Open, Distance and eLearning for the Indonesian Maritime Education and Training Sector

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ABSTRACT

Indonesia is the world's biggest archipelago covering three time zones. Being the world's largest Muslim nation, it has a large young workforce that can potentially supply the world fleet with deck officers, engineers and merchant marines. Indonesia can produce a well-trained, highly educated maritime workforce. Indonesia is also the first country in Southeast Asia to mainstream open and distance learning within the educational system. Its Universitas Terbuka Indonesia is the first open university to be established in the ASEAN region.

With its extensive background in ODeL and its maritime nature, Indonesia can tap eLearning for its maritime education and training sector to achieve its potential as a world maritime power. This paper presents the economic arguments for the convergence of the Indonesian ODeL community and the Indonesian maritime education and training sector. These arguments include macro level analysis of the maritime labor force and its contributions to GDP as well as micro analyses such as educational expenditures and opportunity costs. Collaborative models and policy options are offered by the paper as well.

INTRODUCTION

The Republic of Indonesia has long been described as the "Sleeping Giant" in the global maritime sector. It is the world's biggest archipelago covering three time zones. Compared to any other country, Indonesia has the longest coastline. The country is strategically located in one of the world's busiest waterways: east of the Indian Ocean, west of the Pacific Ocean, south of the China Sea and north of the Corral Sea. It is within the planet's largest center of marine biodiversity, the Sulu Celebes Sea. Most certainly, Indonesia has a legitimate claim of becoming a global maritime power.

The country can potentially become one such power by establishing the strategic presence, in terms of quantity as well as quality, of its merchant marines and officers within the global fleet. In other words, it can achieve its goal of becoming a leading maritime nation by producing a well-trained, highly educated maritime workforce manning flagships from different countries. Indonesia has a large young, educated,

value-laden and industrious population being the world's biggest Muslim nation. Strategically, it can make its mark through quality maritime education and training.

Indonesia is also the first country in Southeast Asia to mainstream open and distance learning within the educational system through its SPT Terbuka initiative. Its Universitas Terbuka Indonesia (UTI) is among the first open universities to be established in the ASEAN region. With its extensive background in ODL and its maritime nature, Indonesia can tap eLearning for its maritime education and training sector to achieve its potential as a world maritime power.

OBJECTIVES

This paper presents the strategic and economic arguments for the convergence of the Indonesian ODL community and the Indonesian maritime education and training sector. Its objectives are to present:

1. Strategic arguments for eLearning within the Indonesian maritime education and training sector;

2. A macro level analysis of the maritime labor force and its contributions to GDP;

3. A micro level analysis of this convergence involving educational expenditures and opportunity costs; and

4. Collaborative models for eLearning for maritime education and training among Indonesian institutions of higher education.

FRAMEWORK

STCW

For so long, compliance to the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW Convention) and the Seafarer's Training, Certification and Watchkeeping Code (STCW Code) has been the global framework, rationale and driving force for maritime education and training improvement. Indonesia is no exception. With its entry into the so-called International Maritime Organization Whitelist of nations which may supply merchant marines and officers, the nation is determined to keep its status as a world- class source of qualified well-trained seafarers and officers for the world fleet through standards setting, administration, monitoring and enforcement.

However, STCW may not be the only valid rationale for MET improvement. The hallmark of STCW is the "minimum requirement" instead of the pursuit of excellence. Furthermore, STCW standards change over time and are not set on stone. Compliance with STCW is like trying to hit a moving target and monitoring compliance is a cumbersome, arduous task. In order to achieve excellence in maritime education and training, the country may have to look beyond STCW.

Furthermore, the maritime education sector is situated within a cusp of concerns that makes it imperative for it to conform to standards other than those dictated by STCW.

Maritime education and training (MET) institutions need to follow educational standards set by the Ministry of National Education. Furthermore, as accredited training service providers, the six MET academies need to comply with financial management standards set by Badan Akreditasi (Indonesian Accreditation Agency). Better yet is the initiative within the sector to shift from minimum requirements to de facto standards through STCW+ α.

STCW + α

The phrase "*plus Alpha*" was introduced by Japanese organizational management culture to mean: going beyond the norm or the minimum; adding more than what is expected; going the extra mile; or improving above the standard. Current American English slang uses the phrase, "leveling up." Indonesians, on the other hand, would relate to this concept with the popular practice of "topping-up" their *pulsa* or mobile phone credits.

In 2007, an international maritime conference in Japan introduced the concept of STCW'95 plus Alpha and, along with the STCW Convention and Code, has since become a guide for MET improvement in a number of ASEAN countries

The application of STCW+ α in the maritime education and training improvement (METI) has been evolving. METI was planned before 2007 when the phrase was introduced in the maritime sector. Based on changing circumstances from planning to the implementation period, the Maritime Human Resource Development Center has set a new target for its Education and Training Programs and it has branded it as STCW'95 plus Alpha, which means higher than the standard STCW'95 minimum requirements. Thus the use of the concept in maritime education and training in Indonesia

The initial focus of STCW plus Alpha was on the improvement of instruction and assessment, which included elements of course design, course delivery, student evaluation and course evaluation. Hence, appropriate plus alpha strategies that would lead not only to improved maritime programs but to: improved teaching methods and materials; improved assessment; improved delivery systems; and improved quality systems.

DISCUSSION

Beyond STCW requirements, how can Indonesian maritime education and training be improved further?

Asaka et al (2011) opines that among the best areas for quality improvement is course delivery, specifically the adoption of new information and communication technology-based delivery systems recognized by the international educational community. This entails two interrelated strategies: open and distance and eLearning; and networking.

