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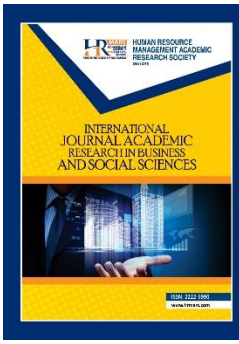
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Jabatan Pengurusan Perniagaan Dan Keusahawanan / Universiti Pendidikan Sultan Idris Malaysia

Abstract

As the world continues its voyage towards modernization it faces tremendous challenges of the 21st century. The rapid growth in the industry globally has raised concern on safety and health issues at the workplace. As a result, more occupational accidents and injuries at the workplace make headline news all over the globe. The aim of this concept paper is to develop a safety practices evaluation conceptual model, which includes diverse perspectives for evaluating the various leading and lagging indicators of safety practices in Malaysian public universities. Numerous studies have presented a range of factors for measuring safety performance across numerous disciplines, including education and facilities management. A critical review of published factors enabled the researcher to select those factors which underpinned the foundations for conceptual safety practices BSC. However, any safety practices BSC framework conceptualization process would require careful consideration of the Malaysia context, especially its cultural dimensions. This paper will discuss the Conceptual development of safety practices BSC conceptual model for Malaysian public universities identified four perspectives: (1) Safety Management and Leadership (SML); (2) Safety Learning and Training (SLT); (3) Safety Policy, Procedures, and Processes (SPPP); (4) Workforce Safety Culture (WSC). The performance of, and interrelationship among, these enablers contributed to the degree of safety performance value added to the Malaysia education environment through the safety BSC process. It is hoped that this paper can contribute significantly to the knowledge body in the area of management and administration in education and can directly provide guidance to Malaysia public universities as well as related parties especially to the MOE to strategies their Safety practices on how to ensure the improvement and effective safety performance.

Keyword: Safety Practices, Balanced Scorecard, Safety Evaluation Conceptual Model, Malaysian Public Universities and Safety Performance.

Introduction

A safe working environment is essential for employees of all ages. Without it, they are unable to focus on learning the skills needed for a successful carrier and future. When safety is part of the working environment, all employees are affected in some way. Even though all employee may not be the actual victim of safety issues in university, there is a very good chance an employee will witness safety issue acts throughout the carrier years.

Universities are often regarded as sanctuaries, protected environments where young people explore great ideas in a collegial atmosphere and make lifelong friendships. Consequently, incidents of safety on campus are particularly shocking for the extended campus community, evoking questions about whether there is any safe haven. An abundance of evidence indicates that in fact, campuses are not immune to such incidents. There are many types of campus safety issues such as including slip, trip, fall, fire, stress, depression or anxiety, assault, sexual harassment, hate and bias-related violence, stalking, rioting, disorderly conduct, musculoskeletal disorders, and even self-harm and suicide.

Along with other incidents and accidents that had been occurring on a frequent basis in different Malaysia public universities, raised government concerns. As a consequence, their attention focused on searching for appropriate methods to develop and apply safety management systems within public universities. In light of the government's awareness of the importance of safety management systems, the Ministry of Higher Education (MOHE) spent more a one million Ringgit annually on the development of safety systems in their public universities buildings (Ministry of Finance Malaysia, 2017). In addition, lessons learned from community-based prevention research point to a set of best safety practices to guide the development, implementation, and evaluation of interventions to improve campus health and safety (Ibrahim, 2017). As a result, the MOHE has introduced safety rules to regulate aspects related to universities safety and the associated risk factors (Law of Malaysia: Universities and Colleges Act, 2012). The aim of these regulations is to ensure student's safety and to decrease the rate of accidents and incidents. These regulations include several aspects, such as aid courses for academicians, laboratory safety guidelines, and student supervision. Even although there are a lot of safety practices that we follow, yet the accidents and incidents are still happening thus, empirical research on the topic is clearly warranted.

Issues of Safety Practices

In the Occupational Safety and Health Act 1994 (Act 514), universities have a duty to ensure the health, safety, and welfare of all students, lecturers, executives and other persons using the premises. The Act places a general duty on lecturers and executives to take reasonable care of their own health and safety and of any other persons who may be affected by their acts or omissions at work (Humphreys, 2007). Aiming for high standards of health and safety is the right thing to do and is not just about legal compliance. Achieving and proving excellence in the way health and safety risks are managed to have massive benefits for any educational institution. The hazard and vulnerability assessment is considered as a key aspect of the safety strategy for any organization.

