



Police competency in contributing to the successful implementation of an emergency response plan in football stadiums

Open
Access

Dell Akbar Kahan Hyder Khan^{1,*}, Sa'ardin Abdul Aziz¹, Shamsul Sarip¹

¹ UTM Razak School of Engineering and Advanced Technology Universiti Teknologi Malaysia, 54100 Kuala Lumpur, Malaysia

ARTICLE INFO

ABSTRACT

Article history:

Received 16 May 2017

Received in revised form 14 June 2017

Accepted 2 August 2017

Available online 4 August 2017

This study is intended to focus on the aspects of police competency in implementing Emergency Response Plan in National Stadium Bukit Jalil consequence to the current rising trend of spectator's violence. This new emerging trend has also given birth to "Ultras Malaya" which is known for their fanaticism and have often cross the boundary of safety and security. The methodology adopted is through the distribution of a set of questionnaire to 150 respondents in Cheras Police District. Questionnaire were divided into four broad categories. Except for demography, knowledge, skills and attitude were measured by using Likert Scale. Knowledge was mainly to gauge the understanding of the personnel on emergency, emergency preparedness and emergency response plan. Skills was to gauge the proficiency to undertake tasks related to emergency response in football stadiums. Attitude was to highlight the perception of the personnel towards training and drill needs, the review of the emergency response plan and the capabilities and the interoperability amongst authorities. Data was analyzed by the descriptive mode such as frequency, mean and percentage. Findings revealed a performance gap whereby majority of officers deployed at national Stadium lacked the necessary experience and exposure to handle such volatile crowd and in a closed area. Hence the understanding that RMP should be the key player in stadium safety should be revisited. The study concluded by recommending a changing face in football policing through increasing the absence of uniformed police, Stadium Management to be responsible for the safety of spectators and appointment of stewards to fill the void created by police withdrawal.

Keywords:

Emergency response plan, police competency, stadium safety, stadium stewards

Copyright © 2017 PENERBIT AKADEMIA BARU - All rights reserved

1. Introduction

This study is intended to focus on the aspects of police competency in implementing Emergency Response Plan in football stadiums. The current rising trend of spectators violence following the historic victory of the national team in the 2009 and 2011 SEA Games and in between as the

* Corresponding author.

E-mail address: [Dell Akbar Kahan Hyder Khan \(dell.aff@gmail.com\)](mailto:Dell.Aff@gmail.com)

champion of the ASEAN Football Federation (AFF) Suzuki Cup in 2010 have apparently given birth to “Ultras Malaya” the official supporting group for the national team of Malaysia which have been known for their fanaticism.

This phenomenon invariably has find its way to almost all the state and club teams taking part in the M League which is the national league and they too have their own official supporting group which are equally fanatic and at times even crossing the boundary of safety and security. Their actions have resulted in field invasion, overcrowding, scuffles in the terraces, causing damages to opposing team bus and vehicles, firing fireworks and flares, throwing of smoke bombs onto the track, and throwing of water bottles and other objects to opposing team officials, supporters and even match official.

Whilst this new emerging trend is fast becoming a scene one too often the Minister of Sports YB Khairy Jamaluddin has openly described this as “football hooliganism”. On the same note FAM Vice President Dato Affandi Hamzah mentioned that the intention of FAM to ensure safe delivery of matches will never be achieved if supporters are still stuck with the aggressive and destructive mentality which is also heading towards “football hooliganism” [2].

There is a need for FAM, host organization and other authorities especially the police to tighten up the safety and security measures by planning and preparing an emergency plan to tackle this aggressive action of the supporters which is fast becoming like “gangsters”. Football is a family game where parents bring along their children to witness matches and the way the fans are behaving in an aggressive manner is courting danger [3].

Crowds, Referees and players must be protected. Security must be beefed up. Unruly fans and team officials, regardless of their standing in society should be punished severely. This is the most common cry from many football-loving fans, whom feared that the game is being threatened by this new breed of fanatical fans.

One of the most important elements in occupational health and safety programs is to have a definite plan that deals with major emergencies. Amongst its major benefit is the possibility of identifying unrecognized hazardous situation which may escalate to emergency situation, the bringing to the attention possible deficiencies such as lack of resources be it in the form of equipment, trained personal, supplies or other equipment which can be remedied before an emergency strikes. Besides it reflects the management commitment to the safety of all involved besides promoting safety awareness [5].

