

Analysis of the Importance of Required Professional Capabilities to Coast Patrols

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Abstract- In the last few years, frequency of worldwide political and economic interactions caused numerous border defense issues. Coastal patrol is an important and challenging job, especially for island states with extensive coastlines. Nevertheless, job duties of coast patrols are diversified and complicated. How to enhance their professional knowledge and distribute team work have become a significant strategy for competent authority. This study aims to construct a strategic model for coast patrols personnel training program, which can effectively analyze the training targets to achieve the actual benefits of training talents.

The study first uses the literature discussion and expert interviews to indicate various professional capabilities of coast patrols and create questionnaire survey. Second, conduct Analytical Hierarchy Process, AHP, to weight each professional capability. The study indicates four evaluation dimensions and twenty one evaluation factors. The result of AHP revealed four evaluation dimensions, which are General Core Competence followed by Workplace Attitude, Workplace Professional Skills, and lastly by Project Management. The first seven evaluation factors that coast patrols value are mainly under the dimensions of General Core Competence and Workplace Professional Skills. Finally, the result of the study provides a talent cultivation reference to the administration departments.

Keywords: Coast Patrols, Professional Capabilities, AHP

I. INTRODUCTION

1.1 Background and Motivation

The Coast Guard Administration, CGA, was established in 2000, combining the Coast Guard Command, the Marine Police Bureau and the Taiwan Directorate General of Customs. The combination did not transform into one system, so the associates from each department are still following their original regulations to perform duties. It obstructs the organization to effectively distribute personnel and integrate resources. Therefore, the Human Resources Management of the CGA has to think about how to train and integrate high quality of coastal professionals, who are from different organizational culture background, through strategic human resource management measures, become main enforcement of the CGA. In the mean time, how to utilize associates' differences to progress the organization as well as achieve its vision have become the department its first priority.

The study uses coast patrols as the research object to mainly discuss their required professional capabilities and understand what the factors affecting coast patrols' work efficiencies. It is expected to be a reference for organizational recruitment, educational training, as well as job performances.

1.2 Objective and Purpose

The study interviews the coast patrols in the northern branch of the CGA as the research object, and then using the Modified Delphi Method to collect and organize experts' opinions. After sorting various data, determine appropriate structures to generate AHP questionnaire survey. The purpose is to understand the current circumstances of coast

patrols in order to enhance essential weight factors. It provides educational training suggestions to the decision-makers of the administrations.

The study intends to achieve the following specific objectives:

- (1) Analyze the key factors of required professional capabilities through the literatures discuss and practical job duties.
- (2) Establish various evaluations factors and analyze weight the factors through research method.
- (3) Provide talent training references for relevant departments in the future, based on the results of the analysis and suggestions mentioned above.

II. LITERATURE REVIEW

Professional competence means professional capabilities in different industry and positions. The capabilities are determined from mission execution, qualification of job requirement, and professional knowledge and skills. Based on representation of job performances and job satisfactions, professional competent model is established as a criterion for recruitment, educational training, and job performance evaluation. Hence, when establishing “core competence”, first it needs to confirm if the essence is unchangeable and developed, and then consider the surface of required knowledge and technology. It helps to reduce training costs and increase efficiencies for organizations in the future. *Jingwen Zhang, Tongzun Huang (2011) Chuanzhen Ma, Jinchang Zheng, Tianmu Tsai (2012)* believe that the meaning of competence of law enforcement is to “acquire professional knowledge, skills and personalities to achieve job missions on duty.” However, there is no professional training school specialized in coastal patrols in Taiwan. Currently, the patrol personnel are recruited from military, police, military service and or national examination. These criteria is difficult to determine individuals qualifications as the job requirement has its particular concerns and risks. So it is necessary to analyze the requirement of capable mission execution, professional knowledge and skills, crime investigation and search, safety investigation and examination, coast patrols duties, disaster rescue, and criminal joint investigation to be an important basis for professional competence training in the future. *Liang (2015)*

III. METHOD

The purpose of this study is to discuss the importance of professional capabilities for coast patrols, besides improves their qualities of professional competence.