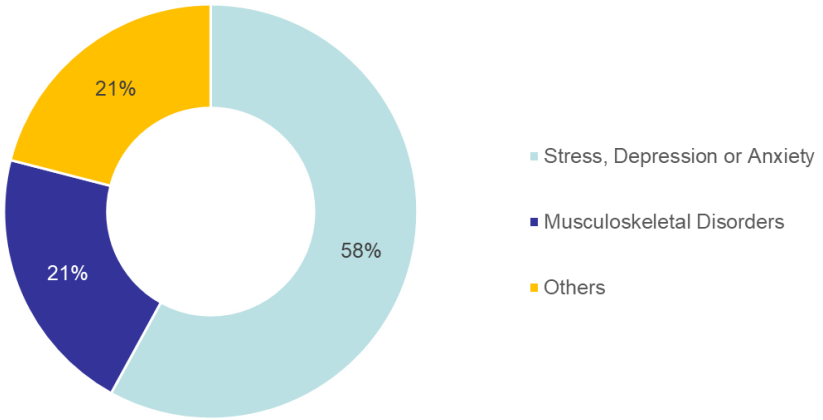

Figure 1. Workers suffering from work-related ill health in the Education sector.
(Labour Force Survey (LFS), 2017/2018)

According to the Labour Force Survey (LFS, from the Education statistics in Great Britain 2017/2018, shows that in education there were 132,000 work-related ill health cases (new or long-standing). The report shows that 58% were stress, depression or anxiety; 21% were musculoskeletal disorders. Cases of stress, depression or anxiety account for a higher proportion of ill health cases in education than in all industries (44%). The proportion of musculoskeletal disorders is lower in all industries (35%). This report provides a profile of workplace health and safety in the Education sector.

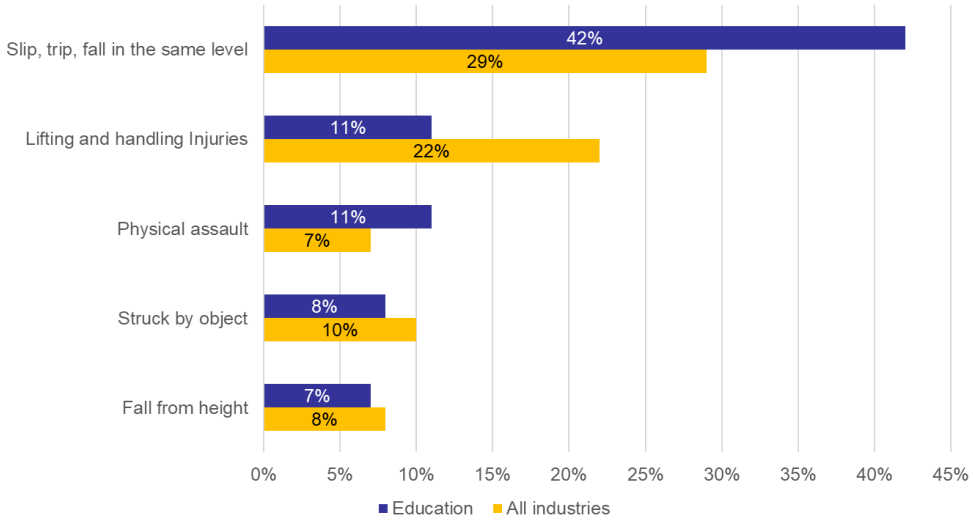

Figure 2. Non-fatal injuries in Education compared with all industries
(National Statistics, 2018).

The Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR) 2015/16 – 2017/18, shows 53,000 non-fatal injuries to education workers each year (National Statistics, 2018).

A number of accidents can be traced to unsafe behaviours. Poorly designed equipment or operations, poor systems and poor working conditions can all encourage unsafe behaviours, but these behaviours are not inevitable. An organization's attitudes and values regarding safe working are important factors that influence its approach to work and safety performance (Hassan, Che, Makhtar, Ismail, Sulaiman, Subki, Hamzah, Ismail, Khidzir, Daud, Ali, Mahamad, 2018). In other words, it is not enough to provide safe equipment, systems and procedures if the culture does not encourage a healthy and safe working environment.

Accidents rate in Higher Education Institutions (HEIs) can be decreased if lecturers and staff are exposed to issues of occupational safety and health (Iicba, 2018). This means that management plays an important role in exposing how lecturers and staff should believe and practice safety and health while they are in the campus surroundings (Dahl, 2012). Thus, the university community needs to build a culture of safety in the HEIs in order to maintain a safer work environment. This suggests that the involvement of all community is the foundation of developing a safety culture in HEIs (Misnan, Mohammed, & Dalib, 2011). Safety culture has been defined as consisting of shared values (what is important) and beliefs (how things work) to produce behavioral standards which interact with an organizations structure and control systems (Institution of Occupational Safety, 2012). Safety culture can also be explained as a combination of how people feel about safety which is about the safety climate, what they actually do and the policies and procedures that organization has implemented in the workplace (Cooper, 2000). Apart from that, one way of identifying the need to improve an organization's health and safety culture is to evaluate the current safety climate. Safety climate surveys describe an organization's culture using some factors including how much employees understand and communicate about safety and health, how committed and responsible they are in order to maintain their own health and other people's health (Institution of Occupational Safety, 2012). Support must be provided by all levels of management and employee (Walters, 2017). Through a comprehensive environment, the concept of employee engagement is the process of worker solidarity, participation, and contribution in the process of improving safety and health (Goetsch, 2010).

