



## The Process of Implementing a Model from the Development of a Management Standard Model and Management of Safety Occupational Health and Working Environment in the Workplace of Thailand in the Future Developed into Practice in the Workplace of Thailand

Suradate Suwanchatree<sup>1</sup>, Piyaruk Pradabphetrat<sup>2</sup>, Vichit Ranpang<sup>3</sup>, Maytiya Muadchim<sup>4</sup>

<sup>1</sup>Ph.D. student Natural Resources and Environment Management Yala Rajabhat University

<sup>2,4</sup>Lecturer, Department of Natural Resources and Environment Management Yala Rajabhat University

<sup>3</sup>Associate Professor Natural Resources and Environment Management Yala Rajabhat University

Corresponding author. Email: suradate.s@yru.ac.th

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### Abstract

The process research uses models from the development of safety management and management standards, occupational health, and working environment in Thailand's workplaces in the future, that developed into practice in the workplace of Thailand. The main objective was to develop a standard for the management of safety, occupational health, and working environment in Thailand's workplaces. Sub-Objectives to develop into practice in the workplace. This research was research using the EDFR technique. (Ethnographic Delphi Futures Research) Using specific experts, 4 groups of experts, group 1 experts who are involved in the management of 8 people. Group 2 experts, experts who are academics, 6 people. The third group of experts is 7 management operators. The 4<sup>th</sup> group of experts consists of 3 people employees who are affected by doing business in the workplace. The total number of experts was 24 people. There was a process (Connoisseurship) number of 14 specialists. The results showed that the model issues that can be put into practice consist of the analysis of the socio-economic condition of Thailand. Policy formulation on safety, occupational health, and working environment. Development of administrative systems and management of occupational safety, health, and working environment of the workplace as a whole of the country. Development of administrative systems and management of occupational safety, health, and working environment of the workplace as a whole of the country, as well as the laws leading to safety management. concepts in other contexts in the development of safety management and management systems occupational health and work environment.

**Keywords:** Application Process, Development of a Standard Management, Occupational Safety Management, Business Environment, Practice in the Workplace

## 1. Introduction

The reason why the employee suffered from unsafe actions. Unsafe working conditions in the workplace due to the employer's violation of the Occupational Safety, Health and Environment Act B.E. 2554. As Nipaphan Jensantikul (2018) presented, problems in the work of workers arise from employers and employees lacking knowledge and understanding of the law. and inaccurate behavior. Nipaporn Khamlun (2016) Safety officer in charge of occupational safety, health, and environment in working with employers. Reasons why employers did not conduct hazard assessments and study the impact of the working environment, etc. Security managed standard system Occupational health and work environment. It was a standardized format that is suitable for the problem situation and type of business establishment. It can prevent injuries from experiencing work-related hazards and sickness from occupational diseases. This contributes to the safety, occupational health, and good working environment of the establishment. Helping to operate by the relevant laws and standards as set out very well. However, the issue of technical improvement and compliance with the legal model was limited. Therefore, it was necessary to conduct a study using a future research model. It was a systematic approach to studying the various trends in which the subject was studied, whether it was possible (possible) or probable. It was the use of information obtained from future research to be useful in planning policy making, decision making, as well as formulating strategies and tactics. It leads to creating a desirable future and preventing or eliminating an unwanted future (Jumphon Poolpattachevin, 2008). Vichit Rangpan, Sutida Lekhawichit and Sofia Nita. (2020). and Jumpon Poonpatatchewin (2016) said that the purpose of future research. The principle of future research was not that the prediction was correct but it's up to the survey and study of possible trends. Therefore, an important process was the implementation of the model from the development of the standard model, which will be developed into practice in the workplace in Thailand in the future.

## 2. Objective

The main objective was to develop a standard for the management of safety, occupational health, and working environment in Thailand's workplaces. The sub-objective is to be developed into practice in the workplace.

## 3. Related Research

Relevant research Sharon Clarke (2006) conducted a study on Safety conditions in auto parts manufacturing plants on the impact of the working environment work communication and safety attitude according to accidents and unsafe behavior. The purpose of the study was to examine the safety attitudes of workers, supervisors, and managers in the industry of British car production and its relationship with unsafe behavior and accidents. The results showed that the Factor structure of safety conditions in a factory consists of 3 factors. Manager's attention to safety Workers responds to safety issues. François Gauthiera, Yuvin Chinniahb, Damien Bulet-Vienneyc, Barthélemy Aucourt, Stéphane Larouchea (2018). A study was

conducted on Machine Safety Risk Assessment: Effects of Construction Defects on Estimation Parameter Risks. Research has shown that in the risk assessment guidelines set out in the international standard ISO 12100:2010. Risk estimation was an important step in helping machine designers and users determine the level of risk. and identify the most critical and dangerous situations Ankara Yildirim (2019). Study on occupational health and safety systems in line with Industry 4.0: Research Direction, Industry 4.0. It was a contemporary approach that represents the transformation process in the global value chain. This approach had the potential to remove the limitations between physical objects by transforming them into a comprehensive system of complex components that work together. James L. Weeks (1991) conducted research studies on occupational health and safety regulations in the coal mining industry. Public Health in the Workplace Systematic Review on Research Advances and Development Trends in Occupational Health and Safety Management. Marta Niciejewska (2020) studied Occupational health and safety management in terms of special employee needs. It was found that every employer had a responsibility to maintain safe and healthy working conditions. according to the Labor Code and related regulations. The composition of safe and hygienic working conditions in each organization is very similar. The differences arise when taking into account the specific industry or the relative need between special stimuli and feelings of employees. There was a group of employees whose working conditions arranged by employers in terms of occupational health and safety differ from working conditions.

