



## Challenges for a Safe Workplace and Cope Up Strategy: A Case Study for Construction Industry in Sarawak, Malaysia

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### ABSTRACT

Like many other parts of the globe, in Malaysia, construction industry has a vital support to the national economy, even though statistics indicates that, at the same time, it is an extremely risky profession due to high accident rate. In addition, current evidences suggest that, in general, safety in Sarawak construction industries lack attention. As, human behavior is regarded as the principal component that contributes to accidents in this industry, this study intends to explore existing barriers in development and maintaining safety performance behavior as well as possible coping strategies. A qualitative analysis of in-depth interview (N=4) among different levels of professions within industries in Kuching, Sarawak reveals that, price sensitive subcontracting, short-term projects, irregular cash flow, dependency on larger companies, less managerial and supervisory engagement, and priority on progress alone create obstacles for safety behavior. On the other hand, possibly, the challenges can be managed through integration of safety into contracts as compliance, associated disbursement, and introducing incentives.

*Keywords:* Construction industry in Sarawak; safety performance behavior

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### BACKGROUND

Every occupation has its own inborn aspects of threat which are generally influenced by the structure of the particular organization,

communiqué, clarity in directives, safety beliefs, norms, skill and knowledge development, governance and accountability (Ismail, Doostdar, & Harun, 2012). Constant dynamics of technology and work practice repeatedly generate unique occupational risks and hazards. Even though significant responsiveness is addressed to safety initiatives at workplaces, occupational accidents affect twenty-one workers in every minute globally (O'Neill, Martinov-Bennie, & Cheung, 2013; Wahab, Rajab, Shaari, Rahman, & Saat, 2014).

### ARTICLE INFO

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e-ISSN: 2550-1623

Manuscript received: 27 Aug 2018; Accepted: 26 Sept 2018. Date of publication: 10 Dec 2018

About 88% of the preventable accidents are observed to be caused from inadequacy of safe behavior at workplace; whereas, safe working behavior apparently is capable of hindering errors from human; in so doing, the risks of occurrence of incidents is attenuated through forming safe practices of work (Cheng, Ryan, & Kelly, 2012). Moreover, safe work practice is managed by taking various initiatives like applying appropriate instruments, by formation of work organization and providing information to the workers to take steps to assess and manage risks at workplace while doing their work. Thus, the concept of safety has wider aspects than simply nonappearance of risk; establishing a safe environment is more of a cultural challenge rather than merely technical (Lugah, et al., 2010; Garlapati, Siddiqui, & Al-Shatt, 2013; SMICG, 2013).

Continuous demand of habitat, workplaces, infrastructures, and other establishments lead to further growth of construction market as a significant contributor of national economy everywhere, and so does in Malaysia (Awad, Souki, & Jabbour, 2016). During the period of 1991-2010, on an average, the construction sector supports the nation with 4.09 % share of Malaysian Gross Domestic Product (GDP), while, the industry grows with the rate of 4.74 % as well as absorbing 8.56 % of workforce into employment. (Khan, Liew, & Ghazali, 2014; Khan, Ghazali, & Isha, 2014).

However, in construction industry, the feature of the task, ambient of the work process and frequent encounter with hazardous equipment, situations or materials straightforwardly affect the wellbeing of the workforce. Hence, construction industry is still observed as an occupational area which is

unsafe with highly elevated rate of accidents, even though being the most leading industry worldwide (Mohammed & Ishak, 2013; Shen, Tuuli, Xia, Koh, & Rowlinson, 2015). Besides, the extensive involvement of equipment and temporary workforce at work, obstruction raised from simultaneous multi-traded works at the same place as well as inadequacy of coordination heighten the frequency of occupational injury and fatalities. Moreover, as a concurrence there is social affliction, downfall in work efficiency, loss of time and resources from shifting of work schedule and additional activities like investigations (Senouci, Al-Abbadi, & Eldin, 2015; Seo, Lee, Kim, & Jee, 2015).

## **PROBLEM STATEMENT**

In recent years, there is a continuous increase in attention on road communications, development of infrastructures and that expands the overall construction activities in State of Sarawak; in particular, after stepping ahead with projects like Petronas LNG Complex in Bintulu and initiatives of upgrading of the Pan Borneo Highway (CIDB, 2016). Moreover, substantial ventures like Baleh hydroelectric power project and Kuching Centralized Wastewater Management System Package 2 likely leads to further expansion in construction related services, employments, equipment and machinery (Star-online, 2015).