Students, lecturers and management must be committed to every program conducted to build more awareness of safety at work. A strong commitment from the management is very important in terms of safety and health, especially in providing basic occupational safety and health as well as in the implementation of those policies. The management must plan and carry out programs or related activities such as identifying hazards, provide safety committees, training of employees, conducting workplace inspections, investigating accidents, and supplying personal protective equipment. The implementation of these activities should be monitored, updated and improved on an ongoing basis assessment to ensure its effectiveness (Ismail, 2012).

Apart from that, management is one of the important things that need to be taken seriously in every work. The commitment of the management is needed to ensure the safety of lecturers and staff is maintained while doing some activities in the universities such as in workshops or laboratories. Safety environment will not be implemented without the cooperation of students and lecturers themselves. Their role adheres to all the regulations, the directives, and measures on health and safety management in Higher Education Institutions (HEIs) (Dessler, 1999). Besides

that, to achieve Total Safety Management (TSM) management of occupational safety and health cannot be viewed as insignificant and isolated from the total management of an organization (Kontogiannis, Leva, & Balfe, 2017).

Some studies stated that the safety culture of an organization is related to attitude, behavior, system and environmental factors that were implemented by the organization for creating and maintaining effective safety and health management system (Misnan, 2011). Brad Dhal's studies found out that the lecturer's perception regarding public universities safety was affected by many of the same factors (Dahl, 2012). Those factors include commitment, personal characteristics, contextual characteristics, processes and environmental factors. In other studies, some of the teachers report that relationships and the learning atmosphere are key factors in making university's ground safe. It is possible that lecturers who work in the same universities have different perceptions towards the universities safety due to the differences in their experiences, perspectives, ages or roles in their universities management structures (Booren, Handy, & Power, 2011).

Promoting safety in the workplace is a key component of every organization. The measurement of perception regarding safety among employees in their workplace is one method to gather information on this topic (Booren et al., 2011). Information gathered from the corresponding organization will help in gaining a better understanding of employees' perceptions, as well as improving their ability to evaluate and maintain existing initiatives and design new programs to implement a safer and a healthier environment in the workplace.

As a result, the MOHE initiated the Department of Occupational Safety and Health (DOSH) with the responsibility to create safety awareness programs in universities throughout the country to expose both students and lecturers to the related issues and concerns (Ministry of Human Resources, 2015). However, this and other safety management systems implemented have not generated the desired level of safety in universities because the regulations neither address the leading and lagging measures of safety performance nor provide methods for evaluating safety issues in Malaysian public universities.

Safety Practices for Malaysian Public Universities

Safety practices are generally written methods outlining how to perform a task with minimum risk to people, equipment, materials, environment, and processes. Safety practices and procedures in the workplace are part of federal regulations overseen by the Occupational Safety and Health Administration. Regardless of regulations, a work environment promoting safe and healthy workers improves productivity and has an impact on the bottom line, reducing downtime, workers compensation claims and improving morale. To encourage safe work practices within the workplace, employees need to know and be trained in what a safe work practice is. The foundation of this knowledge will come from the Health and Safety Statement, training and written Standard Operating Procedures (SOP's).

Designing a comprehensive SP evaluation conceptual model for Malaysia public universities requires a thorough understanding of the structure of the organization, its processes, and the

hierarchy of its people. A systematic review of reported SP evaluation literature yielded the following four constructs that encapsulate the leading and lagging indicators of SP:

- Safety Management and Leadership (SML);
- Safety Learning and Training (SLT);
- Safety Policy, Processes and Procedures (SPPP); and
- Workforce Safety Culture (WSC)

Each of these constructs must be understood, and the factors underlying them should be defined and elaborated upon. Each construct has a number of factors, and each factor has a number of measurement items. A discussion of the key factors of each construct is described in the following sections and a summary of derived framework constructs, factors and items are detailed in Table 1.

Safety Management and Leadership (SML)

In general, safety management relates to the actual practices, management roles, and functions associated with safe practice in the workplace (Mearns, Whitaker, & Flin, 2003). Management commitment to safety is very important were management plays a key role in promoting a positive safety culture (Choudhry, Fang, & Mohamed, 2007). It is demonstrated through the allocation of resources and time (Barney, 2001), by participating in risk assessments and consultative committee meetings, and by the completion of actions. As management committed to safety should take actions on safety issues and promotes a safety culture in a workplace (Choudhry et al., 2007; Mearns et al., 2003; Wadsworth & Smith, 2009). For the safety culture, management should provide adequate resources (Choudhry et al., 2007; Mearns & Håvold, 2003; OSHA, 2016). Other than that management has to participate in risk assessments, consultative committee meetings, and inspections (Choudhry et al., 2007; Mearns & Håvold, 2003). Management also encourages employees to voice concerns and safety improvement proposals for better safety practice (Rundmo & Hale, 2003).

A research team, led by Dr Sharon Newnam of the Monash Injury Research Institute, provides new insights into the way leaders communicate safety in workplaces and can be used to inform the development of tools and strategies to effectively support safety communication (Newnam, Goode, Griffin, & Foran, 2016). Safety communication is concerned with the extent to which employees perceive that the organisation provides an effective information exchange regarding safety matters (Håvold & Nesset, 2009). Management and supervisors should have an open door policy, as well as safety information is visibly present and is bought to employees' attention from their supervisors (Håvold & Nesset, 2009). Management also should provide safety information such as mission statements and accident statistics to the employee (Choudhry et al., 2007; Håvold & Nesset, 2009). Make safety information accessible to employees at all times in a language or formats that are clearly understood by all affected personnel.