A random check with some of the stadiums that are being used for the M league matches confirmed of not having any security or Emergency Response Plan (ERP). This situation is very disturbing taking into consideration some of the alarming incidents that have taken place over the last few years, which is definitely not a good sign for safety and security. Many government facilities in Malaysia does not give due consideration in developing an ERP as they are very highly dependent on the police, fire and rescue department and emergency services to respond to almost all emergency situations. As the country progressed and become more developed this request for emergency services is on the increase, and the above mentioned authorities are having their hands full thus there is a real need for each entity especially stadiums where thousands of fans gather during matches to have their own ERP.

Having an ERP will definitely help to prevent and reduce the impact if any disaster does happened especially in terms of safety and health of all the staff and those using the facilities including the surrounding communities. Failure to have such plan and thereafter respond accordingly will definitely give a very negative impact on its activities [9].

2. Materials and Method

Stadiums are at the heart of this wonderful game of football. This is where the matches are being competed and the action played out, where the success and failures are being experienced and where history is created. Comfort, safety and security of spectators, players, officials, media and staff are vital elements for top quality stadiums. As such it should be the vision of all stadium owners to develop, support, nurture and encourage good and conscientious stadium design and building as it is not only good for the sport but also for the surrounding communities where the stadiums are located.

Taking into consideration some of the several major disasters during football matches in the 1980s, Federation Internationale de Football Association (FIFA) President Joseph S. Blatter in his forward in the book *Football Stadiums – Technical Recommendations and Requirement* (2007) mentioned that FIFA time and again has very often taken up the question of safety in stadiums. Safety and security then on are the most important aspects during the planning, designing, construction and management of the stadium as they wanted to ensure that spectators would be able to enjoy watching matches in a safe environment. Crowd safety and comfort are directly connected.

Unfortunately stadiums in Malaysia used in the M League does not have such guides though the people in the corridor of power has from time to time emphasize the need for stadium safety in the light of the new trend of “hooliganism” which is very apparent in some of the stadiums. The Chairman of the Safety Committee of FAM Dato Seri Salleh Mat Rashid after chairing the committee meeting recently have voiced his concern and have instructed that stadiums should have better surveillance facilities. Dato Seri Salleh also urged FAM to be firm in enforcing penalties and review the current punishment meted out for violence offences. The police will also provide additional personnel at stadiums for matches deemed “high risk” or having high number of fans [19].

2.1 Need for an Emergency Response Plan

Like many newly developed countries, Malaysia is plagued with the problems of industries, facilities, and government departments that still do not give serious attention to the development of an efficient Emergency Response Plan (ERP). They are too dependent on the local fire department, police, and emergency services to respond to any emergency demand. Invariably the number of request to respond to the emergency cases has shown a drastic increase. Therefore, there is a need for a paradigm shift whereby every entity including stadiums and any other sports facilities to have their own ERP so that not only can they facilitate but also try to reduce the impact of the emergency on the safety of all those present [9].

A study [9] showed that training all personnel that will be involved in the emergency response process will definitely improve the state of readiness amongst them. Training will also make employees familiar with safety, building security, information security and other loss prevention programs. Ramabrahman *et al.* [13], emphasizes that conducting periodic simulation exercise such as table top, full scale mock exercise or fire drills will assist the management in identifying any insufficiency of the management response system including the response procedure and processes. There is also a need to review protective actions for life safety and conduct evacuation drills (“fire drills”) as required by local regulations.

According to Wenger and his colleagues [23] they have found that “emergency planning are seen as a product and not as a process and there is this tendency on the part of officials. Such research documents the obstacles of associating tangible products with the activities that produced them. Whilst planning requires written documentation but effective planning is also made up of elements

that are not realized in hardware and are difficult to document on paper. These include the development of managers, knowledge of the resources of governmental and private organizations, the sharpening of their conceptual skills in anticipating emergency demands and balancing these against available resources, and the establishment of linkages across organizational boundaries between emergency planners and operations personnel. To consider that tangible hardware and documentation contribute a satisfactory account of the emergency planning process is simply erroneous. Moreover, by considering written plans as an end product, one gambles initiating the misconception of being prepared for an emergency when in reality such is not the case [12].

