

## SAFETY CULTURE INDEX FOR CONSTRUCTION INDUSTRY

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REVIEW | Construction sector is one of the key sectors that contribute to the country's economic growth. According to research conducted by Misnan MS et. al in 2007, this sector has a hazardous work environment because of its unique structure compared to other sectors. Most of the activities in the construction sector are outdoor activities and there is a dynamic change of work locations and a mix of workers comprising various countries and cultures. The research also found that the lack of safety culture in the construction sector contributes to the number of accidents in the sector.

The steady increase in the fatality rate and occupational accident case in construction sector in the country in the last few years is creating a question mark even though a lot of technological advancement was innovated to improve the level of safety practice, easy access of the information for safety practice improvement and enforcement by the enforcement body. The latest figure released by the Department of Occupational Safety and Health (DOSH) stated that construction sector was recorded as the highest sector in fatality cases at workplace. The statistic also recorded that construction sector is the third sector which recorded the highest number of occupational accidents behind the agriculture, forestry and fisheries sector and manufacturing sector.

Safety culture has been introduced when The International Atomic Energy Agency's has produced the initial report following the Chernobyl disaster in 1986 where the term 'safety culture' has made its first appearance (IAEA, 1986). Also known as the Chernobyl accident, it happened on 26<sup>th</sup> April 1986 at the Chernobyl Nuclear Power Plant in a light water graphite moderated reactor that became a catastrophic nuclear accident. Following of the Chernobyl disaster, inquires on major accidents has been made and highlight on the accountabilities toward organization structures and safety management system that is not putting the safety culture in place (HSE, 2005).

Several definitions of safety culture proposed by different scholar can be summarized as table below:

Scholar	Definition
Turner, 1989	A set of attitudes, beliefs, or norms
Cox & Cox, 1991	Safety culture is the shared attitudes, beliefs, and perceptions of employees on safety-related issues and values.
International Nuclear Safety Advisory Group, 1991	A safety culture is when organization members consider work safety a priority.
Pidgeon, 1992	Safety culture is a collection of beliefs, norms, attitudes, roles, and social and technical practices combined to reduce exposure of members, managers, customers and others to danger or injury or threat.
Waring, 1992	Safety culture as a cultural aspect of safety
Ostrom, Wilhelmsen, & Laplan, 1993	Safety culture refers to the beliefs or attitudes of the organization, which are characterized by actions, policies and procedures. Process, affecting its safety performance.
Geller, 1994	In an organization with a comprehensive safety culture, each member regards safety as their responsibility and implements it in daily work life.
Berends, 1996	Safety culture refers to the collective mental model of organizational members' tendency towards safety (Collective mental programming).
Lee, 1996	Safety culture refers to individuals or individuals who determine the effectiveness of an organization's health and safety management system. Group values, attitudes, perceptions, abilities, and behavior patterns.
Glendon & Stanton, 2000	Safety culture refers to the safety attitudes, safety values, safety beliefs, Safety regulations and safety practices

Even though there are a lot of research regarding safety culture has been conducted, the tool for measuring safety culture in quantitative way was rarely detected in previous research (Lei Wang & Ruishan et al, 2009). The similar measurement tool that can be applied towards this research in the safety culture measurement tool kit and its evaluation index system was developed by Lei Wang and Ruishan Sun et al., 2009 on their project named HILAS (Human Integration into Lifecycle of Aviation System, AIP4-CT-2005-516181). On HILAS project, they proposed Integrated Safety Culture Model (ISCM) by integrating the entire dimension in Intrinsic Latency Level and Extrinsic Indication Level. Intrinsic Safety Level consists all dimension of safety philosophy (safety values, safety consciousness and safety attitudes), meanwhile Extrinsic Indication Level consists all dimensions of safety environment and safety behavior (organizational safety commitment, safety organization, safety regulations and rules, safety operation behavior, safety information exchange, safety education and training, safety management behavior and safety rewards & punishment)

This model can be used as the basis of research and could have a different angle on measuring of safety culture for construction industry in Malaysian. The safety culture index need to be determined before proposing a suitable and specific health and safety programs that is suitable for every phase of construction. Moreover, the developed index can be used as an effective tool to evaluate the expected safety performance of any construction project in Malaysia. The tool also can be used as a basis for future research related to safety culture in construction sector.

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*This article is the result of author reviews based on his experiences and observations from related sources.*

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