Promoting management's commitment and employees' involvement or participation in safety can enhance the organisation's safety culture and climate. When employees become more aware of their responsibilities for incident and injury prevention, they will exhibit more interest in maintaining a safe and healthy work site (Choudhry et al., 2007). In, safety management, all levels

of employees are empowered to be involved in setting safety objectives, decision making, and improvement plans (Mearns & Håvold, 2003)

Management is concerned with the level of employees' trust in their supervisor, the competence of the supervisor to support safety practices, and the willingness of the supervisor to accept responsibility for mistakes (Choudhry et al., 2007; Mearns & Håvold, 2003; Wadsworth & Smith, 2009). The supervisor is more attentive to safety issues than the average employee (Mearns & Ivar Håvold, 2003). The supervisor has adequate skills and authority to tackle safety issues and can communicate safety-related information to employees (Mearns & Ivar Håvold, 2003; Wadsworth & Smith, 2009).

Management also should introduce incentives to improve safety practices (Teo, Ling, & Chong, 2005). Incentives, like management recognition and additional pay, motivate employees to work harder and follow all safety practices in an organization. Monetary incentives can include cash bonuses, stock options, profit-sharing and any other type of reward that increases an employee's compensation for employees for good safety practices. Non- monetary incentives can provide effective alternatives without compromising morale or straining operating budgets. Non-monetary incentives such as an employee of the month for employees for good safety practices. Punitive measures for continued poor safety practices such as fines and demotions (Teo et al., 2005). By providing these benefits, and management could see a more positive culture, more engaged employees, and a more loyal, productive workforce.

Safety Learning and Training (SLT)

Safety learning and training is a process that aims to provide the workforce with knowledge and skills to perform their work in a way that is safe for them and their co-workers. In addition, an effective workplace safety plan includes instructions and guidelines to identify hazards, report them, and deal with incidents (Bahn & Barratt-Pugh, 2014). Management is concerned with the development of safety training, and the allocation of resources to implement safety training and education (Ng, Cheng, & Skitmore, 2005; Ripamonti & Scarlatti, 2015). Training and development programs may range from formal coursework with competency assessment to less formal instruction and information sessions such as team meetings, short talks and workplace safety responsibilities (Department of Health Organisational Health, 2014). Training can be provided in various ways, including formal training, mentoring and on the job training. Provision of safety training for all employees so that organization should allocation resource for safety training (Ng, Cheng, & Skitmore, 2005). Training plans must be reviewed regularly to ensure that they are up to date and current. Training should be scheduled and prioritized according to the needs of the work area (Ba et al., 2017).

In order to enhance safety awareness amongst employees, promotional strategies, such as mission statements, published materials, and media, are implemented (Choudhry et al., 2007). Enhance safety awareness through clear mission statements such as slogans and logos (Choudhry et al., 2007). Safety slogans can provide catchy ways to simplify complex safety concepts and make them easy to remember. It can be used in various ways to reinforce top-of-mind safety awareness throughout the workplace, including signs, banners, posters, shirts and more. Mass

media campaigns are widely used to expose high proportions of large populations to messages through routine uses of existing media, such as television, radio, internet and newspapers (Tripodi & Persia, 2015; Zhao & Lucas, 2015).

Management is concerned with whether lessons were learned from accidents and near accidents, whether incident/accident reports were used to improve safety, and whether feedback was used to improve safety (Håvold & Nesset, 2009). Workplace safety cannot exist on best practice guidelines and policies alone. A safe working environment is based on how well the people, in both management and on the factory floor, adhere to and communicate about safety standards. The foundation of any successful workplace safety effort is one that encourages employees to identify unsafe behaviors and opportunities for improvement while also making well-informed safety decisions during daily routine tasks (Håvold & Nesset, 2009). All near misses, incidents and accidents should be reported no matter how slight they may appear. Accidents happen for a reason, it could be machine failure, unsafe work practices or poor housekeeping, but reporting these occurrences can help identify the cause and help prevent this accident reoccurring. Its help employees learn lessons from near misses and incident reports. Feedback is used to improve safety practice. (Håvold & Nesset, 2009).

Knowledge and competence are vital in all aspects of an organization to ensure that decisions and tasks are undertaken correctly and with an understanding of the consequences. Management is concerned with employees' perception and knowledge of, and competence towards, safety practices (Eraut, 1994). Employees must make themselves familiar with its contents of the organization's safety policy and understand the purpose of the Quality Management System (QMS) and know how and where to report an accident (Håvold & Nesset, 2009; OSHA, 2015). By this action, it will improve organization performance.