#### **4. Methods of Conducting Research**

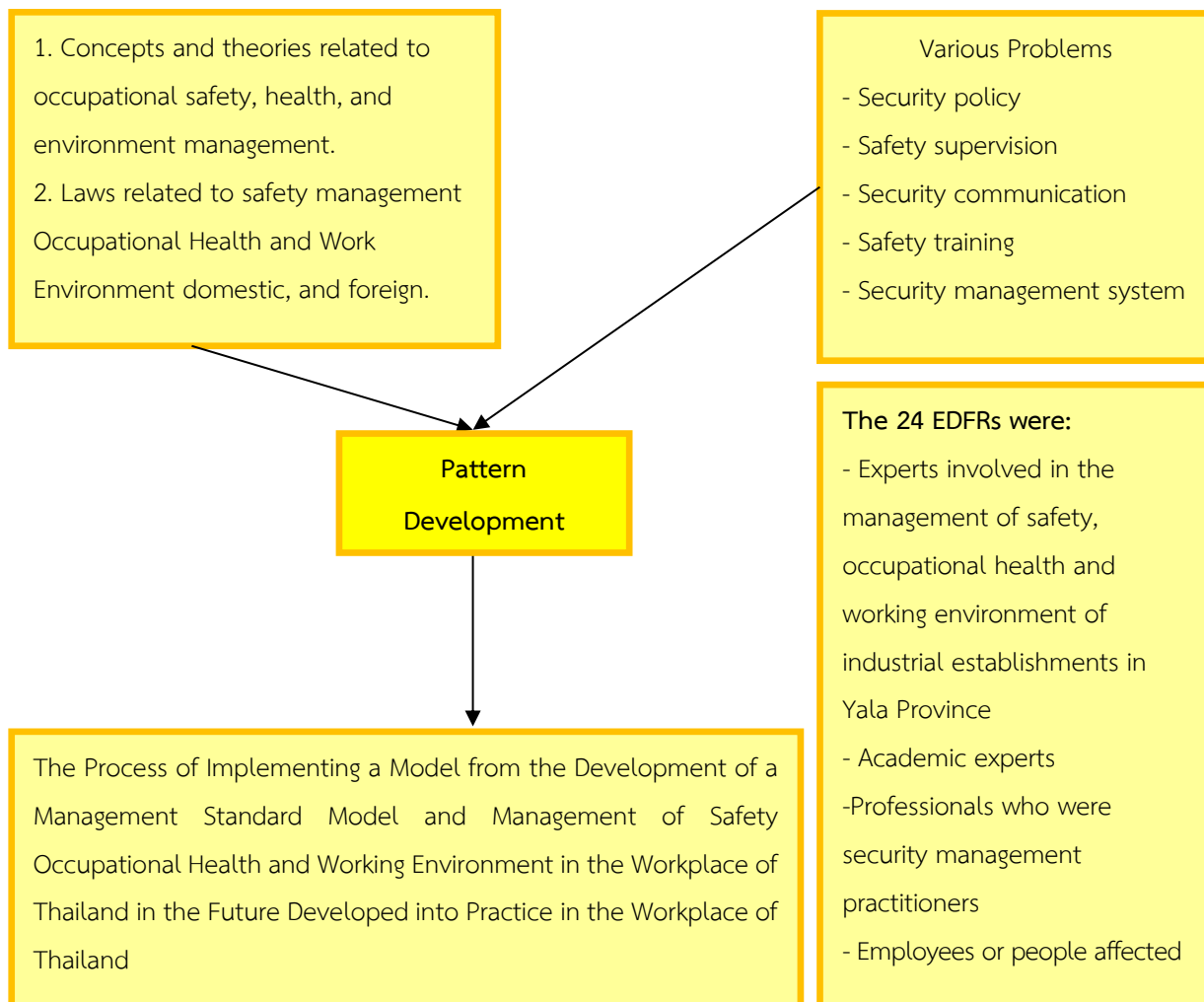
Aims to study the process of implementing a model from the development of a management standard model and management of safety occupational health and working environment in the workplace of Thailand in the future developed into practice in the workplace of Thailand. This research was based on the EDFR (Ethnographic Delphi Futures Research) technique. The information was collected from a panel of experts who predicted future trends (Phattaphon Chupan, Warunee Hayimasa, Vichit Rangpan ,Nisaporn Muhamad, 2020).The researcher presented a method for researching informants. Determining the tools used to collect data This research has created a research tool, data collection, and data analysis with details as follows:

##### **4.1 Research population**

The researcher used a group of experts to provide information in the research, including academican, Knowledgeable and experienced professionals, public sector executives, and Person who has knowledge and understanding of the administration and management of occupational safety, health, and working environment in Thailand. 24 people were selected using the purposive sampling method. 1) 8 experts involved in management. 2) 6 experts who were academics in health and safety. 3) 7 specialists who were safety practitioners. 4) 3 employees or people affected in the workplace.