As time passes many changes are likely to have taken place in the meantime. New hazardous facilities built and others decommissioned. Changes in zoning ordinances may have altered population densities whilst reorganization may have happened within different agencies responsible for emergency response. To summarize, the potential for changes in the nature of the hazard, the nature of the population at risk, and the staffing, organization and resources of emergency response organizations demands that emergency plans and procedures be subject to review periodically, however preferably annually.

In the present M League scenario it is most likely that emergencies will occur which makes planning as a necessity in order to avoid tragedies. Normally in emergencies circumstances the possibility of making decision under stressful situation will often leads to poor judgment that can result in multiple casualties. The process of planning more often than not will enlightened early whatever deficiencies in terms of human resource, equipment, supplies, training equipment thus allowing rectification to be done well before emergencies occur.

2.2 The Police Role

The current practice in organizing a football match under the auspices of FAM and its affiliates mainly singles out the police force as the sole agency in charge of security measures.

This is natural as it is line with The Police Act 1967 Section 3 (3) "Constitution of the Police Force" that states that the police will be responsible for:

- a. The maintenance of law and order
- b. The preservation of peace and security of the country
- c. The prevention and detection of crime
- d. Apprehension and prosecution of offenders
- e. Collection of security intelligence

Section 20 - General Duties of the Police states:

- (j) Giving assistance in the protection of life and property
- (k) Protecting public property from loss and injury

Going by the above provisions, the police has taken the responsibility of being the main authority in maintaining the safety and security of matches in stadiums ever since the introduction of the national league in the country. However, the police force have never been exposed to any form of formal training in managing crowd in stadiums and are more likely to experience problems in coping with spectators' violence. In general, venues that engage staff with insufficient training and experience, fail to deploy sufficient number of personnel, and do not equip personnel with clear regulations and channels of communication are more likely to encounter complications with spectators [11].

Robert *et al.* [14] in their study mentioned that experienced police personnel will help to mitigate or reduce spectators' frustration and aggression as opposed to personnel from private security agencies that do not receive adequate training. Deployment of personnel either trained or inexperienced may become agitated in high-stress situations and their negative attitude may have contributed to spectator violence [14]. It has also been noted that event planners must also be mindful in balancing the need for security as deterrent as opposed to strong uniformed presence, which may provoke aggression [15].

Importance of effective control center with clear chain of command can avoid communication breakdown, which will lead to chaotic atmosphere resulting in loss of lives, serious injuries and property damage like the post Super Bowl celebration in Boston (Sir Norman Chester Centre for Football Research, 2001)

Unfortunately police has failed to live up to these expectations more often than not due to other more pressing demands of their presence thus being driven to act on an ad-hoc basis. There is also a glaring communication breakdown between the police and the FA as the FIFA Stadium Safety and Security Regulation (2013), which clearly defines the responsibilities of other bodies and team are never being brought to the attention of the police and some of the new appointments being suggested are never implemented.

The good practice being implemented by all the professional clubs in UK and also by some of the European nations vide the Guide to Safety at Sports Ground since the 1997 and proven to be successful was also never shared with the police. As such the police are left clueless to handle the safety and security of the stadium, as there are no written policy or SOP to rely on.

In Malaysia, the standard practice is for the local organizing body, which is FAM for international matches, to delegate all matters pertaining to safety and security preventive measures to the police, with assistance from supporting groups such as officials from the local authorities, volunteer groups such as Pasukan Sukarelawan Rakyat (RELA) stewards designated to specific areas. Their task is to ensure a safe delivery of the matches under their charge, with the adequate number of personnel, officials and stewards made available and in charge of security throughout the match.

These key members of the security management team are conspicuous missing in the M-League structure, unlike what is being practiced in the professional league in UK, where the police force are no longer the agency in charge of security since the 1980's. In understanding the issues at hand, the Malaysian stadium board authorities, the police force and all the relevant agencies related to safety and security need to be on the same page. An integrated approach is the only way forward, with an overhaul in the system and overall structure.

As the end-users of all venues, FAM and its affiliates must take cognizance of the fact the police force are not able to provide a foolproof security measures. Therefore a security management team under the auspices of FAM at national level and State levels must be introduced immediately. The police work forces were acknowledged to be efficient in other safety, security and intelligence-related issues but in delivering an effective crowd management technique, an integrated approach similar to that practiced in the UK is the best practice.