Safety Policy, Processes and Procedures (SPPP)

Management complies with government policies, procedures and processes to effectively evaluate safety environments and work practices and to improve the effectiveness of safety management systems (Teo et al., 2005). Safety audits and reviews are a structured process of collecting independent information on the efficiency, effectiveness, and reliability of the total Safety Management System (SMS), as well as the drawing up of plans for correction and prevention actions (Teo & Ling, 2006; Jaafar, Choong, & Mohamed, 2017; Mearns et al., 2003). A workplace inspection is a planned walkthrough of a workplace or selected areas or locations of a workplace. Inspections are needed to critically examine all factors (equipment, processes, materials, buildings, procedures) that have the potential to cause injury or illness, and to identify where action is necessary to control hazards (Håvold & Nesset, 2009; Jaafar et al., 2017; OSHA, 2014; OSHA, 2015). Be familiar with any health and safety policies, procedures, risk assessments (Benjamin, 2008; Håvold & Nesset, 2009; OSHA, 2014). An audit program is conducted regularly (Ai Lin Teo & Yean Yng Ling, 2006; Alolah, Stewart, Panuwatwanich, & Mohamed, 2014a; Lawrie, Parker, & Hudson, 2006).

Management is concerned with safety accountability an employee's feedback in an audit/accident investigation report, their satisfaction with regard to follow-up actions, and the

supervisor's interest and ability to take necessary action (Alolah et al., 2014a; Grabowski, 2007; Reiman & Rollenhagen, 2014). The results of accident investigations are fed back to the supervisory level (Alolah et al., 2014a; Lawrie et al., 2006). Employees also satisfied with the feedback given and follow-up measures were taken after accidents/incidents (Grabowski, 2007) Safety policies and procedures are considered one of the most influential factors driving organizational performance since organisational policies regarding safety have a significant influence on cultivating a positive, healthy safety culture (Clarke, 2010; Kines et al., 2010; Kontogiannis et al., 2017; Ng, Cheng, & Skitmore, 2005; Teo et al., 2005). Should develop an emergency plan specifies procedures for handling the sudden or unexpected situation and implement safety audits in the safety management system (Kontogiannis et al., 2017). Supervisor should monitor progress towards safety improvement goals based on feedback and weekly meetings (Boissières, 2011; Booren, Handy, & Power, 2011b; Lund & Aarø, 2004; Sparer, Catalano, Herrick, & Dennerlein, 2016). Other than that, safety policies or procedures can be followed without conflicting with work practices (Zhao & Lucas, 2015).

For safety operations and governance, management takes responsibility for safety equipment, tools, and other accessories (Alolah, Stewart, & Panuwatwanich, 2013; Alolah, Stewart, Panuwatwanich, & Mohamed, 2014b). So that, equipment, tools, and other accessories are maintained regularly (Ng et al., 2005). The Safety, Health and Welfare at Work Act 2005, strongly emphasises the need to provide employees with instruction, information and training necessary to ensure their health and safety. All employee must be trained in safe work practices. This may include training in the safe use of equipment, safe work practices for the fishing method (Glendon & Litherland, 2001b; Sawacha, Naoum, & Fong, 1999). The safety officer's attitude has a great influence on others' safety attitudes (Teo et al., 2005).

Management should concern with regular maintenance and reinforces positive achievements (Iicba, 2018; Kontogiannis et al., 2017; Law, Chan, 2006). General workplace safety ensures that we all have a safe place to work. Periodic inspection and correction of general safety hazards is a requirement of the workplace. The employer has developed a checklist as part of the safety practice to assist in identifying and when necessary, correcting general safety hazards (Ca & Ph, 2016). The most important aspect of all of these processes and efforts is to realistically assess potential issues and correct them in a timely manner to assure all of our safety and health and minimize our impact on the surrounding environment (Drake, Haslam, & Haslam, 2017).

Workforce Safety Culture (WSC)

A safety culture is an organisational culture that places a high level of importance on safety beliefs, values and attitudes and these are shared by the majority of people within the workplace. It can be characterised as 'the way we do things around here'. Positive safety culture can result in improved workplace health and safety and organisational performance (Cooper & Lindley, 2013; Morrow, Koves, & Barnes, 2014; Varmazyar, Mortazavi, Arghami, & Hajizadeh, 2016). Further, safety culture is important because it forms the context within which individual safety attitudes develop and persist, and safety behaviors are promoted (Ju & Rowlinson, 2014; Mearns et al., 2003).

Reporting certain incidents is a legal requirement. The report informs the enforcing authorities about deaths, injuries, occupational diseases and dangerous occurrences, so it helps to identify where and how risks arise, and whether they need to be investigated. This allows the enforcing authorities to target their work and provide advice about how to avoid work-related deaths, injuries, ill health and accidental loss. Management is concerned with the openness and effectiveness of the organization's reporting system and the employees' propensity to report accidents (Alolah et al., 2014a; Grabowski, Ayyalasomayajula, Merrick, Harrald, & Roberts, 2007; Wadsworth & Smith, 2009). An effective management reporting system helps to improve decision making (Beriha, Patnaik, & Mahapatra, 2011). Improves management effectiveness (Department of Health Organizational Health, 2014). Improves responsiveness to issues. The employee feels that the reporting system is effective and organization willing to correct mistakes (Grabowski et al., 2007).