#### 4.2 Research Process

The researcher collected the data. 1) Study and research details from concept documents, theories, and related research papers. 2) To study how to create an interview form from the document to cover the research objectives. To be used as a tool to collect data for analysis by using EDFR (Ethnographic Delphi Futures Research) technique for 24 people, Round 2 and Round 3.



**Figure 1** Research Process of Implementing a Model from the Development of a Management Standard Model and Management of Safety Occupational Health and Working Environment in the Workplace of Thailand in the Future Developed into Practice in the Workplace of Thailand.

#### 3. Research Tools

Round 1 The researcher constructs an open-end interview form from the specified framework by using a method called Cumulative Summarization Technique. To focus on the future, the picture that was expected to happen (Most Probably).

Round 2 was the use of the answers from the interview form in Round 1 to analyze and synthesize into various content issues. Try to keep the original expressions of the experts and omit redundant statements or sections that were beyond the scope of the research. The second round was used to create an interview using the Raring Scale with 5 levels.

Round 3 used the same set of questions as Round 2 interviews, but adds the median weight of the quartile range. Then weight the scores of the experts' answers in Round 2 so that each expert knew the answers and revises them. Before answering again in the interview in the 3rd round whether the result was still confirmed or not. In this round, the researcher brings together statements that the group of experts has the same opinions on the interquartile range. and the difference between the median and the popular base was analyzed.

#### **4. Data Collection**

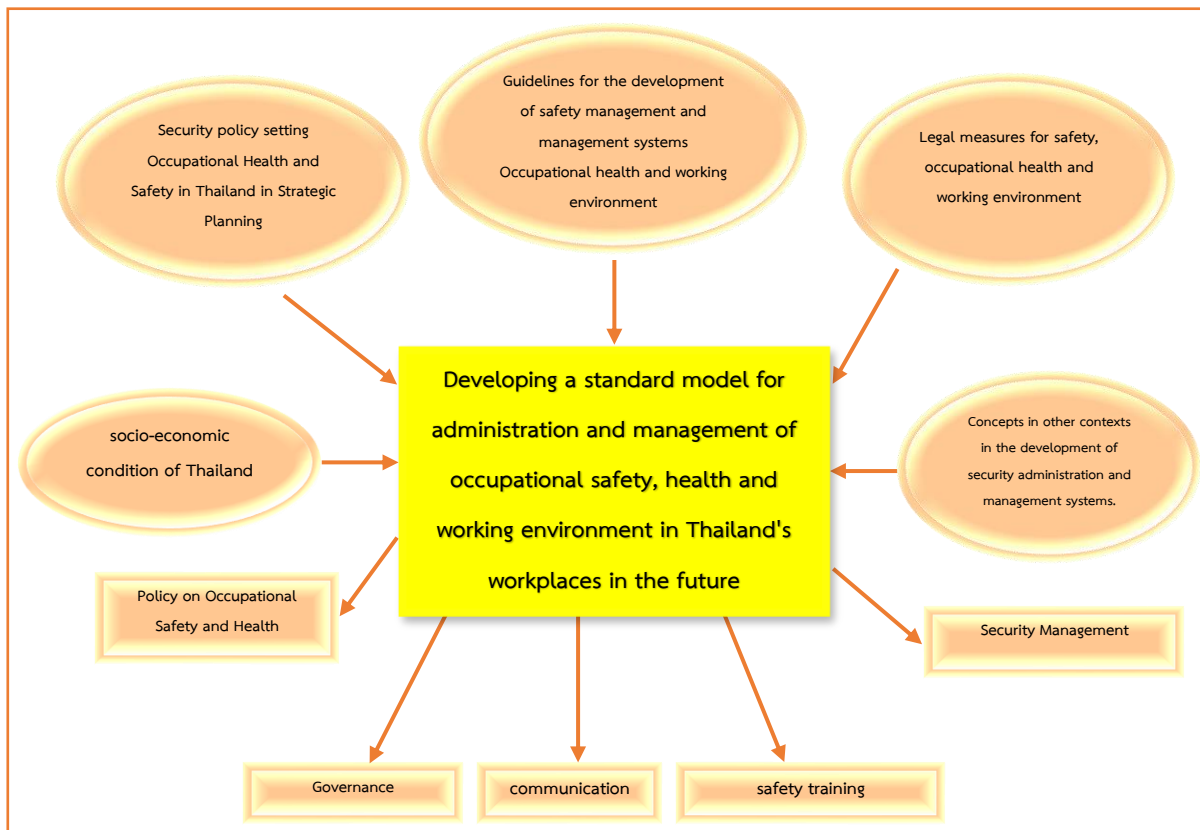
1) Collecting data in the 1st round of 24 people, then will make an appointment, date, and time for interviews and continue the interview. 2) Data collection in the second round, the researcher made a letter requesting cooperation in answering the interview form to the same group of experts. This was an interview with a 5-level estimation scale of 24 people. 3) Data collection in the third round, the researcher made a letter requesting cooperation in answering the interview form to the same group of experts. It was an interview with the same questions as the second-round interview but with an increase in the median. Quartile range and the weight of the score that the expert answered. Then analyzed the data from the interview form.