The trend in the M-League suggests an immediate solution to coping with crowd trouble and providing effective crowd management techniques is imperative to avoid tragedies at all costs. Not only all stakeholders must produce a Standard Operating Procedure for all parties to comply, but also a crowd management plan is crucial to deliver a safe surrounding for patrons, fans, supporters, the media and the crowd at large.

A crowd management plan take into consideration deliberation of several important issues, especially evaluating the probable crowd's behavioral pattern, seating arrangements, transportation, time, parking, weather conditions, size and demographics. This is definitely beyond the capabilities

and jurisdiction of the police force who are used to be in charge of a sporting event on an ad-hoc basis. A larger group of security management team that is able to review and deliver the process is certainly the only way to move forward.

2.3 Need for Competency

Securing critical areas like stadiums which are thronged by thousands of people during football matches is a very challenging as the main objective, besides assisting the event organizer to successfully deliver the event safely is also to ensure the safety and security of everyone present. To achieve this objective personnel that are deployed need to be developed in terms of competence for them to be able to secure both efficient and safe performance. There are many definitions of competence and one of them was defined as a combination of observation and measurable skill, knowledge, performance behavior, and personal attributes that contribute to enhanced employee performance and organizational success.

According to Ken Burrage [4] the best safeguard from catastrophe is to have personnel that are reliable and efficient. As for the UK British Railway, rewards and recognition and new promotion opportunities is a form of employees' motivation, which is being developed through a competency system. There can be little if any dispute that policing football is inherently difficult, often quite stressful and a highly challenging environment within which officers must make effective decisions. Indeed ineffective decision-making can be catastrophic [18]. Therefore public order training must be updated to include the latest scientific knowledge so that officers are more competent and can make these highly demanding decisions in the most informed way possible. In fact where such knowledge is made available to senior commander there can be significant reductions on the overall levels of football related disorder [16].

Training is the primary means through which these developments in policing can and will be cascaded down into practice thus making it as the root and branch of reform in public order policing. Such reforms should be integral to police practice, research, policing and training as equal partners. In fact such an initiative has led to important development to police training within Scotland and Portugal [16, 17].

2.4 Measuring Competency

According to Verma and Gavirneni [21] the evaluation of productivity and performance of police organization as well as the individual personnel remains a contentious issue in many countries and Malaysia remains no exception. The role and responsibilities of the police in any given country is not clearly defined and the police is required to perform in a varied functions [22]. These tasks range from the maintenance of law and order, prevention and detection of crime, apprehension and prosecution of offenders are rather difficult and too many to enumerate and more importantly it is also difficult to assess. To make it more complex there is the issue of role conflict between the police personnel, politicians and the citizens as to which group is more important.

In Malaysia and some other countries, the growing feeling of insecurity and rise in violent crime are always rising the eyebrows of many and invariably questioning the competency of the police. As crime news are always newsworthy and also can act as a means of putting the government or the ruling party on the defensive, there is this common phenomena that some parties will stir the issue to portray that there is apparently no "law and order" in existence.

In most countries and is common in Malaysia the police will register criminal cases in handling disorder problems only when the crowd turns riotous and damage to property or pose threats to life.

Incidents where the police is successful in preventing a riot or any breakdown in public disorder in any sporting events or any big crowd congregation, these occasions are not recorded by the police. Therefore there is no means of the police through data or records to show or measure law and order maintenance competency of their personnel.

2.5 Method

The study design is a cross sectional survey using open ended and close ended questions that will lead to a mixed method approach. It will be directed to members of the Royal Malaysia Police from the Police District of Cheras. The District Police of Cheras was selected on the basis that the National Stadium Bukit Jalil comes under the purview of the Officer-in-Charge of Cheras Police District in terms of jurisdiction and policing.

A knowledge, skills and attitudes (KSA) approach through self-administered questionnaire with structured and open-ended questions was utilized for the purpose of this study. The questionnaire was selected on the bases of directing to personnel that have experience of maintaining the safety and security of the general public whenever the stadium is being utilized for football matches.