On the other hand, during the period of 2013 to 2016, as of the statistics of fatal occupational injuries, the highest incidence of work-related fatal injuries occurred in Sarawak, Johor, and Selangor, due to the rapid expansion in the construction industry in these states. Taking in consideration of fatal injuries in all

job-related sectors over the mentioned period, the highest number of death cases are counted in Sarawak (151 cases, 18.08%), followed by the numbers in Johor and Selangor. The number of fatal injuries for state of Sarawak is raised from 34 in 2013 to 39 in 2014, finally becoming 42 in 2016 (Ayob, Shaari, Zaki, & Munaaim, 2018). On the other hand, during the period September, 2015 to October, 2016, Sarawak is categorized with the most frequent construction accidents followed by Pulau Pinang and Johor; whereby the state counts 27% of the all construction accidents happened during that time (Williams, Hamid, & Misnan, 2017).

According to Department of Occupational Safety and Health (DOSH), national accident and fatality rates heightening in last few years. The accident rate (per 1,000 workers) is 2.81 in 2015, while raised to 2.93 in 2017. On the other hand, the fatality rate (per 100,000 workers) in 2015 is 4.21 and turned to 4.90 in 2017 (DOSH, 2018). Besides, according to Master Builders Association Malaysia (MBAM), the fatality rate for only in construction industries, in 2014, the fatality rate is 7.26 and it rises to 10.74 in 2015. Later, for 2016 it goes further up to 12.78 and in 2017 it turns to 14.94. Additionally, out of 650 fatalities in all industries, the construction industry tolls 187, suggesting that within a year, and excluding Sundays as a day off, this industry causes 1.2 fatalities every two days (Borneo post, 2018).

Unsafe work procedure, unsafe work environments, noncompliance are observed by DOSH in Sarawak construction sites. In 2013, two-thirds of large projects (RM20 million and above) are found to have breached compliance on safety regulations.

Overall, accepting level of safety initiatives is still much lower in Sarawak Construction Industry (Borneo Post, 2013). In 2018, unsafe working remains as one of the critical issues affecting the construction industry in Sarawak and needs to be dealt with urgently in reducing industrial accident (Star Online, 2018). It depicts that concerningly low extent of safe behavior lingers in Sarawak Construction Industry and safety in construction industry for this state demands further attention.

## RESEARCH OBJECTIVE

Considering the problem statement, the study is guided by the following research objectives, for the construction industries in Sarawak:

1. To explore the challenges for exhibiting safety behavior among worker
2. To explore cope up strategy with the challenges

## METHODOLOGY

This study is a case study by nature as case studies it enables a thorough understanding of research context as well as the endorsed processes. Inductive research approach is selected for this study in “gaining an understanding of the meanings humans attach to events” through qualitative data (Saunders, Lewis, & Thornhill, 2009, p. 127). In addition, cross sectional observation is made through in depth face to face and one to one interview to gain more insight and open participation over sensitive phenomena like safety (Zikmund, Babin, Carr, & Griffin, 2009; Saunders, Lewis, & Thornhill, 2009).

**Table 1: Informant and interview particular**

Informants	Interview date	Interview Duration in rounded minute	Place	Gender	Position	Educational Qualification	Work Experience in years
Informant 1	27.01.2017	51	Simpang Jaya, Kuching	Male	Safety consultant	Post graduate	10
Informant 2	13.02. 2017	36	Sarawak Museum Project site	Male	Site safety supervisor	Graduate	5
Informant 3	13.02. 2017	50	Sarawak Museum Project site	Male	Work supervisor	Trade certification	3
Informant 4	01.03.2017	55	JKR Southern Region Office	Male	Project manager	Post graduate	13
Average time		48					

Factors like time demands, economic constraint, worker turnover, industry insights and numerous worksite conditions often limit workers' participation from different sizes of firms. Considering this, purposive sampling is selected and researcher approaches on those whom are considered to have and intend to share the information needed (Kumar, 2005; Hair, Money, & Samouel, 2007; Chen, Alderman, McCabe, & Hyatt, 2015). Besides, the number of respondent is 4, as in qualitative study is dependent on subjective judgment and number of acceptable informant can be as low as 1 to 2 (Barbour, 2000; Fugarda & Potts, 2015).