#### **5. Data Analysis**

The researcher used the data obtained from the questionnaire in the second round to analyze the median, popular base, and interquartile ranges individually. Trends with a median of 3.50 and above were selected to create a form of an interview to collect data in the 3rd round to analyze the median, base, difference between base and median and interquartile range. Interpretation of each item, the researcher has determined by Jumpon Poolpattachewin (2016) was presented as follows, median, interquartile range, values difference between popular base and median, consistency considerations, The model was assessed by a 14 expert panel-based seminar (Connoisseurship) to determine future application models.

#### **6. Research Results**

Study subject the process of implementing a model from the development of a management standard model and management of safety occupational health and working environment in the workplace of Thailand in the Future Developed into Practice in the Workplace of Thailand as the following model.



**Figure 2** An integrated model for the development of a standard model for the administration and management of safety, occupational health and environment in Thailand's workplaces in the future.

Source: Suradate Suwanchatree, Piyaruk Pradabphetrat, Vichit Ranpang, Maytiya Muadchim (2022)

The picture explains A model for developing standards for the management and management of occupational safety, health, and working environment in Thailand's workplaces in future practice. Analysis of analytical issues in the socio-economic condition of Thailand. Occupational Safety, Health and Environment Policy Formulation Process in Thailand for Strategic Planning. Guidelines for the development of management systems and management of safety, occupational health, and working environment. Occupational Safety, Health, and Work Environment Legal Measures. Concepts in other contexts for the development of administrative systems and management of safety, occupational health, and the working environment of the workplace as a whole of the country. In the implementation of the above model, guidelines were applied: 1) occupational safety policy, 2) supervision, 3) communication, 4) safety training, 5) safety management, and received have been put into practice as the following sub-models.

