

EFFECTIVENESS OF SAFETY PROGRAMS IN MALAYSIAN
CONSTRUCTION INDUSTRY

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Specially Dedicated To

Beloved Mother

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Thank You and God Bless

ABSTRACT

Construction accident rate in Malaysia had increased tremendously. This research was to investigate proactive indicator in construction industry and to propose improvement of implementation of the safety programs. Comprehensive literature review has been carried out to gather the information on the essential safety programs and the proactive safety performance indicator in construction industry. This was followed by a structure questionnaire, distributed to the selected project team player, as a main tool to gain data to explore the level of effectiveness and implementation of safety programs and the proactive safety performance indicator in Malaysian construction industry. The data collected has been analysed by using Relative Index technique. Twenty one (21) essential safety programs and thirty nine (39) sub element proactive safety performance indicators were identified. From the research, the site safety performance is very much influenced by the implemented safety programs such as implementation of safety inspection and safety induction.

ABSTRAK

Kadar kemalangan di dalam sector pembinaan di Malaysia telah meningkat dengan ketara. Kajian ini bertujuan untuk mengkaji penanda aras keselamatan proaktif dan mencadangkan kaedah untuk memperbaiki pelaksanaan program-program keselamatan di tapak pembinaan. Kajian yang menyeluruh telah dijalankan untuk mengumpul maklumat mengenai program-program keselamatan yang penting dan penanda aras prestasi keselamatan yang proaktif dalam industri pembinaan. Ini diikuti dengan borang soal selidik yang telah diedarkan kepada ahli projek yang dipilih, sebagai sumber utama untuk mendapatkan data bagi mengenalpasti tahap keberkesanan dan pelaksanaan program-program keselamatan dan penanda aras prestasi keselamatan yang proaktif dalam industri pembinaan Malaysia. Data yang dikumpul telah dianalisis dengan menggunakan teknik Indeks Relatif. Dua puluh satu (21) program-program keselamatan yang penting dan tiga puluh sembilan (39) sub unsur penanda aras prestasi keselamatan proaktif telah dikenal pasti. Dari kajian yang dijalankan, prestasi keselamatan tapak pembinaan sangat dipengaruhi oleh program-program keselamatan yang telah dilaksanakan seperti pelaksanaan program pemeriksaan ke tapak pembinaan dan induktion keselamatan.

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CHAPTER 1

INTRODUCTION

1.1 Background of Study

The construction industry in undeniably plays a fundamental role in the development of Malaysian economic. This industry establishes buildings and infrastructure works required for social economic development which contribute to the overall economic growth. Department of Statistics, Malaysia Economic Report 2012/2013 reported that in year 2012, the construction sector expanded strongly by 18.9% in the first half of the year and expected to sustain growth in the year of 2013.

The construction sector is set for solid growth triggered by the Economic Transformation Program (ETP) and various project under the Tenth Malaysia Plan (2011-2015). High profile ETP projects include the Klang Valley Mass Rapid Transit system, Light Rail Transit extensions, Petronas RAPID complex, Kuala Lumpur River of Life, Bandar Malaysia, Iskandar development region and Sarawak Corridor of Renewable Energy (SCORE).

The major projects increase lead to the more involvement of labours and professional in their respective fields. Malaysia construction industry is still highly depending on human workforce especially foreign labour instead of advance construction method. The majority of the construction workers in Klang Valley are from Bangladesh, Indonesia, Thailand, Philippines and Myanmar. The behaviour of these workers is influenced by the culture of their home country, which mainly agriculture based, causing difficulty for the construction industry to maintain high safety standards.

The impact of sudden arrival of workforce into the construction sites has somewhat had an adverse impact on the well-being of workers as evidenced by poor safety records at construction sites. Accident rate in Malaysia had increased tremendously and it grew hand-in-hand with the number of the projects. According to Department of Occupational Safety and Health (DOSH, 2012), the number of death in construction sector show an increase of 51 cases in 2011 as compared to 67 cases in 2012 which is the highest for the occupational accident by category of death.