For this study to constitute credibility, trustworthy, dependability, conformability, transferability initiatives like taking data from different layers of work force, members check, data display, detail presentation of data in rich description, maintain audit trail and compare congruity with other studies are taken (Merriam, 2002; Morrow, 2005; Miles,

Huberman, & Saldaña, 2014). Moreover, in linking the pieces of findings with exiting knowledge, the open system theory is applied as theoretical lens (Stewart & Klein, 2016).

#### DATA COLLECTION AND ANALYSIS

As of previous discussion, 4 interviews (each from safety consultant, safety supervisor, project managers and work supervisor) are conducted, single session, in depth and one to one manner, during the period of 27.01.2017 to 01.03.2017. The average time of the interviews are 48 minutes. The interview data is collected by the researcher in the form audio-taped interviews, which are later transcribed for use in data (Maykut & Morehouse, 2005). The information and particular of interview and informant are exhibited above in Table 1.

**Table 2: Summary table**

Area on focus	Present scenario and challenges	Cope up strategy
Organization	<p>Safety inspection varies with practice stronger in bigger organization</p> <p>Safety Awareness stronger in larger organization</p> <p>Safety consideration is less in smaller organization</p> <p>Safety attended by smaller company from profit perspective</p> <p>Safety mostly seen as legal requirement rather work function</p> <p>absence of active safety committee in many enterprises</p> <p>Safety committee exists only in documents</p> <p>Resources for safety get lesser with the company size</p> <p>Safety meeting regularity decreases with company size</p> <p>Smaller enterprises take low initiative to know more on safety</p> <p>Smaller enterprises have less knowhow on safety</p> <p>Some company face financial constraint to implement safety</p> <p>Small company takes safety initiative reluctantly to keep businesses permit valid</p>	<p>Small company needs to give more priority to safety</p> <p>Start learning from basic safety practice housekeeping</p> <p>Understand that unsafe condition costs too</p>
Business trend	<p>Irregular cash flow in project execution</p> <p>Clients requirement and budget control regulate extent of safety adoption</p> <p>In some contract Inadequate budget allotment for safety</p>	<p>Higher incentive to be integrated with contract</p> <p>Require to accommodate additional cost for safety</p> <p>To impose penalty for unsafe act for public works</p>
Business trend	<p>Contracts exclude consideration of safety at subcontractors level</p> <p>Overall insufficient initiative to maintain safety at construction</p> <p>Less priority on private projects than public</p>	<p>Requires to follow "no compromise to safety "</p> <p>client to accept that safety needs resources</p>
Legislation and enforcement	<p>Presently public works undergo safety assessment</p> <p>Green card is mandatory for workers now</p> <p>Presently safety engagement at the threshold of compliance</p>	<p>Safety to be more emphasized in public contract</p> <p>More enforcement from DOSH is necessary</p> <p>Require strict directive for managers' learning</p> <p>Requires more campaign on safety</p> <p>Need to place understanding and establishment before enforcement</p>

**Table2: Summary table (Cont.)**

Area on focus	Present scenario and challenges	Cope up strategy
Organizational leadership characteristics	Safety responsibility unclear to production team	There is need for explanation rather than only instruction
	Perceiving safety as not of production concern	Line managers need to prioritize safety
	Production first, even as unsafe	Needs to provide more safety information to subordinate
	Less knowledge sharing from lower tier leader	Requires to establish "safe workability" as a KPI (Key point index) for performance
	Neither train nor counsel to correct	Needs to make safety meeting more productive
	Inhibited actions from production leaders	Requires to acknowledge 'safety is for all'
	Ignoring unsafe situation to report	
	Perceive that safety is safety teams' issue only	
	Safety personnel are serious about safety mostly in organization	
	Supervisors monitor work progress, but not safety adaption	
Employee element	Mostly temporary workers with no care to safety	In cases needs a common language for better learning
	Reluctant to learn new but safe methods	Supervisors requires to act as role model for safety
	Perceive safe working process slow down work	Better to start a project with common understanding on safety
	Wearing PPE at inspection only	
	Less conscious at group level than individual level	
	Organizations are less proactive than individual	
	More ignorance in most foreign workers than local	
	Inferior safety culture in most foreign workers	
	PPE is sometimes found uncomfortable for work	
	Working safe only while watched	
	Poor participation in safety committee	
	Reluctance in following safety instruction	
	Working safe only there is a penalty	
Foreign labor cost is low		