The questionnaire was self-administered and they were divided into four broad categories such as General information, Knowledge on emergency plan and preparedness, Attitudes about response plan and Skills on managing emergency response. The general information questionnaire is mainly focus on gender, age, years' of service, level of education and the frequency level of being on duty during football matches. The knowledge aspect was mainly to gauge the understanding of the personnel on emergency, emergency preparedness and emergency response plan. Skills are to gauge the proficiency to undertake tasks related to emergency response in football stadiums. The attitude aspect was to highlight the perception of the personnel towards training and drills need, the review of the emergency response plan and the capabilities and the interoperability amongst authorities. As has been one of the most favorable conversion scaled-responses format questions in survey design approach and following many other similar studies a five point Likert Scale approach was adopted for scoring [8,24,25].

3. Results

The findings are presented according to the three categories of competency (Knowledge, Skills, and Attitude), in which each question is analyzed and interpreted individually in order to understand the specific related issues pertaining to the perception of the police officer involved in the football stadium.

3.1 Findings on Inferential Data

This study finds several important new information, which are noteworthy. RMP as the primary player in managing security during the football matches in all stadiums in Malaysia has the obligation to assure the future of ERP is properly designed, developed and implemented. Thus the following findings may shed some lights on the important factors which need to be given extra attention.

Referring to the Table 1 and 2, and the calculated Mean and SD, it is obvious that the respondent somewhat consensus on the Knowledge Competency and there is no consensus on the Skills and Attitude Competencies

Table 1
Level of Mean Weighted Score for Knowledge

Level	Mean Score	Frequency	Percent
Low	1.00-2.33	36	24.0%
Medium	2.34-3.66	80	53.3%
High	3.67-5.00	34	22.7%
		150	100%

[N=150, Mean = 2.97 & SD = 0.85]

For the calculation of Coefficient of Variation (CV) = $S/M = 0.85/2.97 = 0.289$

The Coefficient of Variation (CV) is rather small which shows there is general consensus among the samples.

Table 2
Level of Mean Weighted Score for Skills

Level	Mean Score	Frequency	Percent
Low	1.00-2.33	57	38.0%
Medium	2.34-3.66	58	38.7%
High	3.67-5.00	35	23.3%
		150	100%

[N=150, Mean = 2.77 & SD = 1.12]

For the calculation of Coefficient of Variation (CV) = $S/M = 1.12/2.77 = 0.4$

The Coefficient of Variation (CV) is rather big which shows there is no general consensus among the samples.

Table 3
Level of Mean Weighted Score for Attitudes

Level	Mean Score	Frequency	Percent
Low	1.00-2.33	68	45.3%
Medium	2.34-3.66	49	32.7%
High	3.67-5.00	33	22.0%
		150	100%

N=150, Mean = 2.61 & SD = 1.15]

For the calculation of Coefficient of Variation (CV) = $S/M = 1.15/2.61 = 0.44$

The Coefficient of Variation (CV) is rather big which shows there is no general consensus among the samples.

Comparatively among the three variables that is Knowledge, Skills and Attitudes, the CV for Attitudes seems to have the biggest thus indicating that Attitudes has the least general consensus.

4.0 Discussion

4.1 Significant Findings about Knowledge Competency

Responses on questions about Knowledge competency in ERP showed moderate level of a mean score of 2.97 and Standard deviation (SD) score of 0.85. The coefficient of variation (CV) or uniformity scale is $0.85/2.97 = 0.286$. This indicates there is general consensus among the respondents. Overall, the respondents find their knowledge about ERP and crowd management in a stadium is inadequate.

With the rising trend of crowd violence that put the police at risk there is legitimate reasons to believe the respondents find that their situation in some of the matches is just like a disaster in waiting.

The findings in this part show are in line with the findings of previous study [6] who said that emergency management of emergency situations need the cooperative teamwork from various emergency agencies and emergency preparedness is a very critical component for mitigation efforts. Coleman (2005) said that in all emergency preparedness there is 3 phases involved namely planning, response and recovery. In all these 3 phases emergency preparedness is crucial to mitigate the loss of lives and property. Emergency responders must not only be prepared to plan what to do when an emergency happens but also be prepared what to do during an emergency and last but not least to prepare the normalization works after an emergency. Thus the lack of understanding of the stadium facilities, working with other agencies, roles during an emergency situation and having drills with other agencies will be detrimental to the situation and directly giving a very negative perspective of police competency.