In order to reduce the unacceptable statistics of accidents and injuries in Malaysia construction industry, the government had come out with the safety measures through the implementation of the Occupational, Safety and Health Act 1994, with the aim to prevent the occupational injuries. The adaptation of ISO 16000 and 8000, shows the effect of the authorities to enhance the safety program. In addition, launching of Master Plan for Occupational Safety and Health in Construction Industry 2005-2010, with the objectives to reduce injury rates, work related ill-health and consequent days lost from work in the industry, wherein the implementation of safety programmes was promoted. Yet, the accident occurrence rate in the construction industry still remains at intolerable levels.

Findley et al.(2004) states that the development and implementation, of an effective safety programme can reduce site accidents. An effective safety program can substantially reduce accidents because it can help the management to build up

safer means of operations and create safe working environments for the workers (Rowlinson, 2003). However, it is indeterminate as to which policies are the most effective programs in achieving improved safety performance. The question of how to successfully put written safety programs into actual actions has gained considerable attention in the contemporary workplace.

In response to the scenario, the study was conducted with construction projects in Klang Vallet and aimed to study the construction safety programs elements in order to enhance safety performance. The results of the study will provide the management with practical guidelines for implementing safety programs more effectively as well as to increase the effectiveness of the current system.

1.2 Problem Statement

Statistics around the globe had shown an immense propotion of the occupational facilities in the construction industry. Being one of the major contributors to the total employment, the construction industry has long since been considered as a hazardous occupation due to the high incidence of occupational accidents, and most importantly, fatal injuries.

The rapid growth of the construction industries and increased accidents has brought about increased threat to occupational safety and health, and as such there have been a number of injuries and fatal in recent years. The number of fatalities encounteres in the construction industry is alarming. The number of industrial accidents reported to the Social Security Organization (SOCSO) has declined by 9.5 percent from 2007 to 2012. SOCSO had received 38657 reports on industrial accidents in 2007 and in 2012, the number had reduced to 34974 cases as shown in figure 1.1.

The industrial accidents for every 1,000 workers have declined from 7.09 in 2007 to 5.39 in 2012 as shown in figure 1.2. However, if this rate is compare to the developed nation such as Sweden, Japan, South Korea and European countries, there is still big task ahead to get the right figure. According to Social Security Oragnisation (SOCSSO,2013), the current fatality rate in the developed countries like Japan, France and the USA is below three (3) per 1000 workers and Malaysia which is striving to achieve developed nation status by 2020 should strive to achieve the target reducing fatalities to at least three (3) per 1000 workers.