## Data Analysis

The qualitative analysis is sequenced as data condensation, data display, and drawing conclusion (Miles, Huberman, & Saldaña, 2014). Moreover, the data collection and analysis process is interactive; consequently, vital themes, patterns and connections emerge from the process of data collection and analysis (Saunders et al., 2009). At beginning, data is transcribed from audio recording into condensed and simplified text that focused on the main concept generated by the informant data. Later, the transcribed data is coded in two stages, first cycle coding and second cycle coding (Saldaña, 2009; Miles, Huberman, & Saldaña, 2014). As of Saldaña (2009) and Miles et. al. (2014), during first cycle coding, holistic coding is followed to gain a general sense of the overall contents and possible categories. On the other hand, pattern coding is adopted in second cycle code method as they drag together a lot of matter from first cycle coding into additional important and practical units of analysis. In assigning primary coding to the transcribed data for 4 interviews, this study creates 111 holistic codes over the whole data set, later 111 holistic codes are grouped under 7 themes. After summarizing the data is exhibited on Table 2.

## Findings on challenges in exhibiting safe behavior

In relation with the challenges for safety behavior among workers, regarding organizations, all four informants unanimously agree that smaller enterprises have less attention in safety and they have financial limitations in implementing safety measures. Informant 1 explains that, even though there are directives for forming safety committee, many

smaller enterprises do not have one. Even if they have, it is not an active one. Moreover, smaller enterprises are not only having little knowledge on safety knowhow, they have fewer options to enhance it. Conversely, larger enterprises carry out safety meetings regularly. Informant 1 and 2 agree that larger enterprises have more resources for safety engagement. In addition, informant 1 and 4 indicate that gravity of safety inspection varies in enterprises. They add, some enterprises take safety as merely extra legal requirements, and some take safety as norm.

In relation to the present business trend in construction sectors, informant 4 perceives that there are insufficient initiatives on safety as a whole within the industry. Informant 1 explains that most construction works are project based wherein cash return is neither regular nor steady. In addition to that, the extent of safety consideration is largely dependent on the contract between client and contractors. Larger contracts incorporate safety in detail, while at subcontract level it does not have the reflection. Sometimes little money is allocated as of contract clauses to implement safety properly. Informant 3 acknowledges that private contracts outline safety with less detail than government.

From the point of present legislation, informant 1 states that green card training is compulsory for the workers, however, the organization level safety is conformed to the threshold mostly. Besides, informant 4 explains that for government contracts, a safety assessment is conducted and eligibility checks are carried out while there are no directives for the private ones.

In stating present challenges on leadership characteristics in construction industry, informant 2 and 3 indicate that production supervisors have little knowledge on safety at work; besides, they are more interested in progress of work regardless being safe or unsafe. In addition, informant 1 points out that the production supervisors do not acknowledge safety as a part of their role component. On the other hand, the experienced managers share safety knowledge; however, there is little formal training or consultation intervention. Informant 3 also indicates that interaction between production supervisors and workers on safety is not spontaneous. Moreover, they think safety is solely an event of the safety department; even if any situation arises, they do not even communicate with safety personnel on regular basis. However, informant 1 finds most of the safety personnel frequently instructs the employee.

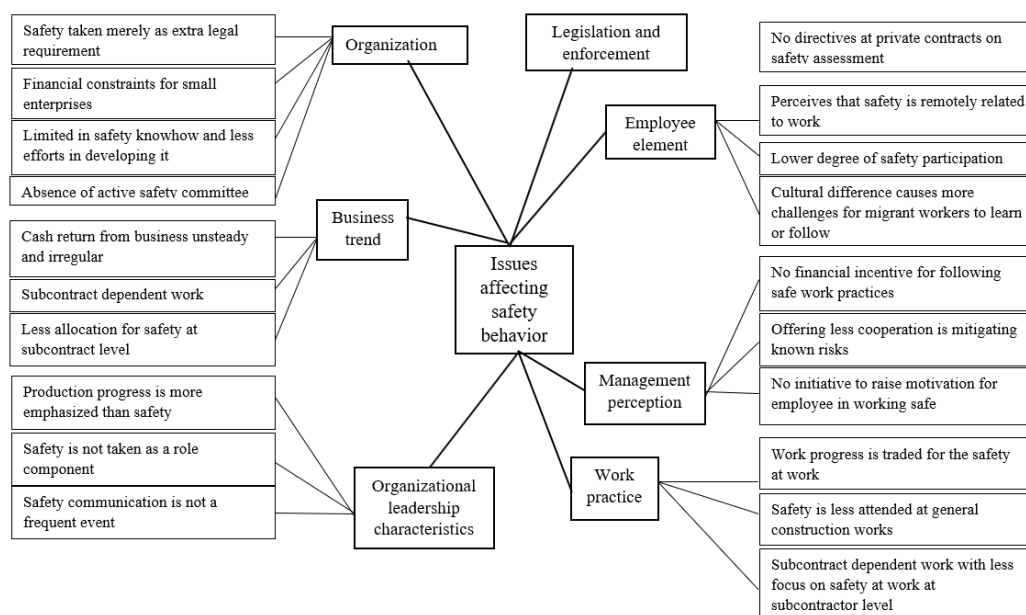
From the aspects of present employee attributes, informant 1 notes that generally at personal level, employees are more cautious on safety requirements. In addition, informant 1 and 4 find some employees are less open to accept new and safer procedures of work. And, informant 3 specifies that younger workers are eager to learn new things, while senior workers decline to accept new work procedures. In this regard, informant 4 adds that industry accommodates more migrant workers due to price competitiveness. Moreover, informant 1 explains that cultural differences make barriers in adopting safety; foreign workers are less frequent in following safety instructions than local workers due to less education and practice.