4.2 Significant Findings about Skill Competency

Responses on questions about Skills Competency in ERP showed moderate level of a mean score of 2.77 and Standard deviation (SD) score of 1.12. The coefficient of variation (CV) or uniformity scale is $1.12/2.77 = 0.404$. This indicates there is no general consensus among the respondents. Also, overall, not a single question in the Skills Competency section where the respondents are in consensus. This shows that majority of the deployed police officers were unaware the importance of the skills in crowd management and ERP and due to their lack of experience. Thus, this leads to diverse of understandings about the need for sound skills to execute ERP. From this finding, it is not surprising that in some Malaysia's leagues there were matches which had to be stopped/abandoned/delayed due to the risks and the fear of exacerbation of hostile situations.

This finding shows one major problem whereby majority which is about 46% disagreed that the ability to make quick decisions during an emergency is important, and only 25.3% agreed. Such a situation is not encouraging as many will feel that making quick decision during an emergency is not important whereas quick and speedy decision may determine one's life and death and the degree of destruction on property involved. The slower the response the worse the damage caused.

Becoming police constable and having to make decisions as they patrol the streets is quite crucial. According to the Metropolitan Police UK, the public look upon the police for directions and expect them to take charge of incidents. This whole experience invariably will develop them to be more effective in discharging their duties which led them to be always regarded as being more committed, dependable, confident and responsible. The emphasis that have been place during training are the seven core skills competencies that each constable must achieved which are personal responsibility, effective communication, resilience, problem solving, customer focus, teamwork and respect for delivery.

4.3 Significant Findings about Attitude Competency

Responses on questions about Attitude Competency in ERP showed moderate level of a mean score of 2.61 and Standard deviation (SD) score of 1.15. The coefficient of variation (CV) or uniformity scale is $1.15/2.61 = 0.440$. This indicates there is no general consensus among the respondents. Also, overall, not a single question in the Attitude Competency section where the respondents are in consensus. This finding indicates that majority of the deployed police officers were divided on the importance of the role of attitude in crowd management and ERP. Such perception may develop from

their training in Police Academy in which using authority is the fundamental aspect of the police curriculum. From this finding, it is not strange when previous tragedies in stadium were caused by the failure of police officers in exercising “common sense” and “good faith” when handling frustrated fans due to their ill adequate attitudes.

This finding shows one major problem whereby majority which is about 48.7% disagreed that the ability to make quick decisions during an emergency situation is important, and only 27.3% agreed. People tend to make decisions reactively when they are being confronted with emergency situations. In such circumstances, the best decisions tend to be those that are quick, have been thought-through and rehearsed ahead of time and a good example will be a pre-prepared evacuation plan. Such being the demand it is not surprising therefore that majority of the respondents disagreed as this approach is not the norm and practice.

5. Conclusion

History has recorded many stadium tragedies that claimed lives and causing many injuries. Malaysia is no exception on this issue, although no death is reported. In recent years, crowd violence is on the increase and this often led to interruptions in several important matches (delayed, stopped and abandoned.) In general, when chaos happened in stadium, the police was the first one to be blamed and found to be less competent, less prepared and exercising excessive use of power. Successful crowd management and ERP implementation in European countries develop new understanding that despite the authority possesses by the police officers, however stadium stewards could outperform these officers in handling misdemeanors, angry crowds, tensions among fans and others similar situations. On the same note, learning from the experience of these countries, and aware about the degree of the lack of knowledge, skills and attitude among the police officers in Malaysia on crowd management and ERP, thus this study concludes that the police officers are less effective and less prepared for eventualities in stadium, lack of planning and coordinating skills in crowd management issue, and unable to provide adequate security and safety to spectators in the stadium. The same situation has led FIFA and European countries to rely on stadium stewards in managing crowd and ERP implementation.