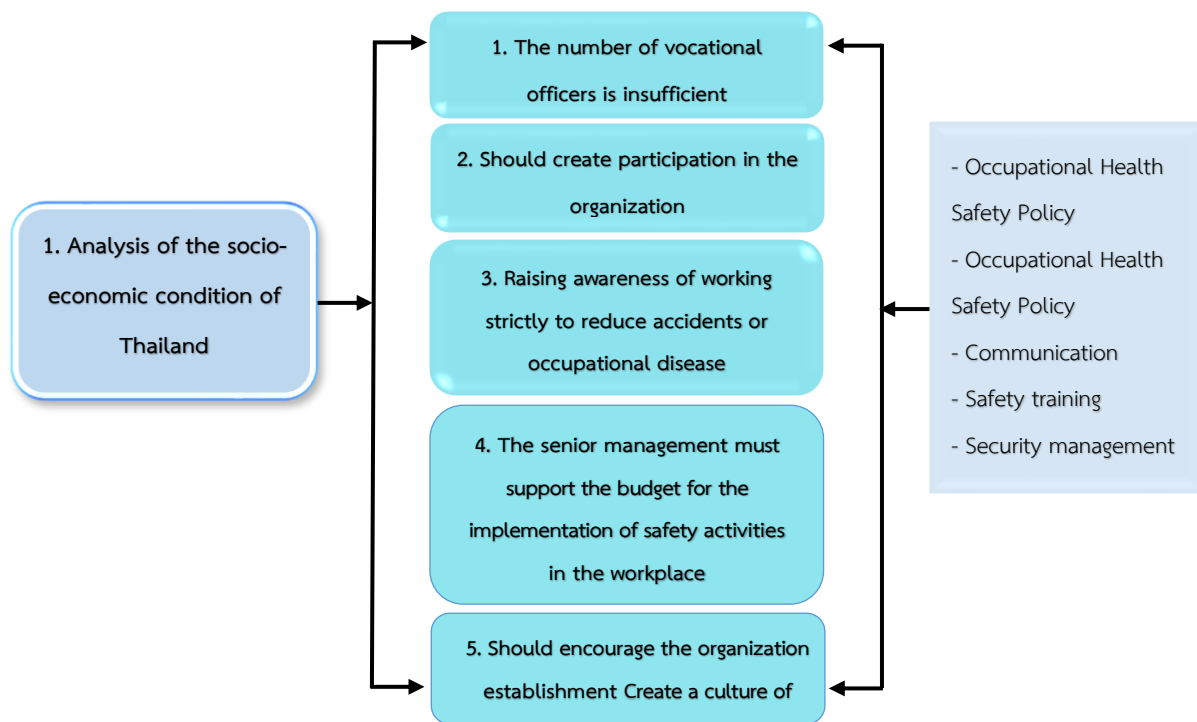


Figure 3 Implementation of Thailand's Socio-Economic Analysis

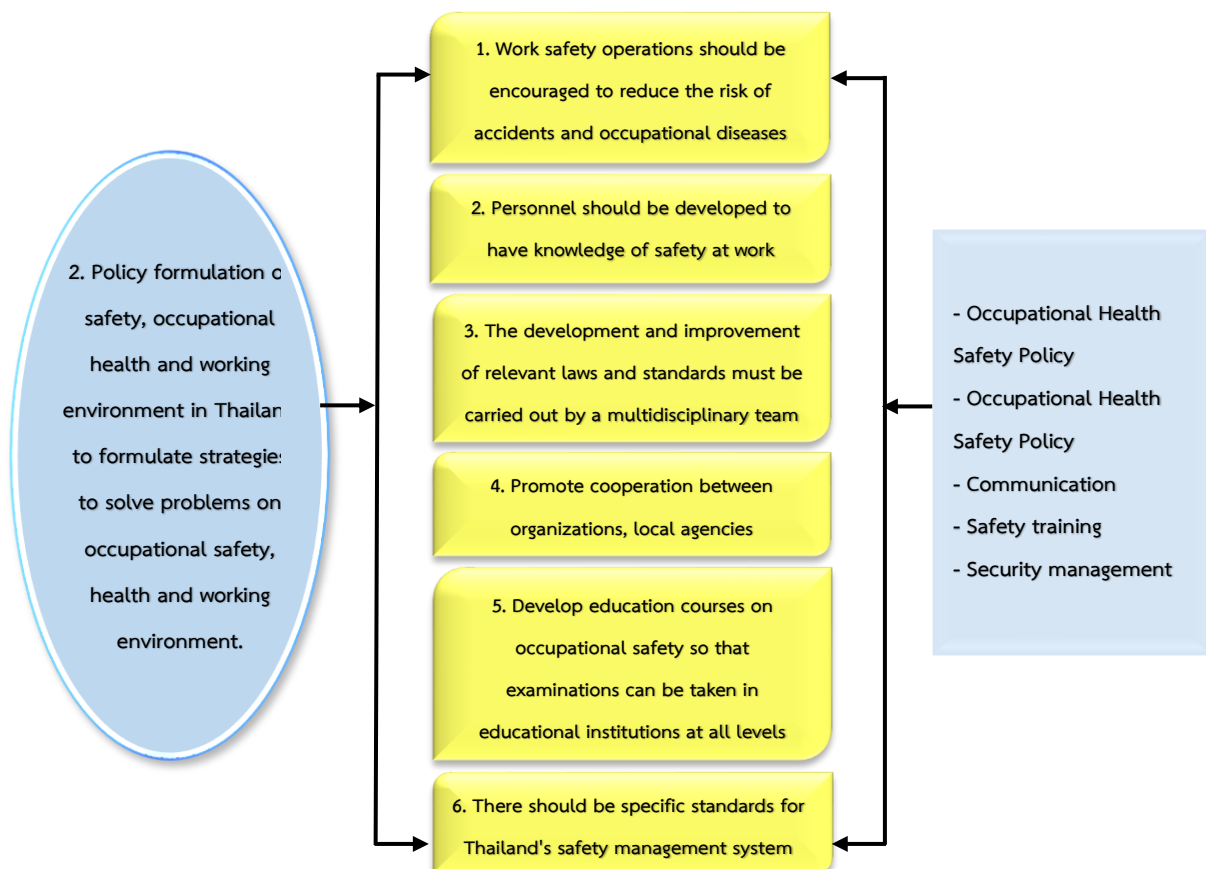


Figure 4 Implementation of safety, occupational health, and work environment policy formulation in Thailand in formulating strategies to address safety, occupational health and environment problems

