-.037
Gender	.071	.082	.047
Marital Status	.135	.044	.021
Education	.0.36	.013	-.023
Working Sector	.147	.021	.008
Position	.001	-.032	.006
Services Duration	-.060	.012	.030
Community Involvement	-.133	.088	.101
Experience facing the disaster	-.047	.014	-.006
Distance within the disaster area	.032	.040	.031
Independent Variable			
Awareness		.829**	
Mediating Variable			
Best practices			.611**
R Square	..086	.669	.800

Adjusted R Square	.045	.652	.789
R Square change	.086	.583	.131
F	2.111	41.073***	74.135***
F Square change	2111	393.828***	145.786***

Note:　　　*p<0.05, **<0.01, ***p<0.001; Beta = Standardized Beta

Extending from the hypotheses testing: 1) the relationship between emergency management decision and awareness has a variance inflation factor value of 0.848 and; 2) the relationship between emergency management decision and best practices has a variance inflation factor value of 0.870. The smaller values (<10.0), indicate there is no collinearity issue (Hair et al., 2010).

Table 5 illustrate that the addition of training and best practices in the analysis has accounted for the 80.6% variance in emergency management decision, indicating that it shows a substantial support for the general model (Cohen, 1988). Specifically, the outcomes of the testing hypotheses show that the relationship between training and best practices has a positive and significant correlation with emergency management decision (β=0.542; p<0.001), hence H5 is supported. This result demonstrates that best practices does play an essential role as a mediating variables between training and emergency management decision in the community studied.

Extending the hypotheses testing; 1) the relationship between best practices and training has a variance inflation factor value of 0.886 and; the relationship between best practices and emergency management decision has a variance inflation factor value of 0.870. The smaller values (<10.0), indicate there is no collinearity issue (Hair et al., 2010).

Table 5: The outcomes of stepwise regression analysis showing the relationship between training, best practices and emergency management decision

Variables	Dependent Variable (Emergency Management Decision)		
	Step 1	Step 2	Step 3
Controlling variable			
Age	-0.29	-.011	-.030
Gender	.071	.037	.029
Marital Status	.135	.032	.018
Education	.0.36	.028	-.012
Working Sector	.147	.006	-.011
Position	.001	-.033	-.009
Services Duration	-.060	.000	.022
Community Involvement	-.133	.020	.065
Experience facing the disaster	-.047	.023	.000
Distance within the disaster area	.032	.006	.015
Independent Variable			
Training		.847**	.408***
Mediating Variable			
Best practices			.542***
R Square	.086	.722	.806
Adjusted R Square	.045	.708	.796
R Square change	.086	.636	.084
F	2.111	52.896***	77.382***
F Square change	2.111	512.722***	97.102***

Note: *p<0.05, **<0.01, ***p<0.001; Beta = Standardized Beta

Table 6 illustrate that the addition of preparedness and best practices in the analysis has accounted for the 79.9% variance in emergency management decision, indicating that it shows a substantial support for the general model (Cohen, 1988). Specifically, the outcomes of the testing hypotheses show that the relationship between preparedness and best practices has a positive and significant correlation with emergency management decision (β=0.611; p<0.001), hence H6 is supported. This result demonstrates that best practices does play an essential role as a mediating variables between preparedness and emergency management decision in the community studied.

Extending the hypotheses testing; 1) the relationship between best practices and preparedness has a variance inflation factor value of 0.898 and; the relationship between best practices and emergency management decision has a variance inflation factor value of 0.870. The smaller values (<10.0), indicate there is no collinearity issue (Hair et al., 2010).

The results of this study reveals that best practices play an essential role as a mediating variables in the relationship between awareness, training, preparedness and emergency management decision in Sabah community. From the results above, this indicates that awareness, training and preparedness are the best practices for the communities' emergency management decision in reducing the disaster risk. In reducing the disaster risk, it is important to have the strategies planning as mention by Huff, George & Jr. (2006). In planning the disaster risk reduction, there are three crucial risk management features such as awareness, training and preparedness associated to disaster management decision. The comprehensive training on disaster open the eyes of the communities to be aware on any risk related to the disasters. Thus, they will have much time to prepare to reduce the number of victims in future.

Table 6: The outcomes of stepwise regression analysis showing the relationship between preparedness, best practices and emergency management decision

Variables	Dependent Variable (Emergency Management Decision)		
	Step 1	Step 2	Step 3
Controlling variable			
Age	-.029	-.008	-.029
Gender	.071	.067	.044
Marital Status	.135	.057	.032
Education	.036	.003	-.023
Working Sector	.147	.052	.013
Position	.001	-.056	-.019
Services Duration	-.060	.000	.021
Community Involvement	-.133	.045	.075
Experience facing the disaster	-.047	-.016	-.019
Distance within the disaster area	.032	.042	.033
Independent Variable			
Preparedness		.844***	.398***
Mediating Variable			
Best practices			.611***
R Square	.086	.726	.799
Adjusted R Square	.045	.712	.788
R Square change	.086	.640	.073
F	2.111	53.837	73.866
F Square change	2.111	522.189	81.460

Note: *p<0.05, **<0.01, ***p<0.001; Beta = Standardized Beta

Conclusion

As the conclusion, the effective decision on the emergency management is crucial for all the stages and phases of the disaster management. During the pre-disaster phrase, community should have the plan on mitigation and preparedness. At this stages, it is the best practices for the communities to have the preparation before they encounter the disasters. It is a main concern to have the training on disaster where the knowledge on disaster make a person competent to used their skill when needed in the emergency situation. Thus, it widens the awareness to the society to concern more on the future disasters. Meanwhile, the skills and competencies of a person possessed from the training is need to be used during the disaster. The preparation on what to do and how to do is already prepared. Therefore, these competencies can be used during the recovery stage to reduce the new disaster in future.

This study is limited only on three risk management features of awareness, training and preparedness on community in Sabah. However, it is recommended for the next research to study on the other factors such as communication barriers concentrating on the whole communities in Malaysia. Besides that, this study also recommended to do mix method for future research as this study is only focusing on the quantitative research method. This is because the mix method will reveal more accurate result and the weightage of the finding is high. It is recommended to have a disaster school or subject in every college or universities where the awareness on the disaster management can be worldwide and produce more intelligent students who can protect their own country from the extreme disasters in future.

Acknowledgement

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