References

- [1] Verma, Arvind, and Srinagesh Gavirneni. "Measuring police efficiency in India: an application of data envelopment analysis." *Policing: An international journal of police strategies & management* 29, no. 1 (2006): 125-145.
- [2] Berita Harian 11 February 2014, "Samseng Bola Sepak"
- [3] Berita Harian 12 February 2014, "Sikap Penonton Mengundang Bahaya"
- [4] Burrage, Ken. "Risk management in safety critical areas." *International journal of pressure vessels and piping* 61, no. 2-3 (1995): 229-256.
- [5] John J. Fruin, Causes and Prevention of Crowd Disasters, P.E. United States America. Originally presented at the First International Conference on Engineering for Crowd Safety, London, England, March, 2003.
- [6] Subramaniam, Chandrakantan, Hassan Ali, and Faridahwati Mohd Shamsudin. "Understanding the antecedents of emergency response: a proposed framework." *Disaster Prevention and Management: An International Journal* 19, no. 5 (2010): 571-581.
- [7] FIFA Stadium Safety and Security Regulations (2013): FIFA Federation Internationale de Football Association, Zurich, Switzerland.
- [8] Dolores Moreno Luzon, M. "Training and the implementation of quality programmes by a sample of small and medium-sized firms in Spain." *International Journal of Quality & Reliability Management* 10, no. 3 (1993).
- [9] Nor Azizah Chew Abdullah (2013): Emergency Response Plan (ERP) in a Manufacturing Company: A Corporate Awareness. *Journal of Global Business and Economics*. Vol 7(1)
- [10] Police Act 1967 (ACT 344) and Rules & Regulations (2002), Laws of Malaysia, International Law Book Services.
- [11] Madensen, Tamara, and John E. Eck. "Spectator violence in stadiums." (2008).

- [12] Quarantelli, Enrico L. "Social aspects of disasters and their relevance to pre-disaster planning." *Disasters* 1, no. 2 (1977): 98-107.
- [13] Ramabrahmam, Boppana V., B. Sreenivasulu, and Mangalam M. Mallikarjunan. "Model on-site emergency plan. Case study: toxic gas release from an ammonia storage terminal." *Journal of loss prevention in the process industries* 9, no. 4 (1996): 259-265.
- [14] Roberts, Julian, and Cynthia Benjamin. "Spectator violence in sports: A North American perspective." *European Journal on Criminal Policy and Research* 8, no. 2 (2000): 163-181.
- [15] Russell, Gordon W. "Sport riots: A social-psychological review." *Aggression and violent behavior* 9, no. 4 (2004): 353-378.
- [16] Stott, Clifford John T., and Geoffrey Michael Pearson. *Football'hooliganism': policing and the war on the'English disease'*. Pennant Books, 2007.
- [17] Stott, Clifford, Otto Adang, Andrew Livingstone, and Martina Schreiber. "Variability in the collective behaviour of England fans at Euro2004:'Hooliganism', public order policing and social change." *European journal of social psychology* 37, no. 1 (2007): 75-100.
- [18] Taylor, Lord Justice (1989). *The Hillsborough Stadium Disaster Interim report*, HSMO, London.
- [19] The Malay Mail, February 19, 2014: FAM bans flares, sticks in stadium during M League matches www.themalaysialonline.com/sports/article/fam-bans-flares
- [20] Taylor, Sir Peter. *The Hillsborough stadium disaster: 15 April 1989: inquiry by the Rt Hon Lord Justice Taylor: final report: presented to Parliament by the Secretary of State for the Home Department by command of Her Majesty January 1990*. HM Stationery Office, 1990.
- [21] Verma, Arvind, and Srinagesh Gavirneni. "Measuring police efficiency in India: an application of data envelopment analysis." *Policing: An international journal of police strategies & management* 29, no. 1 (2006): 125-145.
- [22] Walker, S., and Katz. C. M., (2000): *The Police in America, An Introduction*, 4th Ed., Mc Graw- Hill, Boston, MA.)
- [23] Wenger, Dennis E., Thomas F. James, and Charles E. Faupel. *Disaster beliefs and emergency planning*. Hazard Reduction and Recovery Center, College of Architecture, Texas A & M University, 1985.
- [24] Yusof, Sha'ri Mohd, and Elaine Aspinwall. "Critical success factors for total quality management implementation in small and medium enterprises." *Total Quality Management* 10, no. 4-5 (1999): 803-809.
- [25] Zhang, Yin. "Using the Internet for survey research: A case study." *Journal of the Association for Information Science and Technology* 51, no. 1 (2000): 57-68.