All workers are entitled to work in environments where risks to their health and safety are properly controlled and under health and safety law the primary responsibility for this is down to employers. However, workers have a duty to take care of their own health and safety and that of others who may be affected by their actions at work. They must co-operate with employers and co-workers to help everyone meet their legal requirements. At the end of the day, it is down to the individual to implement what they have learned and to follow the procedures their employer has laid down to control risks. Management is concerned with employees' perception of the safety of the work environment, including feedback, responsibility, empowerment, and reporting (McCaughey, DelliFraine & Erwin, 2015; Glendon & Litherland, 2001b; Iicba, 2018; Kaufman et al., 2014; Zhang, Teizer, Lee, Eastman, & Venugopal, 2013). Research evidence supports the influence of personality traits on work-related safety behaviors (Chiaburu, Oh, Berry, Li, & Gardner, 2011; Toppazzini & Wiener, 2017). A high-quality work environment leads to better personal safety responsibility and employee involvement (McCaughey, DelliFraine, 2015; Newnam et al., 2016; Gerard Zwetsloot, Leka, & Kines, 2017). Maintaining a safe and healthy environment at work is a top priority for many workplaces which rely on the hard work of both employees and management (McCaughey, DelliFraine, 2015; McCaughey, Halbesleben, Savage, Simons, & McGhan, 2013; OSHA, 2016).

Management is concerned with the work situation and the effect pressure has on individuals' behaviours, attitudes, and safety practices (Alolah, Stewart, Panuwatwanich, & Mohamed, 2014b). Management must make sure that there is always enough employees and time to carry out the required work (Glendon & Litherland, 2001a). An important aspect of any quality system is to work according to clear-cut Standard Operating Procedures (SOPs) so that a workforce safety culture can be created.

Fatalism describes the belief that injuries are unavoidable and occur haphazardly or due to fate (Neff & Hoppe, 1993). It is negatively related to reporting job risk (Prati & Pietrantoni, 2012) and is positively related to self-care disorder (Egede & Ellis, 2010). The belief in fatalism has negatively influenced the acceptance of safe work practices (Levin et al., 2010). Management is concerned with the causes of accidents/incidents, and managerial and individual efforts on safety prevention. An organization belief that accidents when handling any equipment, machines or

tool are unavoidable (Håvold & Nesset, 2009; Lund & Aarø, 2004; Rundmo & Hale, 2003). Because, accidents seem inevitable despite the universities efforts to avoid them (Håvold & Nesset, 2009). Fatalistic beliefs and safety culture can predict safety situation awareness. Therefore, considering these variables can be important in promoting the awareness of the work situation among workers (Kiani, Borjali, Farhbakhsh, & Farokhi, 2013).

Table 1. Synthesis of literature supporting safety practice perspectives

Perspectives	Factors	Items	Authors
Safety Management & Leadership	Management commitment to safety	Management is committed to and concerned about safety by promoting a positive safety culture, allocating resources, time, conducting inspections and completing actions.	(T. Alolah, Stewart, Panuwatwanich, & Mohamed, 2014b; Barney, Wright, & Ketchen, 2001; R. M. . b Choudhry, Fang, & Ahmed, 2008; R. M. Choudhry, Fang, & Mohamed, 2007; Mearns, Whitaker, & Flin, 2003; Rundmo & Hale, 2003; Teo, Ling, & Chong, 2005; Wadsworth & Smith, 2009a)
	Safety communication	Management provides effective information exchange regarding safety matters through an open door policy and adequate provision of safety information.	
	Employee involvement in safety	Management commitment and employees participate in all aspects of safety management (setting safety objectives, decision making, improvement plan) enhance the organization's safety culture and climate.	
	Perceived supervisor competence	Supervisors are trusted and have the competence to support safety practices and accept responsibility for safety issues.	
	Safety practice incentives	Incentives (monetary: bonuses, recognition: safe employee for the month) are provided for employees for good safety practices and punitive measures for continued poor safety practices.	
	Safety training and seminars	Employer concern with the development of safety training materials (safety seminars and updates) and the allocation of adequate resources to implement safety training and education (emergency response, first-aid competencies).	(Ba et al., 2017; Department of Health Organisational Health, 2014; S. Thomas Ng, Cheng, & Skitmore, 2005; Thomas Ng, Pong Cheng, & Martin
	Safety promotional strategies	Safety awareness is enhanced amongst employees by implementing promotional strategies such as mission statements, published materials and electronic media on the issue of safety in the workplace.	

