

*Original Paper*

# Apply Information System of Maritime Energy for Improving Performance in Taiwan's Coast Guard

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Received: November 24, 2018 Accepted: January 21, 2019 Online Published: February 13, 2019

doi:10.22158/ees.v2n1p9

URL: <http://dx.doi.org/10.22158/ees.v2n1p9>

## **Abstract**

*Taiwan is not a member of the International Maritime Organization country, and the domestic business is also a multi-horse carriage. There is no integration and a single government department is responsible. Therefore, it is relatively difficult to check the relevant statistical inquiries, and the definition objects are also different. The information must be subject to the announcement of the International Maritime Organization. However, the data may be subject to statistical errors due to the construction of errors and omissions. The motivation of this paper is to roughly guess Coast Guard's information system and maritime energy to discuss how to improve the work performance. Materials use and cost estimates are resolved for both developmental and implementation activities. In addition, enhanced services costs are resolved to with total and average costs of standard EAP services. These findings provide point of reference cost estimates for other EAPs that may be considering offering enhanced services.*

## **Keywords**

*marine management, information technology, database system, Employee Assistance Program*

## **1. Introduction**

Taiwan is surrounded by the sea, and the sound development of ocean affairs is related to national rights and overall competitiveness. The Sea Guard Office was formally established on January 28, 1989, and was adjusted to the Ocean Commission on April 28, 1975. It is an organ and has been renamed the Marine Commission Sea Guard (referred to as the Sea Guard), which is the coast and sea of the Republic of China. The special agency for foreign security affairs is responsible for patrolling various ports, coastal areas, outlying islands, territorial seas, adjacent areas and it is an economic zone and carries out investigations on smuggling of goods and drugs, crimes and other public security matters.

The Geographic Information System (GIS) is a system designed to establish geographic information and space-related data, and to design and manage a spatial database. GIS is a cross-disciplinary subject that combines geographic information and computer technology. It simplifies specific phenomena and events, and uses digital space and other technologies to capture, update, store, query, process, analyze, and display data through computer-efficient data. The function presents the characteristics of events in geospatial and provides real-world solutions to problems.

The staff of the Sea Guard Office is mainly composed of military, police and public servants, with a proportion of military personnel. Most of them, since the implementation of the full recruitment system began on January 1, 107, the number of volunteers is higher than that of compulsory service. More, the maritime patrol agency pointed out that the statistics of the 102-106 annual recruitment of volunteers, soldiers, and soldiers are the rate of completion. 89.1%, 87.9%, 101.6%, 107.6% and 94.1%; 100%, 77.8%, 93.3% (not recruiting professional non-commissioned officers 103 years ago); soldiers are 56.3%, 87.3%, 107.7%, 93.5% and 117.7%.

Most of the military personnel are assigned to the grassroots units to the security checkpoints, and the executive services are mainly on duty.

Six items, such as watch, patrol, security check, check cabin and supervision and unloading, the work contents are as follows: a. Perform duties such as communication, liaison, and communication of orders, notification, reporting, and handling of emergencies. B. watch the commanding heights or favorable monitoring position, the implementation of monitoring the surface of the sea, the port of the ship. C. patrol inspections and interceptions in the coastal areas to deter crimes. d. inspection of personnel, ships, vehicles and articles carried in and out of the trading port according to law check. E. Check for any contraband or suspicious items in the cabin or other space above the ship. f. For the suspicious target ships, the monitoring of catch and unloading cargo shall be implemented.

The duty is to take a 24-hour rotation. The average daily working time per person is about eight to twelve hours.

The manpower of the inspection office is affected by the policy of military service reduction. At present, the manpower of the security inspection center is insufficient, which increases the workload of the sea patrol personnel. Excessive stress, lack of sleep, etc., resulting in emotional instability, unable to adjust the working environment, and thus lead to the awareness of public security matters.

## 2. Methodology-Employee Assistance Program

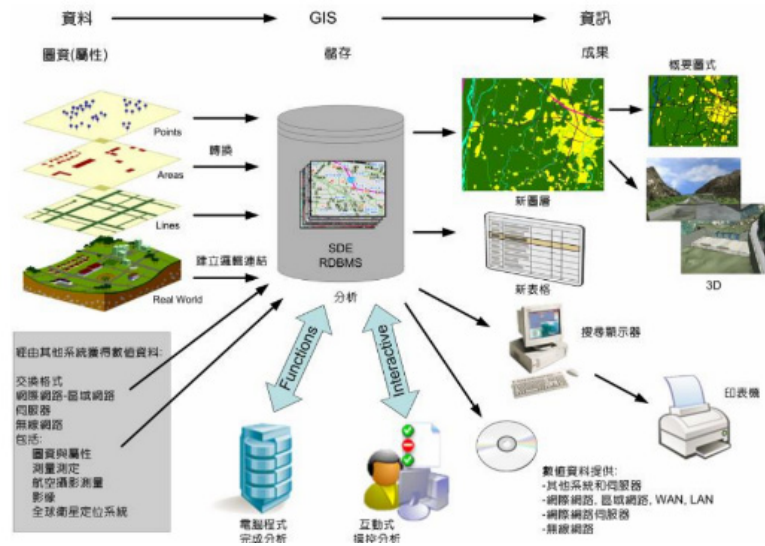


Figure 1. Geographic Information System Composition and Spatial Association

The Somali pirate attack has a high degree of regional clustering, and GIS has been widely used in various fields.