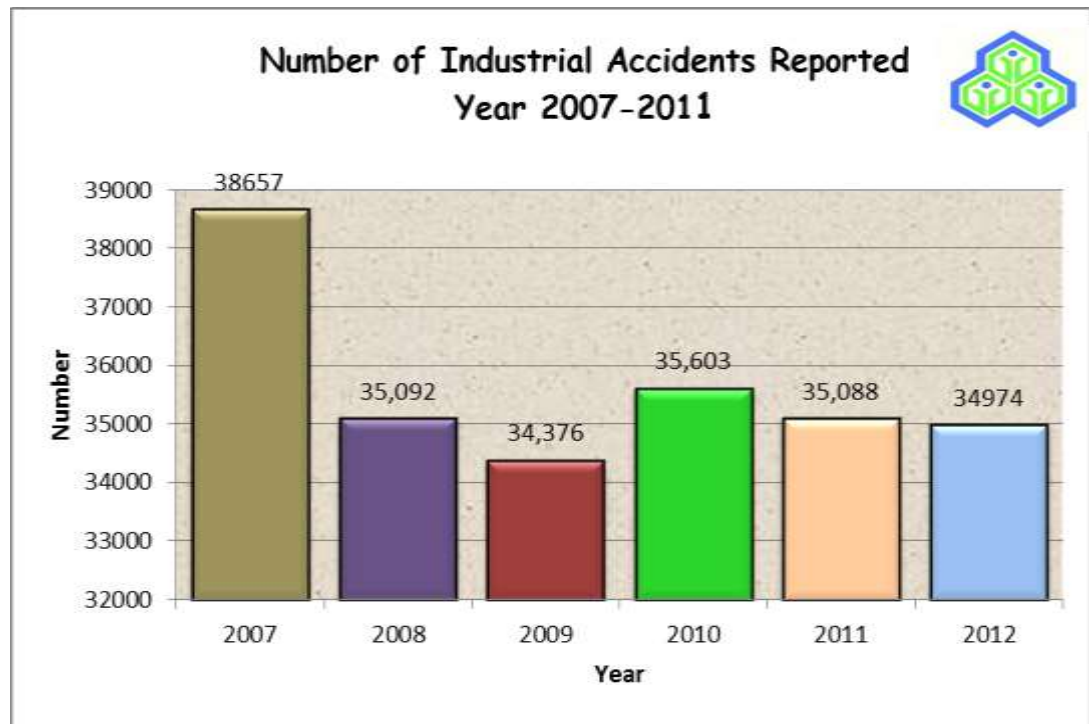


Figure 1.1: Number of Industrial Reported Year 2007-2012
(Source: SOCSSO, 2013)

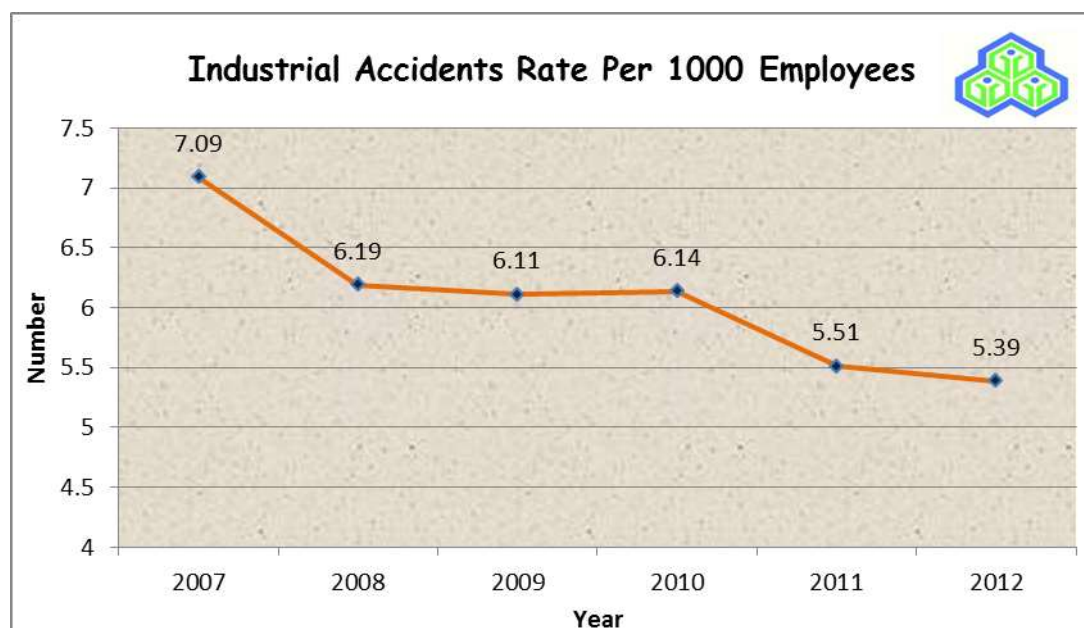


Figure 1.2: Industrial Accidents Rate Per 1000 Employees
(Source: SOCSO, 2013)

The number of construction accidents nonetheless has decrease by 29 percent cases in 2007 to 367 cases in 2012. However, statistics show an increase in the number of accidents of 51 cases in 2011 as compared to 67 cases in 2012. Even though there was a decrease in the number of accidents, from 2007 until 2011, construction industry has always on top in the occupational accident by category of death as shown in figure 1.3. The 67 death cases from construction industry for the year 2012 showing how hazardous the construction site was.

Figure 1.3 which is extracted from SOCSO Annual Report shows the number of cases of accidents and fatalitites respectively from 2007-2012. It is to be noted that SOCSO's figures only cover those workers subscribing to SOCSO. The actual figures are much higher if those not subscribing to SOCSO are taken into account. It is generally believed that many cases of accidents and fatalities of foreign workers in the industry are reported to the authorities and hence in the SOCSO's figures are the accident statistics of Malaysian workers only.