Safety Learning and Training	Safety learning openness	Employer concern with the level of emphasis given to how lessons were taken from incidents and accidents, whether the reports and feedback were used to improve safety.	Skitmore, 2005; Tripodi & Persia, 2015; Zahoor, Chan, Utama, & Gao, 2015; Zhao & Lucas, 2015)
	Safety knowledge and competence	Employees are knowledgeable, competence and familiar about safety practice and policy, where they understand the purpose of the Safety Management System, able to report near accidents and fulfil their safety obligations.	
		Universities students are instilled with sufficient knowledge of safety management procedures.	
Safety Policy, Processes and Procedures	Safety audits and reviews	Employer concern with the policy, procedures and processes applied to create and control the safe environment of the workplace by conducting regular safety inspections and safety audit program by employed safety officers or supervisors and competent safety auditors respectively.	(T. Alolah, Anthony Stewart, Panuwatwanich, & Mohamed, 2014a; T. S. Alolah, 2013; Booren, Handy, & Power, 2011; Ca & Ph, 2016; Clarke, 2010; Drake, Haslam, & Haslam, 2017; Glendon & Litherland, 2001; Grabowski, Ayyalasomayajula, Merrick, Harrald, & Roberts, 2007; J. I. Håvold & Nesset, 2009; Iicba, 2018; Jaafar et al., 2017; Kontogiannis, Leva, &
	Safety accountability and feedback	Employer concern with the employee's feedback after an audit/accident investigation report, where the results of accident investigations are feedback to the supervisory level and satisfaction with regard to the feedback and follow- up action after incidents/accidents have occurred.	
		Publications of safety issues and periodic maintenance of safety resources to reflect current best practices.	
	Safety policies and procedures	Safety policy and procedures consisting of adequate emergency planning and procedures, safety management system the monitoring of the supervisor towards the progress on safety improvement goals has a significant influence on the cultivating of positive health and safety culture.	
		Safety policies/procedures can be followed without conflicting with work practices.	

	Safety operations and governance	Managerial responsibility for safety equipment's to be maintained and tested regularly and sufficient training available to employees on the use of the equipment.	Balfe, 2017; Lawrie, Parker, & Hudson, 2006; Lund & Aarø, 2004; Mearns et al., 2003; S T Ng, Cheng, & Skitmore, 2005; OSHA, 2014, 2015; Reiman & Rollenhagen, 2014; Sawacha, Naoum, & Fong, 1999; Teo et al., 2005; Zhao & Lucas, 2015)
		Safety operations are conducted professionally and adequately governed by senior management.	
	Built environment maintenance	Safety is viewed as an important consideration in the design process for new School buildings/facilities and a safety checklist is regularly completed to ensure the buildings/facilities are safe to use.	
		Maintenance issues that are viewed as high safety risks are given high priority and addressed quickly.	
Workforce Safety Culture	The propensity to report accidents and incidents	Employer concern with the openness and effectiveness of the reporting system and the employee's propensity to report accidents.	(T. Alolah, Anthony Stewart, Panuwatwanich, & Mohamed, 2014b; T. Alolah, Stewart, Panuwatwanich, & Mohamed, 2014a; Cooper & Lindley, 2013; Department of Health Organisational Health, 2014; Grabowski et al., 2007; Haizam & Saudi, 2014; I. J. Håvold,
		Employees have confidence in the ability of executives to correct safety issues and concerns.	
		Students are actively encouraged to report safety issues, incidents and accidents.	
	Individual responsibility to safety	An employee generally has a personality that is conducive to good safety practices where the value is placed on strong personal responsibility and have a strong involvement in informing management of safety issues because they place a high priority on safety.	

		The high-quality work environment leads to better personal safety responsibility.	2017; Ju & Rowlinson, 2014; Levin et al., 2010; Morgan, Tyler, & Fogel, 2008; OSHA, 2016; Toppazzini & Wiener, 2017; Varmazyar, Mortazavi, Arghami, & Hajizadeh, 2016)
	Perceptions of work situation and pressure	Work procedures are presented clearly and logically to ensure employees are given sufficient time to complete the tasks/work assigned in a safe manner.	
	Fatalism	The widespread in the use of machines and technical equipment make accidents/ incidents unavoidable despite best efforts by all to avoid them.	

Benefit and Strength Safety Practice

Safety in universities is very important to a wide range of stakeholders (e.g. parents, staff and administrators, students, etc.). Furthermore, the number of accidents can be used as an indicator of the need to review or install safety systems. Several studies have identified and reported on the causes of campus accidents (Stark, Wright, Lee, & Watt, 1996) and, although the increased numbers of campus accidents have gained considerable research attention, there is still a lack of research on how to ensure the correct application of safety systems. This lack of research is more prevalent in developing countries, such as Malaysia.

In response to the existing campus safety-related issues in Malaysia, the current research developed a conceptual model for evaluating safety practice for Malaysian public universities. This study will review the possibility of applying a safety management system in public universities buildings. The study will develop a conceptual model for public universities to evaluate safety practice and test in a number of public universities in Malaysia.

This research will contribute to the existing body of knowledge by proposing this conceptual model. It is expected that the proposed safety measurement framework will be used to assess the safety not only of Malaysia public universities but also of HEIs in other countries that are looking for an effective safety measurement system. Thus, the study also examines the causes of campus accidents in a systematic and comprehensive way. Hence, one of the main outcomes of the research will be the linking of theoretical assumptions to the practical facts which, in turn, can enrich the body of knowledge in the safety literature.

A Proposed Conceptual Model for Evaluating Safety Practice for Malaysian Public Universities

The research model aims at analyzing the impact of safety practice toward the organizational performance in HEIs. In the context of this study, the researcher will use the Resource-Based View (RBV) theory as a research guide.