The spatial analysis of extension has been widely applied in various fields. In the future, according to the concept of time and space, the spatial distribution layer of Somalia pirate attack points will be established, combined with electronic charts and natural factors (temperature, current, wave height, water depth, monsoon, visibility, wind direction, sunrise, sunset) database and objective factors (ship speed, warship patrol, international maritime sanctions, local Muslim fasting month, ship security officer execution) to analyze the nature and hot trends of each sea area, in addition to understanding the case. In addition to the spatial information such as characteristics and distribution, it can also be used by ship owners and masters and the International Bureau to assist in the formulation of the Somali piracy anti-theft security strategy decision and reference (ICC International Maritime Bureau, 2011, 2012).

Equation 1 shows the cost components of providing standard EAP services. Because we are estimating the economic (opportunity) costs of providing standard services, the cost categories presented here should include the actual expenses paid by the EAP plus the additional fair market value of any free or subsidized resources they received (French, Dunlap, Zarkinb, & Georgia, 1998; Bray, French, Bowland, & Dunlap, 1996; Drummond, 1991). However, because the EAP did not receive any free or subsidized resources for either standard OI enhanced services, we can rely solely on expenditure reports for our cost calculations. As shown, the total costs of providing standard EAP services (C1) includes the value of labor (c2), contracted services (c3), materials (c4), equipment (C5), building space (C6) and miscellaneous resources (C7).

$$C1=c2+c3+c4+c5+c6+c7 \quad (1)$$

Labor costs include the salaries and fringe benefits of all EAP personnel. Contracted service costs include the fees paid for any contracted labor or services that are used by the EAP. Building costs include rent, mortgages, or another measure of fair market value.

Employee Assistance Programs (EAPs for short), is a new program developed in the corporate world since the 1970s. Through internal management personnel or external professionals, it helps employees solve social, psychological, economic and health problems. An assistance program affects job performance.

Many countries are currently promoting this program, such as the Netherlands, Switzerland, etc... and many companies in Taiwan are also assisting employees through this program, such as the Police Department, Chunghwa Post, Taipei MRT Corporation, and China National Petroleum Corporation.

### 3. Results and Discussions-Coast Guard's Law and Regulations

The EAPs are not implemented by the Southern Division of the Marine Commission's Sea Guards Department. Through the provision of service systems and the provision of professional services, the relevant factors and diversified services affecting individual performance are prevented or resolved. The service content is divided into working and living areas. The five aspects of health, organization and management are to cover the individual, organization and management level. By providing diversified and comprehensive assistance measures to improve the physical and mental health of the colleagues, the implementation contents are as follows (Fleming, Barry, Manwell, Johnson, & London, 1997; French, Bradley, Calingaert, Dennis, & Karantzou, 1994; French, Zarkin, & Bray, 1995):

1) Personal level:

a. Work surface: including work adaptation, organizational change adjustment, work and life balance, and career (retirement) planning.

b. Living surface:

i. Legal advice: including legal issues, car accidents, debts, inheritance, marriage, conflicts, etc. on official duties.

ii. Financial consultation: including tax treatment, debt processing, insurance planning, etc.

c. Healthy side:

i. Mental health: including stress adjustment, interpersonal relationship, emotional management, couple or parent-child communication, interpersonal communication in the workplace, and the response and management of major crises in all stages of life.

ii. Health care: Provide medical and health care measures for current public officials of government agencies and relevant information on existing health care resources of civil society organizations.

2) the organization and management level:

a. Organizational aspects: including organizational change management, major stress event management, and performance improvement.

b. Management surface: including leadership control, interview skills, crisis management, team building, etc., and enable managers to assist in referrals when employees have problems affecting work efficiency.

#### 4. Conclusions and Future Study

In addition to the fact that ships can suppress forced pirate attacks because of effective force, the general ship also reduces the fuel cost under high load because of the reduction rate approved by the maritime armed security personnel. In addition, many ship insurance companies also do not hire marine maritime security guards because the ship has To increase the additional risk premiums for ships, in accordance with the above-mentioned issues, the trend towards the use of maritime armed security guards should be the best way to assess the current piracy situation. If you explore the potential problems of your colleagues through the EAPs service system, and discover, evaluate and solve problems, you can provide timely assistance according to the needs of the colleagues and the nature of the work, so that colleagues can work with peace of mind and look forward to creating an organizational culture that is willing to work and unite work to strengthen the competitiveness of the team.

#### Conflicts of Interest

The author(s) report(s) no conflict(s) of interest(s). The author along are responsible for content and writing of the paper.

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