Furthermore, according to both informant 1 and 4, difference in language hurdles the understanding the instructions for foreign workers. Due to harsh weather at work, both informant 1 and 3 agree that the workers wear safety shoes more often than hard top hats. Informant 3 notes that workers conceive that safety is less related to work, while informant 1, 2 and 3 agree that workers follow safety instructions like wearing PPE to avoid negative administrative consequences. Additionally, informant 3 observes reluctance in safety participation among the workers, even though an instruction is conveyed, it is not always complied.

About the present management perceptions, all 4 informants unanimously agree that there are no financial incentives in practice as recognition of efforts to work safe. In addition, informant 4 observes that safety management differs by size of the enterprises and short span project are difficult to establish safety management. Moreover, there are barriers in gaining cooperation from management in order to minimize identified risks. While, informant 1 and 3 observes that managers in the smaller organizations put more effort than supervisors who are more concerned with work progress, whereas informant 1 adds that second generation owners are more aware of safety that organizations than the first generation owners. Some contractors are found to spend much for unsafe works than investing in safety development. Informant 3 affirms lack of motivation from management to employee for promoting safe work place.

Regarding the work practice, informant 4 highlights that the construction works are project based mostly and generally short





**Figure 1: Present challenges in exhibiting safe behavior**

termed, while informant 1 and 2 adds that there is a tendency of save time in project. Moreover, informant 4 states that in general contracts are taken by the larger enterprises and executed by smaller enterprises as subcontracts. Thus, smaller enterprises are largely dependent on the subcontracts; while, a contract is divided into subcontracts there is not much allocation for safety interventions. Informant 2 agrees on that, and adds that there is often shortage of PPE at subcontractor level. Besides, both informant 2 and 3 state that safety matters is less seriously taken at subcontractor level. And, informant 1 finds that smaller enterprises deploy fewer resources to meet the compliances. Generally, in construction projects safety initiatives are not adequately attended, while both informant 1 and 4 agree that critical projects have more safety considerations. Thus, as of informant 3, with executing smaller projects limits understanding on safety. In addition,

informant 4 points that breach of safety heightens while the work process is complex and time.

As of the previous discussion, the key elements are depicted on the Figure 1. what explains the present challenges safety behavior at the construction industries in Sarawak. As of the Figure 1, business trend, organizational structures, work practice, management perception, labor force attributes, supervisory capability and extent of legislative enforcement, as explored, altogether contribute to the present situation of safety enactment at the industry.

### **Cope up strategy with challenges**

In relation with cope up strategy, at organizational level, informant 3 considers that smaller company requires attending safety with more priority, while they can start

building safety practices from effective but low cost initiatives like housekeeping. Informant 4 suggests that, smaller enterprises require assessing the overall cost of being unsafe.

As a corrective measure, in the business areas, informant 1 advises to involve incentives and punishment for the organizations according to the level of conforming safety in executing work. He also suggests that safety initiatives require resources and clients and organizations need to accept this. Both informant 1 and 4 urges that industry supposed to emphasize working safely at first before giving priority to time and profit.