3.1 Research Method

The study uses the literature analysis discussion method to analyze the circumstances of coast patrols from their organization, job duties, and personnel, as well as relevant literatures of professional capability indicators. The analysis is the theoretical basis to constructing the weight of each professional skill and its requirement.

The evaluation criteria are established by the Delphi Method. Firstly, based on collected information and literature discussion, the initial structure is built into layers of target, classification, and criteria by aggregating job requirement. The structure was modified through repeated conducting the Delphi Method questionnaire survey. After analysis of results as well as consensus of the experts, a valid completed evaluation structure has established. It is the foundation to generate “relative weight questionnaire of essential professional capabilities for coast patrols.”

The Analytical Hierarchy Process, AHP is a multi-criteria and multi-objective decision making method. It was developed by American mathematician Thomas, L. Saaty (1971). AHP can systemize complex problems, decompose problems into hierarchy elements, then quantify each element to reach overall goal to provide appropriate options for decision makers.

3.2 Participants

- (1) The Delphi Method survey objects: The study is based on two senior managers of the branch, two office associates, and two team players from frontline, total 6 people to complete the questionnaire survey.
- (2) The Analytical Hierarchy Process survey objects: The study is based on northern branch of the CGA, conducting importance of essential professional capabilities questionnaire survey. Numbers of objects: four department managers, six office associates, six patrol department associates, fourteen team players from frontline.

3.3 Data Collection Procedure and analysis

The research summarizes and analyzes the capabilities that coast patrols should possess in each evaluation factor and dimension from collected relevant papers and periodicals. After collections and sorting the professional competence evaluation factors, the study uses the Delphi method to reach a consensus. According to the Delphi method five-level Likert scale, department managers and associates are the subjects of the investigation by experts who subjectively eliminate certain evaluation factors while add extra factors as needed. Completed hierarchical structures and their various evaluations criteria are established after participated experts reached a consensus, as the Delphi method questionnaire survey is fulfilled. Finally, based on the hierarchical structures, create and send out the formal hierarchical analysis questionnaire survey, then collect and collate the data. In addition, determine relative weight of each evaluation criterion by comparing paired factors.

The process of the study are divided into three steps:

First, the study uses the literature analysis method to explore the definition of coast patrols' professional capabilities on relevant literatures. According to existing theories, recognize coast patrols' acquired abilities and then organize collected information to name topics of evaluation dimensions and evaluation factors.

Second, through discussions of literature, initial criteria structure is established with each hierarchical dimensions and evaluation factors, moreover, rapidly complied the Delphi method questionnaire survey based on previous results to reach expert' consensus. The hierarchical evaluation dimensions, evaluation criteria, as well as questions of questionnaire survey are confirmed.

Third, hierarchical survey is created and sent after establishment of each dimension and evaluation factor. After retrieving and collections, determine weight of hierarchy factors by AHP. It is the process to make conclusion and suggestions according to the study results.

IV. RESEARCH FINDINGS AND ANALYSIS

4.1 Overall Analysis of Each Dimension

The weight analysis of the professional capabilities of coast patrols shows that the relative weight between each determined evaluation criterion. Four major dimensions are summarized of the following: General Core Competence followed by Workplace Professional Skills, Workplace Attitude, and Project Management. The values of weight are 0.383, 0.366, 0.181, and 0.067 respectively, as shown in Table 1.

Table 1: Weight analysis of AHP evaluation criteria

Target	Dimensions	Weight	Ranking	Evaluation	Weight	Ranking
Weight Analysis of Coast Patrols	General Core Competence	0.383	1	Communication Skills	0.452	1
				Teamwork	0.263	2
				Second Language	0.134	3
				Cerifications	0.089	4
				Healthy Body	0.074	5
Professional Capability Evaluation Criteria	Workplace Professional Skills	0.181	3	Criminal investigation and search and tracking search	0.187	4
				Safety examination, protection and defense	0.199	3
				Intelligence Collection and Area Investigation	0.215	2