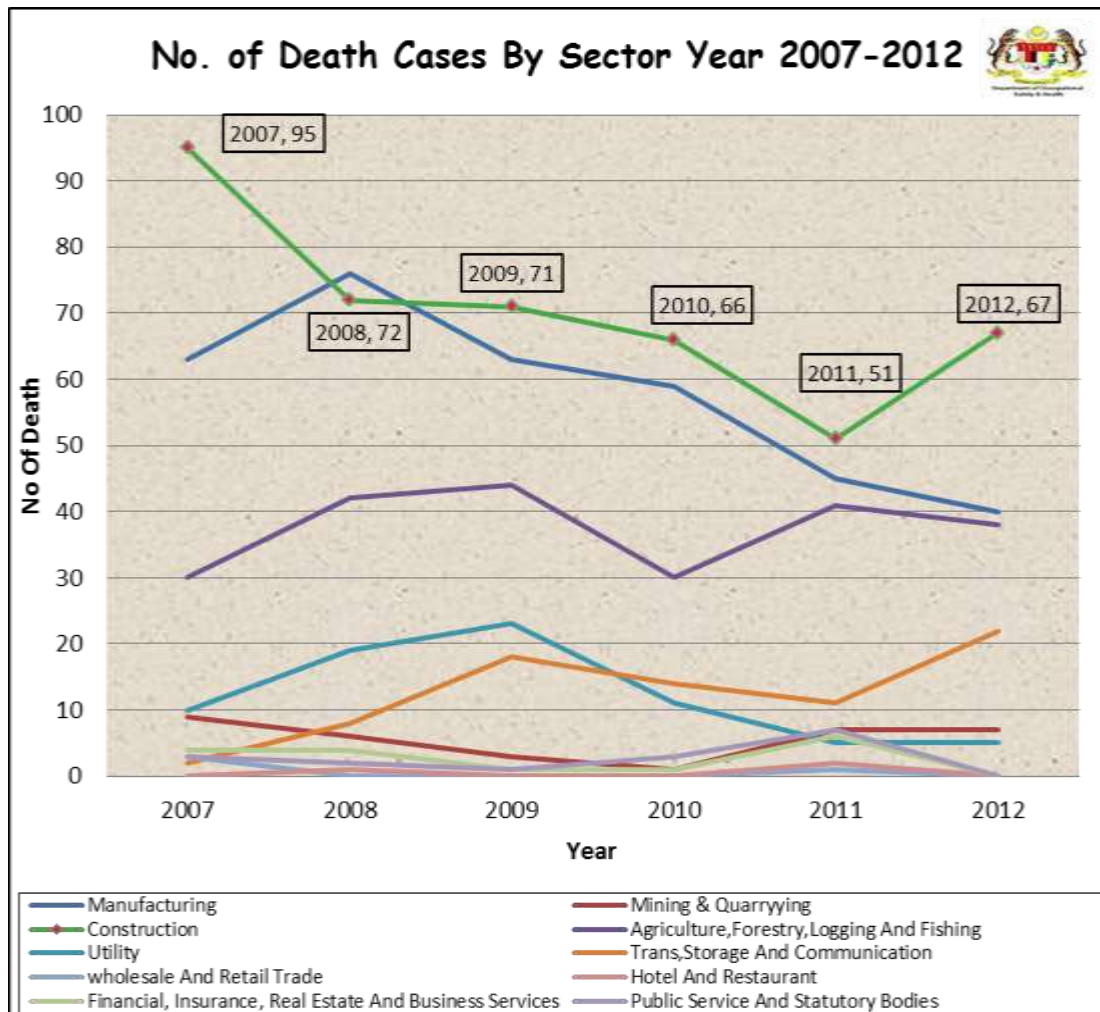


Figure 1.3: No of Death by Sector Year 2007-2012
(Source: DOSH, 2013)

In Malaysia, there are three basic legislation Acts that govern the Occupational Health and Safety of works in the construction industry, namely :

- i. The Occupational Safety and Health Act 1994 (Act 514) (OSHA)
- ii. The Factories & Machinerics Act 1967 (Act 139) (FAMA)
- iii. The Construction Industry Development Act 1994 (Act 520) (CIDB)

The primary aim of this legislation Acts is to promote safety and health awareness and to promote safety and health culture among all Malaysian workforces.