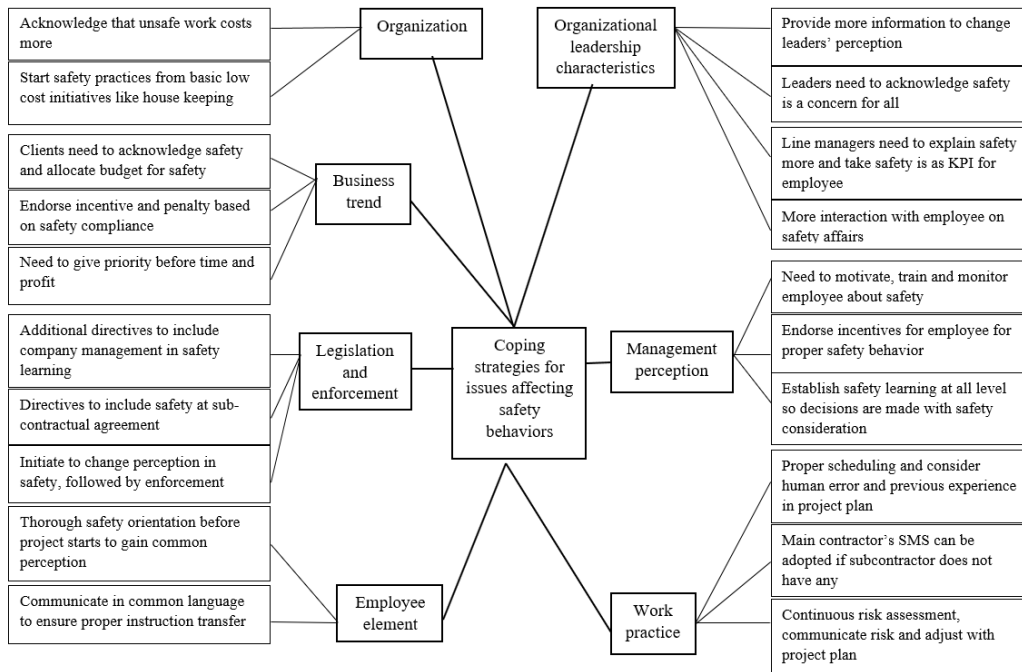
From the perspective of legislation, informant 1 feels that the government agencies can integrate safety more elaborately as contract terms, while, regulating agencies can come with additional directives to involve senior management of contractor side in involving knowledge enhance process. Informant 1 and 2 agrees on further enforcement from regulatory agencies in private sectors. In addition, informant 1 and 4 feels the necessity of further campaign in safety awareness from regulatory and social agencies. And, informant 4 emphasizes there would be more effectiveness if understanding and establishment of safety perception comes before enforcement.

As suggestive opinion, on the leadership perspective at construction enterprises, informant 3 feels that in order to change perception, more information are to be provided to the employee. At sites there is to be periodic meeting for more interactions on safety. Moreover, everyone needs to acknowledge that safety is a concern for all. Informant 2 suggests line managers to give more

emphasis on safety. Informant 1 suggests safety supervisors to explain rationale of safety along with instructions.

Both the informants 2 and 4 feel to include safety as an index in individual performance appraisal system for the organization. With a view to develop employee actions, informant 3 suggests leaders to act as an example to the employee. Informant 4 suggests for an effective orientation when a project is started, thus, workers more likely to work with similar perceptions. And informant 1 proposes use of commonly understandable language in order to minimize the instruction ambiguity among foreign workers. Besides, in relation with management perception, all 4 informants unanimously suggest to some forms of reward system for employee in conjunction to maintain safe work practice. Informants 2, 3 and 4 place recommendation for thorough orientation training before project starts.

As corrective suggestion in the area of work practice, informant 3 suggests to consider safety from the planning stage of the project. Informant 4 adds that in planning the project scopes of human error is to be considered in this labor intensive industry. In addition, previously done similar projects might help in assessing safety requirements, while, additional adjustments can be done to project cost and required material if new safety issue arises. During execution subcontractors can follow the safety management systems of the main contractor if they do not have any. Informant 2 and 4 both agree that efficient scheduling of project might reduce the excessive work pressure at the end phase of project. Informant 1 advises that there is to be continuous exploration of risks along with practice of communicating it to mitigate.



**Figure 2: Coping strategy to mitigate issues**

**DISCUSSION**

The larger enterprises are observed to have circumstances like limited independency for safety officers in establishing safety, incompleteness in safety terms in preparing contracts at subcontract level, flaws in project level, inconsistent project scheduling leading to hinder both monitoring and learning, as well as creating excessive work pressure; hence safety behavioral factors are challenged at worksites. On the other hand, smaller organizations are found to be constrained in resources and initiatives for safety implementation. Business trends like dependency on subcontracts, highly labored intensive and critical work, short-term projects, private clients, sustainability on price competitiveness and irregular cash return leads

smaller firms to execute work at minimum in investments.