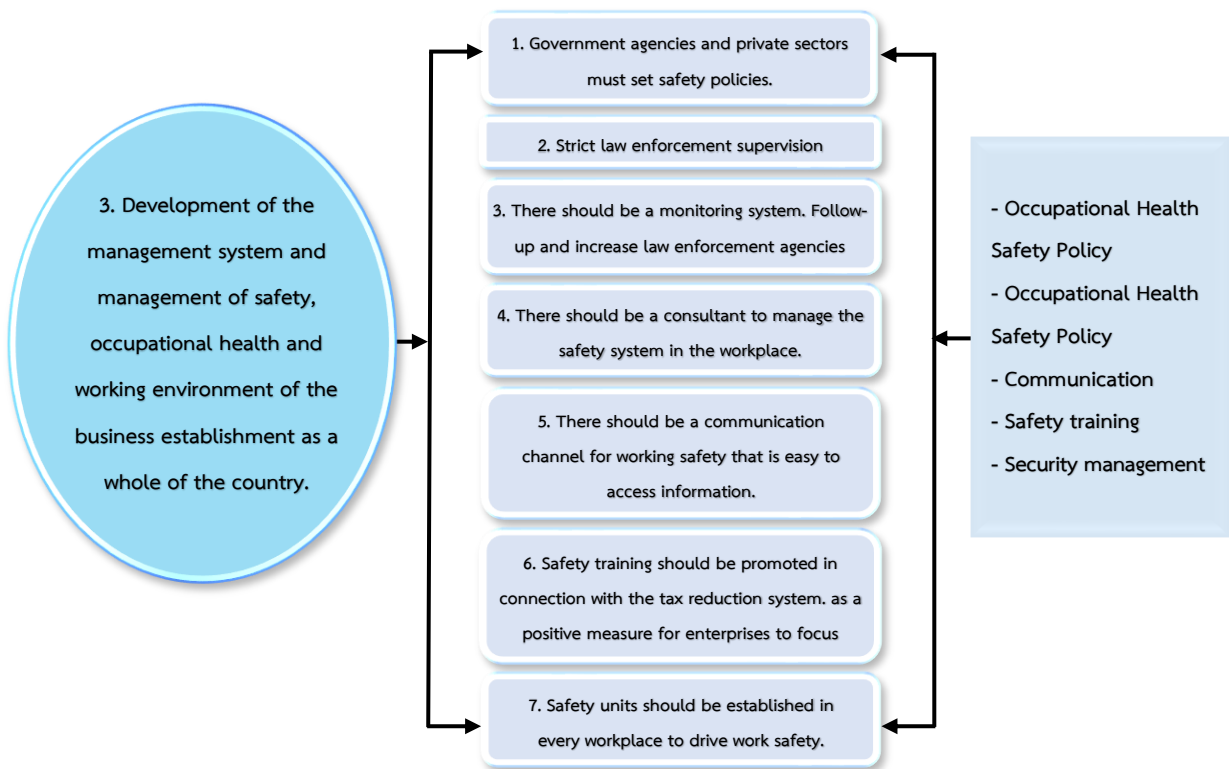


Figure 5 Implementation of Management System Development and Management

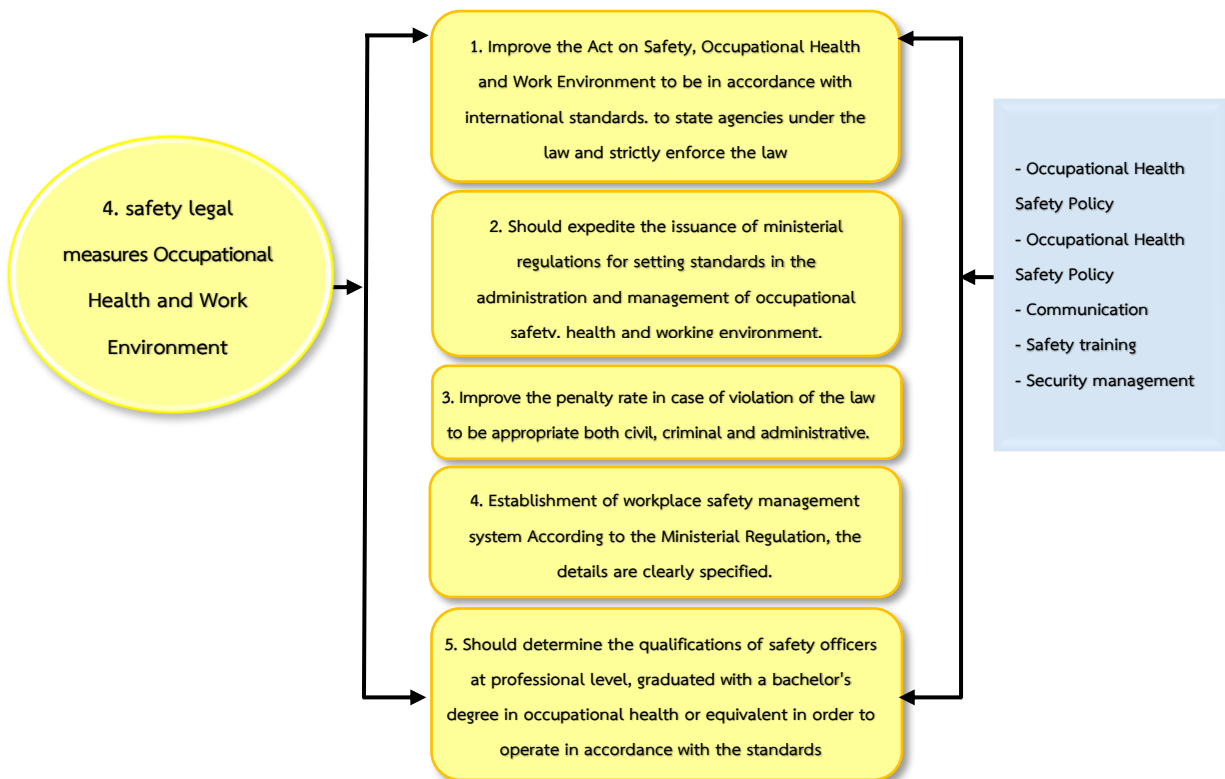
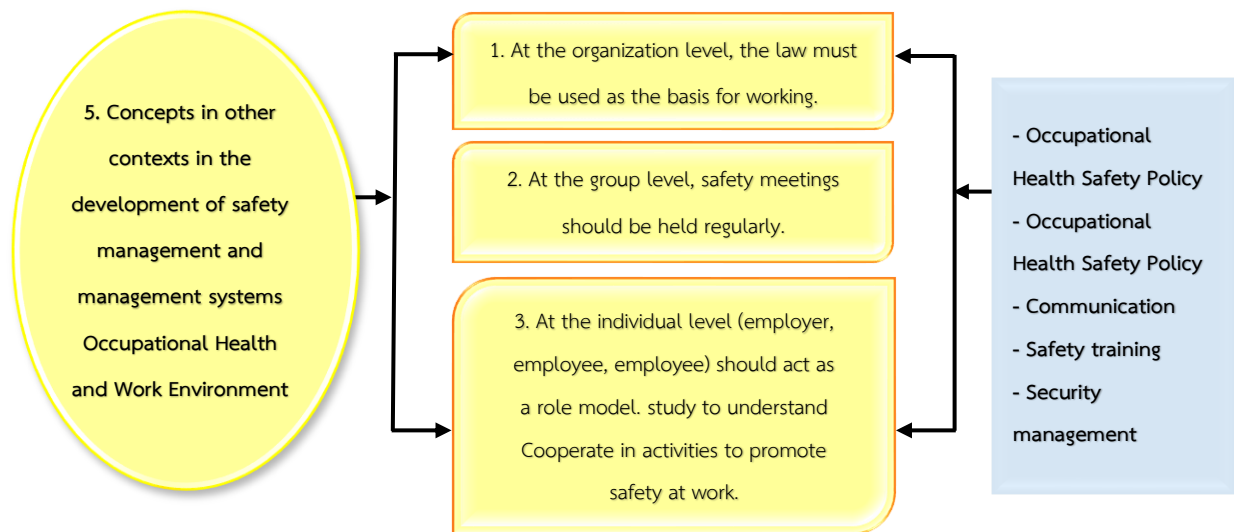