The government had launched the Master Plan for Occupational Safety and Health in Construction Industry 2005-2010 and Construction Industry Master Plan 2006-2015 (CIMP) initiated by the Construction Industry Development Board (CIDB) Malaysia with the main objective to reduce the rates of workplace injuries and associated fatalities. In addition, the government, through DOSH has launched a series of program in managing health and safety issues in construction site, as a guideline for construction industry player to manage safety and health issue at construction site.

Despite regulation, legislation and programmes in Occupational Safety and Health, high rates of injury and fatality persist in Malaysian construction industry. Even if the guideline does exist, to what extent does the guideline by implementation on site, how far do the workers is following it?

The construction industry has to some extent become phlegmatic sombre. The stigma of the construction industry as Dirty, Difficult and Dangerous (3D) has to be eliminated as this will jeopardise the industry image.

Therefore, a comprehensive review of effectiveness of Safety Programs in the Malaysian Construction Industry is essential towards improvement of safety performance.

1.3 Aim and Objective of the Study

The aim of this study is to study construction safety programs elements in order to enhance safety performance. To achieve this, several objectives are summarized as follows :

- i. To evaluate the level of implementation and effectiveness of safety programs in construction industry.
- ii. To investigate the proactive safety performance indicator in construction industry.
- iii. To propose improvement of implementation of the safety programs.

1.4 Scope and Limitation

This study was conducted to seek outlined objectives based on responses from construction companies which are currently working on several projects in Kuala Lumpur and Selangor. As such, this study is limited and only focused in Klang Valley.

The selected construction companies in Klang Valley, namely of Grade 7 classifications in managing their safety management in their construction project. The list of Grade 7 contractors are obtained from the resources of Construction Development Board of Malaysia (CIDB).

The targeted respondents are classified into two groups, namely project managers and safety representatives such as safety manager, safety officers, and safety supervisor.

1.5 Significance of the Study

The working population is a valuable asset to our nation therefore we cannot afford to have many accidents in the construction industry which will jeopardize our valued human resources. A lot of people will be affected directly or indirectly once the accident takes place. The families of the victims will suffer the loss of their loved ones and source of income. The employer will suffer the loss of an experienced worker and be forced to absorb the incidental cost due to the interrupted project activities, increased insurance premiums and medical expenditure.

Therefore, completion of this study perhaps will provide the management with practical guidelines for implementing safety programmes more effectively and to increase the effectiveness of the current system by identifying safety programmes that are to be effective in reducing accidents.

1.6 Methodology

The methodology is a framework in describing the way a study is carried out. The summary of the overall study aim, objectives and adopted methodologies to achieve the objectives in this study is as shown in Table 1.1.

Table 1.1: Summary of the overall study aim, objectives and adopted methodologies

<u>Aim:</u> To Study Construction Safety Program Elements in Order to Enhance Safety Performance		
OBJECTIVES	TASKS	METHODOLOGY
i. To evaluate the level of implementation and effectiveness of safety programs in the construction industry	<ul style="list-style-type: none"> • Review history of construction safety programs • Study the level of implementation and effectiveness of safety programs in Malaysian construction industry 	<ul style="list-style-type: none"> • Literature search • Interview with expert panel • Questionnaire survey
ii. To investigate the proactive safety performance indicator in construction industry	<ul style="list-style-type: none"> • Review of proactive safety performance indicator in construction industry 	<ul style="list-style-type: none"> • Literature search • Interview with expert panel • Questionnaire survey
iii. To propose improvement of implementation of the safety programs	<ul style="list-style-type: none"> • Developed a new template of improvement of implementation of safety programs 	<ul style="list-style-type: none"> • Literature search • Interview with expert panel
	<ul style="list-style-type: none"> • Result analysis and dissemination 	