Consequently, in smaller firms, projects are executed using minimum workforce, higher work pressure and with the least consideration on safety. Besides, factors like work pressure, intensive work practice, temporary work force, low priority on management and safety engagement are observed to have established a culture wherein incorporation of safety in work is inadequate from supervisory level to worker level. Eventually, the scopes of safety learning are narrowed (narrowed further where migrant workers are involved) to little to no safety monitoring and in the long run there will be less safety participation and safety compliance at individual and group level.

For managing unsafe work practice in Sarawak construction industry, Figure 2 illustrates suggestive strategies that are discussed earlier. The clients, within or out of the industry, are suggested to consider safety as an integral part of work; eventually, safety clauses are imposed against associated work in the contracts. Within the scopes for the particular contract, there will be dedicated allocation for safety interventions along with provisions of incentives and penalties based on the safe work ability of the contractor during the project. In addition, directives followed by enforcements from the safety govern bodies and intensive campaign for safety during construction are likely to create further awareness on safety among clients and contractors. At the same time, if the contractors integrate safety within their system of work, there is possible higher safety engagement from management and more safety preparedness for the contracted work. Additional involvement from management level in safety intervention may lead development in safety management system, increase learning on safety for all levels, as motivation to adopt safety and overall safety monitoring. Thus, safety learning among and within levels and appreciation of safe work possibly result change in employee perception and work practice for safe work. The continuation of safe practice of work yields safer project execution and lessons learned from the projects potentially gives input to future project planning.

**Empirical congruence of findings:** The finding from the study is found coexisting with observations from other studies conducted in similar contexts. Smaller construction firms, as viewed by Kidd, Parshall and Wojcik (2004), are enormously influenced

by regional economic situations especially high competition, low profitability continuously rising operational overheads. That leads smaller firms to perceive that anything that is not straightforwardly associated with particular task they perform just causes delays in work and hampers productivity. Therefore, safety interventions are acknowledged as extravagant rather than an essential. Again, Conchie, Moon and Duncan (2013) indicate that under skilled workforce, subcontractors' poor attitude to safety, language barrier in multi-ethnicity work ambient obstructs implementation of safety in construction industry. Moreover, Gervais (2005) observes construction industry as an industry powered by workforce that is widely varied in skills, fragmented and highly transient in nature, while Bust, Gibb and Pink, (2008) acknowledge the nature of construction business as subcontractors and migrant labor dependent.

Additionally, in the construction industry, Adnan, Hashim, Yusuwan and Ahmad (2012) observe inattention in terms of late and short imbursements, insufficient and indistinct disclosure of significant terms in contract, inadequate supervision and inadequate safety morale at subcontractors' level. Later, Conchie et al. (2013) finds that incomplete and inconsistent planning, adverse weather, delay or wrongful delivery schedule lead to delay in project; these delays eventually lead supervisors to involve in work progress rather than safe work.

Moreover, other than contractors, the clients and the technical consultants are also held accountable for the deficits at construction project implementation. In addition, as direct and indirect factors affect safety level in

construction, Rozenfeld, Sacks, Rosenfeld and Baum (2010) included type of safety training at site, firms' safety culture, application of safety equipment, site condition, weather, work experience of individual and work pressure. In relation with multi ethnicity construction work environment, both and Zin and Ismail (2012) and Wong and Lee (2016) indicate that migrant workers from less safety conscious culture are found to exhibit less safety conscious behavior.

On the other hand, Carayon et al., (2015), asserted that to structure more effectual and incorporated interventions in dealing with continual workplace safety challenges, it is necessary to acknowledge factors associated with environment organization and work system that contribute to workplace safety. In the study of Saifullah and Ismail (2012), legal and moral responsibility from the client end is emphasized in tender process rather than focusing on tender cost. Another study by Ismail, Baharuddina, Hashima and Ismail (2012) proposes for induction training before the project starts while Mansfield and Odeh (1991) extended the suggestion to communicating objective to every level, introducing monetary incentives for safe work ability and feeding back project experience to new project planning.

**Findings explained by open system theory:**

As open system, human organizations consist of recurrent cycle of import, transformation and export, according to Katz and Kahn (1978), act as a subsystem of larger society. Besides this genotype function (the external function with environment) organizations have internal transactions (second order function) in terms of throughput and maintenance input to the human personnel inside.