Figure 6 Implementation of the management system development and management of safety, occupational health and working environment of the workplace as a whole of the country as well as the laws leading to safety management.





**Figure 7** Implementation of Concepts in Other Contexts in the development of safety management and management systems Occupational Health and Work Environment.

## 7. Discussions

Research study on the process of implementing a model from the development of a management standard model and management of safety occupational health and working environment in the workplace of Thailand in the future developed into practice in the workplace of Thailand. When obtaining a standardized form of administration and management of safety, occupational health, and working environment in Thailand in the future. It was found that in determining the consistency of experts, trends, concepts, and analysis of the socio-economic condition of Thailand. Experts were of consensus on various issues, namely: There should be a clear number of professional safety officers per number of employees. The suitable number of employees in the workplace was consistent with the research of Nipaporn Khamlun (2016). Study the operation of occupational health and safety of safety officers at work. It was found that problems and obstacles in the performance of safety officers in the workplace have a lot of responsibility. In line with the research of Chattawat Chatchanataphat (2020), the study of safety management at work: a case study of Siam Quality Co., Ltd. Found that the guidelines for managing safety at work should organize activities to promote safety, enhance safety awareness, and should adjust attitudes which affect safety behavior change The research of Nipaphan Jensantikul (2018) studied the guidelines for the development of a management system for safety in the workplace according to the Safety Act. Found that enterprises should promote and develop legal knowledge for employers and employees and promote a safe culture for workers and enterprises. To solve the problems of safety, occupational health, and working environment according to the proposal of an expert. A group of experts have a consistent opinion on various issues, This corresponds to the research of Cherdsak Suebsub and Nattaphan Ketchonan (2014) studied the management guidelines for safety at work to promote the quality of life of employees in the Thai refrigeration industry. It had suggested that educational institutions should increase the number of courses