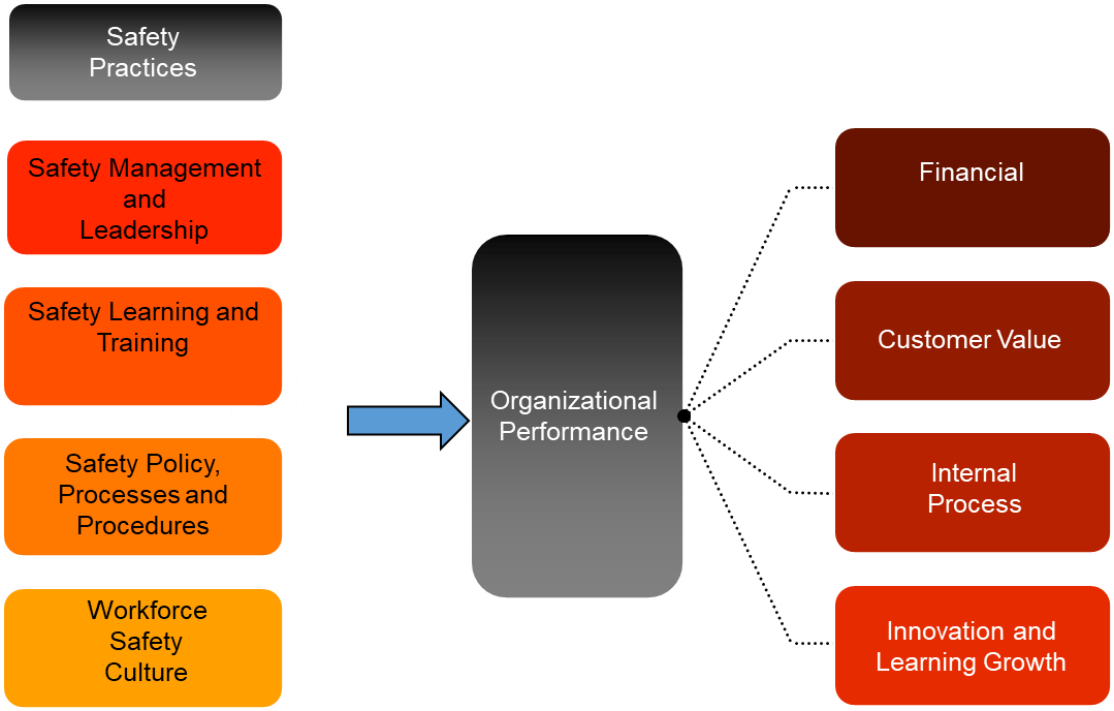

Figure 3. The Proposed Research Model

The RBV theory was introduced by Birger Wernerfelt in his article 'A Resource-Based View of the Firm' in the year 1984 as to bring into consideration the importance of resources in the firm and the management of the resources as well. The RBV emphasizes the firm's resources as the fundamental determinants of competitive advantage and performance. It adopts two assumptions in analyzing sources of competitive advantage (Barney, 1991; Peteraf & Barney, 2003). First, this model assumes that firms within an industry (or within a strategic group) may be heterogeneous with respect to the bundle of resources that they control. Second, it assumes that resource heterogeneity may persist over time because of the resources used to implement firms' strategies are not perfectly mobile across firms (i.e., some of the resources cannot be traded in factor markets and are difficult to accumulate and imitate). Resource heterogeneity (or uniqueness) is considered a necessary condition for a resource bundle to contribute to a competitive advantage. Recently, much resource-based research has focused on intangible assets, which include information, knowledge and dynamic capabilities (Bridoux, 2004; Kozlenkova, Samaha, & Palmatier, 2014a; Teece, Pisano, & Shuen, 1997).

In the context of this study, researchers use RBV to form a conceptual framework. A critical review of published factors enabled the researcher to select those factors which underpinned the foundations for a conceptual organizational performance BSC. However, any organizational performance BSC framework conceptualization process would require careful consideration of the Malaysia context, especially its cultural dimensions. Conceptual development of the organizational performance BSC framework for Malaysia public universities identified four perspectives in this research, use as independent variables, they are: (1) Safety Management & Leadership (2) Safety Learning & Training (3) Safety Policy, Procedures and Processes and the last independent variable is (4) Workforce Safety Culture. This four independent variable is derived from a systematic review dan

previous research These four factors will be tested and analyzed to identify whether these independent variables influence performance or vice versa. On the other hand, dependent variables are variables that can be influenced by other variables. In this study, the dependent variable is organizational performance. The dependent variable is derived from previous research {Formatting Citation}. In this research, dependent variables are: (1) Financial Sustainability (2) Stakeholders (3) Internal Process and the last dependent variable are (4) Innovation and Learning Growth.

Conclusion

Reviews of the relevant literature pointed out several gaps that pertain to the effect of safety practice toward organization performance. To fill the gaps, this research formulated the research framework by applying the RBV theory and other supported resources. In particular, the perspective of safety practice was linked to the perspective of organization performance as well as the balanced scorecard, which served as the outcome variable. To reflect the proposed relationship, a theoretical framework was developed.

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