Both the primary and secondary activities are intended for shaping of objects rather than people. The greatest challenge of production structure is the appropriate handling of maintenance input. As mechanization is the governing code of economic organization, human element tends to adapted to this standard. Moreover, generally, the members are permeated by the economic orientation of the organization.

Katz and Kahn (1978) extends, for the profit making organizations, competition for economic market rather than conflict of interest is the basic economic method for securing favorable returns from the environment. In addition, these profit making organizations are differentiated by the principle of immediate accountability of operational cost and efficiency. Thus, managers tend to emphasize on short-termed return by disregarding staffing, training or improvement however, and long termed development and thoughtfulness of far-off objectives are hurdled. Again, due to the proficiency dynamics, economic organizations function more advantageously if they can control raw materials sources, produce in extensive capacity and if they can plan without market barrier from weaker opponents.

Pfeffer and Salancik (1978) recapitulate the benefits of size as larger organizations hold more power and influence over their environments. They are more able to defend against immediate pressures for change and gain additional time to be aware of environmental threats and acclimatize them. However, large organizations are criticized as taking advantage of their size and resulting power to exploit others; rule bound, cheap labor, desecrating the environment, and interrupting

the continuity of stable communities (Scott, 2003).

In addition, Scott (2003) indicates, organizations are viewed as interdependent with environments in a number of senses. Participants' perceptions of their environments together with the attention structures of organizations result in enacted environments that are products of both environmental features and organizational information systems. Environments directly affect organizational outcomes, which in turn affect subsequent perceptions and decisions. Environments influence organizations, but organizations also modify and select their environments. And environments supply the materials and ingredients of which organizations are composed (Scott, 2003).

As a whole, Scott (2003) assumes that organizations are purposefully associated to the environments through institutional and material-resource characteristics. The institutional facade takes in the representative and cultural factors influencing organization while, material-resource factors emphasize on production systems in transforming inputs into outputs; requirement of resource and energy imports and markets for product and service. Institutions are encompassed of cultural-cognitive, normative, and regulative factors what elements, that along with related activities and resources, grant stability and significance to social life. In other words, in any fully structured institutional system, cognitive, normative and regulative element exists in with a view to interact to develop and maintain orderly behavior (Scott, 2003).

Regarding to the institutional basis of material-resource environments, Scott (2003)

asserts that every organization function in institutional environments. Moreover, material-resource environments and systems are developed on institutional reinforcements. Again, technologies are fashioned by social intentions and concerns. In general, market platforms, wherein, all the exchange processes occur are constructed socially and are rooted into complex of institutional norms and practices. Thus, organizations also shape environments and equally, environments outline organizations. However, organizations partially decide which environments to go into and to leave; individually and in alliance with others; organizations tend to influence the contexts within which they function (Scott, 2003).

#### **IMPLICATION OF THE STUDY**

From a realistic viewpoint, the findings of this study have focused on numerous important implications in the construction industry particularly in Kuching. Consequently, it contributes to the national context that is currently stepping forward in its occupational safety and health strategies into a preventative practice. As an emerging country, the level of safety and health in Malaysia is still at the end of enforcement of regulating agency regulations. The current study supports that the factors associated with organizational leadership and climate influence employee safety performance, in addition, the study also explores that external factors like general business practice, overall work group characteristics, customer perception, are also connected to employee safety behavior.

## CONCLUSION

Issues that hinder the safety performance behavior expands from management perception, leadership characteristics, employee factors, organizational structure of individual organization to larger external environmental aspects; business trend, legislation and enforcement, industrial practice. Price sensitive subcontracting, short termed project, irregular cash flow, and dependency on larger companies direct smaller companies to deploy minimum attention, effort and resources in safety. Consequently, there is less managerial and supervisory engagement on employee safety participation and compliance. In addition, priority on progress creates obstacles in scopes of learning and following.

In coping up with the challenges, integrating safety into contracts as compliance, associated disbursement, as well as incentives and punishment are likely to create more awareness at both client and the contractor ends; which is strengthened by legislative directives and campaigns. As safety is becoming an integral part of work, additional management and supervisor's engagement are secured in shaping employee safety behavior. Thus, safety leadership characteristics are reinforced and safety climate is developed, eventually safety performance behavior is upgraded for the individual, groups, organization and industry.

## ACKNOWLEDGEMENT

This paper is a part of the research supported by Malaysian Ministry of Higher Education through Commonwealth Scholarship and Fellowship Plan.

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