This study will be carried out in three phases to execute the difference tasks as shown in Figure 1.4 :

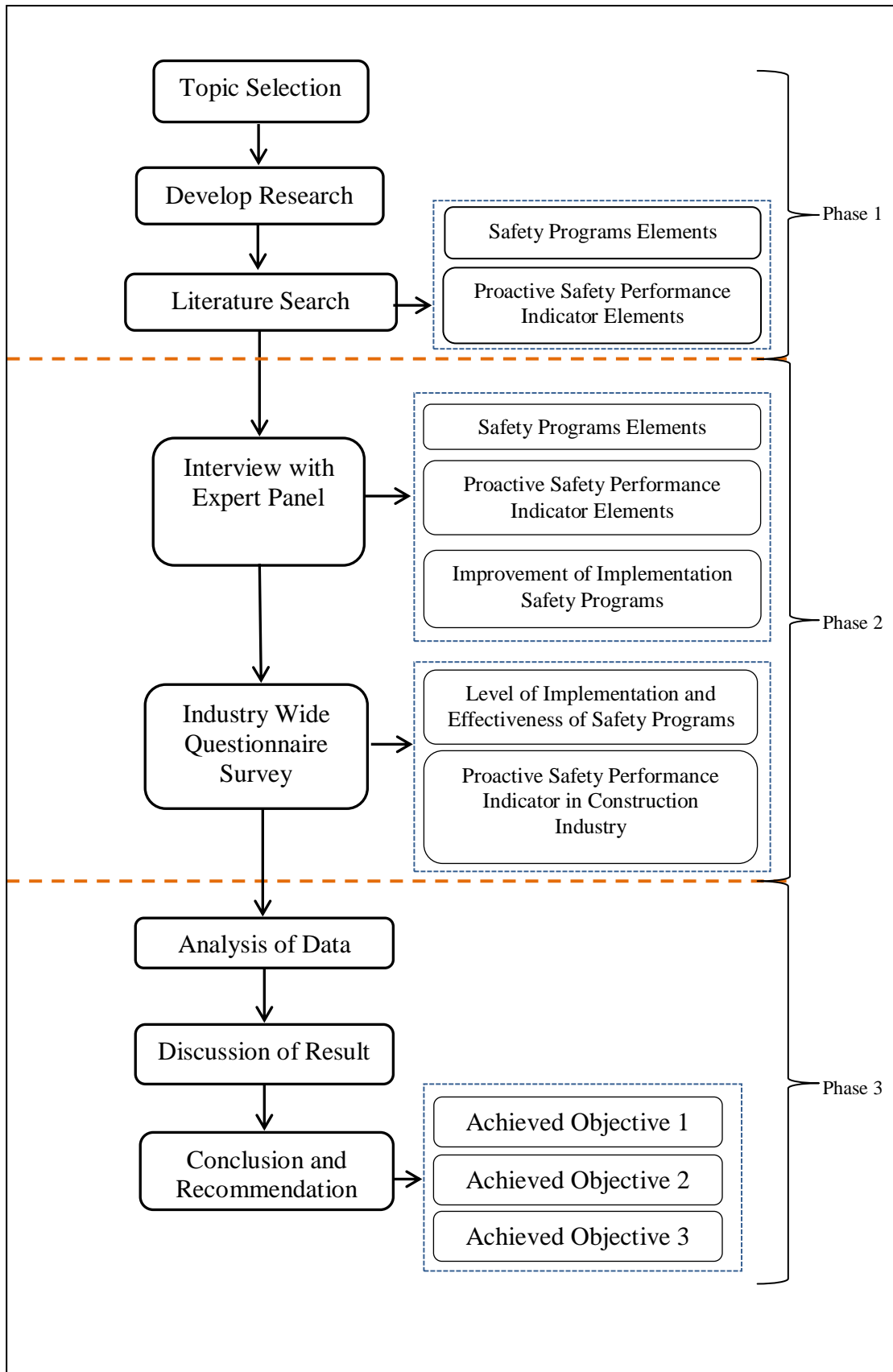


Figure 1.4: Schematic of Research Methodology

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