				Disaster Rescue and Emergency Support	0.316	1
				Coastal Patrol and Pollution Protection and Prevention	0.080	5
	Workplace Attitude	0.366	2	Active Learning	0.188	3
				Service Passion	0.085	4
				Self-Examination	0.047	5
				Sustainability and High Pressure Control	0.196	2
				Professionalism	0.221	1
	Project Management	0.067	4	Effectively Achieve Goals in Advance	0.200	3
				Effectively Control Progress and Maintain Quality	0.284	2
				Accountable to Complete Assignment	0.405	1
				Accomplish Goals in a Short Time	0.109	4

4.2 Weight Ranking of Importance of Professional Capabilities

The results of entire evaluation factors indicates that the first seven weight factors in order are listed below: Communication Skills (0.45265), Accountable to Complete Assignment (0.40502), Professionalism (0.33222), Disaster Rescue and Emergency Support (0.31685), Effectively Control Progress and Maintain Quality (0.28463), Teamwork (0.26337), and Intelligence Collection and Area Investigation (0.21550). The research classified these factors as “High Importance” by coast patrols. The weight ranking from eighth to thirteen can be seen in the following: Effectively Achieve Goals in Advance (0.20067), Safety Examination, Protection and Defense (0.19919), Sustainability and High Pressure Control (0.19661), Active Learning (0.18854), Criminal Investigated Search and Tracking Search (0.18781), Second Language (0.13445). These six factors classified into “Moderate Importance”. Rest of factors are listed in the “Low Importance” category.

V. CONCLUSION

Connotation of the professional capabilities of coast patrols is described as followed by its importance:

- (1) Communication Skills: effective communication skills are necessary for any jobs in order to convey accurate expressions with each other to reach a consensus. Coast patrols have to deal with fishermen at first. The coast patrols who have good communication skills can create trust with fishermen. Through communication, it helps the patrols themselves as well the department can effectively resolve problems and establish credits.
- (2) Lifelong Learning: the CGA works in a unpredictable environment that the associates require contingency measures due to changeable surroundings. Therefore, coast patrols must always have active learning attitude to continuously obtain new practical experiences.
- (3) Professionalism: regardless of the nature of jobs, there is an ideal and realm endowed by each profession. Its value and meaning are from the job itself no matter noble or humble. Practitioners can focus on discovering and creating pleasures and enthusiasm. In particular, coast patrols who are both public servants and law enforcement officers should have this cognition to serve people.

- (4) Professional Knowledge and Skills; Mission Execution Ability: ocean affairs are full of potential dangers and emergencies. It is necessary to understand situation and respond it immediately under the pressure within limited time and environment and then deal with the crisis in time. Therefore, coast patrols value Workplace Professional Skills as the most important evaluation capability.
- (5) Effectively Control Progress and Maintain Quality: coast patrols are able to manipulate their professions and characteristics to achieve project missions in time. On the other hand, it also helps patrols themselves to be outstanding among peers and strive for promotion opportunities.
- (6) Teamwork: job duties of coast patrols are diversified and it is impossible to complete missions independently. Coast patrols not only are expected to complete their own tasks, but also should be willing to assist departmental project missions. It creates a win-win opportunity for themselves and the departments.
- (7) Disaster Rescue and Emergency Support: The marine environment changes rapidly. It is very important to arrive at the scene quickly and implement rescue while emergency crisis happened.

The result of Analytical Hierarchy Process survey found that coast patrols attach great importance on hierarchical dimensions of General Core Competence followed by Workplace Attitude, Workplace Professional Skills and Project Management. The first seven evaluation factors value as high importance are Communication Skills, Accountable to Complete Assignment, Professionalism, Disaster Rescue and Emergency Support, Effectively Control Progress and Maintain Quality, Teamwork, and Intelligence Collection and Area Investigation. It shows that coast patrols value hierarchical dimensions of General Core Competence and Workplace Attitude as the most important capabilities at workplace. Attitude affects job progress as the CGA is the organization serving public directly. Coast patrols with professional competence are required when they are on duty to resolve problems in the departments.

However, literature discussion mostly focuses on Workplace Professional Skills. It points out the professional capabilities which coast patrols should acquire compared with the one the training centre provided are not at same level. The educational training centre of the CGA only provides General Core Competence and Workplace Attitude under general courses. It causes the trainees are lack of practical experiences and insufficient capacity. This study is expected to be a training reference to improve the curriculums at the educational training centre.

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