taught in the field of security management with increased enforcement of the law. Strict compliance with the employer's laws and achieve tangible results. It was consistent with the research of Kulachat Areeratphithak (2017), which has studied the problems and obstacles in the enforcement of the Safety, Occupational Health and Working Environment Act 2011. It was also consistent with the research of Nikom Chotiphan and Siripong Sopha (2020) who have studied legal measures on safety. Occupational health and working environment in the industrial sector. It was found that there was a lack of participation from the public in promoting safety campaigns. In addition, training should be developed A continuous network of mechanisms There should be measures in the adoption of technology systems. In terms of the development of administrative systems and management of safety, occupational health, and working environment of enterprises in the country as a whole, working in a variety of formats and with easy access to information. In line with the research of Sai Wit Suthamwirat Namthip Wiphawin Chamnan Chaokweraphong (2017) studied the use of information of safety officers in professional work in Bangkok. Said that the safety officers in professional work have problems in using the information in information sources. The information patterns and information technology significantly, safety training should be promoted in connection with personal tax deduction as a positive measure. In addition, penalties should be imposed on the part of the worker's duties. In addition to the general penalties which are consistent with Suchada's research Sawangthongkul (2015). Has studied the issue of enforcement of the Employee Protection Law on Work Safety by the Safety Act. Occupational Health and Work Environment 2011. Should determine the qualifications of the safety officer to work professional level must have a bachelor's degree. Occupational Health or equivalent. It is professional development in safety, occupational health, and working environment. This was consistent with the research of Montree Worapatsap, Worawut Moultrieut, Boonjira Bunpanya, and Somchai Chumuang (2021). Study on the process of developing professional law on occupational safety, health, and working environment in Thailand. Conceptually, in other contexts, at the organizational level, the law must be adopted as the basis for practice. Engage Safety meetings are held regularly in groups or departments at an individual level. must act as an example Cooperate in safety promotion and management activities (Kasem Chankaew 2015; Vichit Rangpan et. al, 2019)

Implementation aspect, 1. Analysis of the socio-economic condition of Thailand, consist, the number of vocational officers is insufficient. Should create participation in the organization. Raising awareness of working strictly to reduce accidents or occupational disease. The senior management must support the budget for the implementation of safety activities in the workplace (Somreuk Kap Klang,et.al 2020). Should encourage the organization establishment Create a culture of safety at work. with a framework for practice, Occupational Health Safety Policy, Occupational Health Safety Policy, Communication, Safety training, and Security management (Chatwatchat Nathaphat,2021; Marta Niciejewska, 2020).

Implementation aspect, 2. Policy formulation of safety, occupational health, and working environment in Thailand to formulate strategies to solve problems on occupational safety, health, and working environment. consist, Work safety operations should be encouraged to reduce the risk of accidents

and occupational diseases. Personnel should be developed to have knowledge of safety at work. The development and improvement of relevant laws and standards must be carried out by a multidisciplinary team. 4. Promote cooperation between organizations, and local agencies. Develop education courses on occupational safety so that examinations can be taken in educational institutions at all levels. There should be specific standards for Thailand's safety management system. The framework for practice is as follows: Occupational Health Safety, Occupational Health Safety Policy, Communication, Safety training, Security management (Richard Anderson, 1975; Pramuk Osiri, 2010).

Implementation aspect, 3. Development of the management system and management of safety, occupational health and working environment of the business establishment as a whole of the country. consist. Government agencies and private sectors must set safety policies. Strict law enforcement supervision. There should be a monitoring system. Follow-up and increase law enforcement agencies. There should be a consultant to manage the safety system in the workplace. There should be a communication channel for working safety that is easy to access information. Safety training should be promoted in connection with the tax reduction system. as a positive measure for enterprises to focus. Safety units should be established in every workplace to drive work safety. with a framework for practice Occupational Health Safety Policy, Occupational Health Safety Policy, Communication, Safety training, Security management (Nipaphan Janesantikul, 2018; Wittaya Mekham, 2008; I. T. Smith, and John C. Wood. 1986).

Implementation aspect, 4. safety legal measures Occupational Health and Work Environment, consist, 1. Improve the Act on Safety, Occupational Health and Work Environment to be in accordance with international standards. to state agencies under the law and strictly enforce the law. Should expedite the issuance of ministerial regulations for setting standards in the administration and management of occupational safety, health and working environment. Improve the penalty rate in case of violation of the law to be appropriate both civil, criminal and administrative. Establishment of workplace safety management system According to the Ministerial Regulation, the details are clearly specified. Should determine the qualifications of safety officers at a professional level, graduated with a bachelor's degree in occupational health or equivalent in order to operate in accordance with the standards. The framework for practice is as follows: Occupational Health Safety, Occupational Health Safety Policy, Communication, Safety training, and Security Management (Suchada Sawangthongkul, 2011; I. T. Smith, and John C. Wood, 1986)

Implementation aspect, 5. Concepts in other contexts in the development of safety management and management systems Occupational Health and Work Environment, consist, At the organization level, the law must be used as the basis for working. At the group level, safety meetings should be held regularly. 3. At the individual level (employer, employee) should act as a role mod. Study model understand Cooperate in activities to promote safety at work. The framework for practice is as follows: Occupational Health Safety, Occupational Health Safety Policy, Communication, Safety training, Security management (Chatawatchat Nathaphat, 2021; Kamolthip Sangiamchuen and Suramongkol Nimchit, 2020; Kulachat Areeratphithak, 2017; Kasama Thongkip, 2007; Oraphan Juttano, Samart Chaitia, Suleeratanapanya. (2020).

As well as employee satisfaction is an important factor in the work to achieve the goals set. (Chakkrit Hinwiset, Arthit Chatchaipolrat, Noppadon Mangmee,2022)

## 8. Suggestions for Applying the Research Results

Should require that every business establishment, both public and private, have a concrete policy and review the safety policy once a year. Determine the specific qualifications of safety officers in the professional level of the workplace should have a specific bachelor's degree in occupational safety.

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