Open, Distance and eLearning (ODeL)

Distance learning is an educational delivery system wherein the learner is separated from the teacher by distance. Distance learning can reduce the time for the Officer Third Class to be upgraded to Officer Second Class and eventually to Officer First Class if enrolled in academy distance learning programs while gaining on board experience.

Furthermore, Indonesia is considered globally as a trailblazer in open and distance learning with its SMP Terbuka and its UTI. For this reason, Indonesia has been identified as the location for the headquarters of the Southeast Asian Ministers of Education Organization Regional Open Learning Center (SEAMOLEC).

A type of distance learning that makes use of electronic media - digital audio, digital video, CDROM, mobile phones and the Internet – is referred to as eLearning. A type of eLearning that makes use of an Internet-based learning management system (LMS) is called online learning. Online learning and eLearning can increase knowledge, understanding and proficiency of maritime learners based on the experiences of Europe, Canada and Russia. The World Maritime University (Malmo) is now offering a Certificate Program on Maritime Insurance via distance learning. This mode of learning, in fact is extensively used in Indian, Romanian and Baltic maritime universities.

Supporting Arguments

Indonesian MET should adopt eLearning not only to improve its delivery system but to increase its strategic presence in the world fleet, in quantity and quality. There are three rationales for eLearning: the economic argument; the pedagogic argument; and the strategic argument.

The economic rationale argues for eLearning because of the opportunity costs incurred when an Officer Third Class leaves his current employer and goes on shore to an academy to get training for his upgrade to Officer Second Class. In a study conducted by Flor (2011) it was estimated that when Indonesian maritime academies enroll Officers Third Class for upgrading for eight months, Indonesian families incur an opportunity cost of USD 3,960,000/year. When Officers Second Class go onshore for upgrading for another six months, an opportunity cost of USD 8,400,000/year is further incurred. These opportunity costs can be mitigated with on board training via distance learning or eLearning. Opportunity costs pertain to the families of Indonesian officers only. At the macro level, we estimate that Indonesian GDP is deprived of as much as USD 30,000,000 whenever officers go on shore and leave their employment for upgrading.

Additionally, Azuma et al (2011) estimated that maritime eLearning programs are ten times cheaper than residential or on campus programs. A classroom to student ratio of 1:30 is no longer necessary. Maritime academies need not be constrained to accept applicants on the basis of limited facilities. The educational expenditure of the trainee is likewise reduced. Transportation costs, educational materials costs and tuition fees should be significantly reduced.

The pedagogic argument, on the other hand, submits that conventional residential learning is much more enhanced by eLearning. The combination of residential learning and eLearning is called blended learning. The STCW Convention specifies three categories of learning: knowledge gain; increased understanding; and increased proficiencies. Distance learning is more effectively applied for knowledge gain and increased understanding purposes. However, proficiencies can be increased while on board, if the ship agrees to devote part of its time for learning purposes. This pedagogic style makes maximum use of time and maximum use of technology. It also employs the learner centered paradigm.

Lastly, the strategic rationale argues that distance learning and eLearning can present additional opportunities other than upgrading for officers. In the Indonesian education system, the diploma earned from a PIP, a DIV is now equivalent to an S1 or SP1. Thus, a holder of a DIV can be qualified to undertake graduate studies. In 2007, the open university of Indonesia, Universitas Terbuka, engaged in a dialogue with the Association of Indonesian Maritime Institutions for the possibility of offering a Master of Transportation Management degree via the distance mode. In that dialogue, the possibility of crediting the hours spent on upgrading training courses to the degree was explored and agreed upon in principle (Flor, 2011).

In education parlance, the practice of crediting non-formal education courses as part of a formal program is called *articulation*. We can say that through articulation, the possibility for an Indonesian officer to obtain a Master's degree (S2 or SP2) while getting his upgrade training is real. This additional credential/qualification for officers would mean accelerated promotions. If this initiative of UTI and the MET sector clears with the Ministry of National Education (and by all indications, it will), Indonesia will be the first maritime country in the world with this articulation system. This innovation can catapult Indonesia into prominence as a leader and trailblazer in MET along with its reputation of being a trailblazer in open and distance learning.

Distance Learning in STCW 2010

It must be pointed out at this juncture that, the STCW 2010 Convention now provides for the standardization of maritime distance education programs. Regulation 1/6 provides for the Endorsement Attesting the Recognition of a Certificate Under the Provisions of the International Convention of Standards of Training, Certification and Watchkeeping for Seafarers, 1978, as Amended 2010. Section A-I/6 on Training and Assessment states that "Each Party shall ensure that all training and assessment of seafarers for certification under the Convention is structured in accordance with written programs, including such methods and media of delivery, procedures, and course material as are necessary to achieve the prescribed standard of competence." This implies a tacit acceptance of distance learning as a MET delivery system provided that certain standards are set, adhered to, monitored and enforced.

This cautious and prudent approach to distance learning has been adopted by the Ministry of Transportation (Asaka et al, 2011). A set of ten tentative questions were provided by MOT officials for academies who may want to venture into eLearning in the future:

1.   What is the program?

2.   Where will it offered?

3.   Is it on board or shore based?

4.   How will the registration process work? Is it for seafarers or instructors?

5.   Is the program formal, nonformal or informal education? Is it eLearning or distance learning?

6.   What is the M&E methodology? Assessment method? When, who will provide evidence.

7.   Who will provide the infrastructure?

8.   What is the design/architecture of the installation?

9.   What will be the cost? Who will shoulder the costs?

10.   What will be the working hours? How will it affect the mandatory rest period?

If these questions are answered satisfactorily and that the program complies with standards set by STCW2010, then a permit to offer MET eLearning programs may be forthcoming.

Networking

The second strategy for delivery systems improvement is networking. Indonesian MET should adopt networking to improve its delivery system and increase its strategic presence in the world fleet, in quantity and quality. There are three types of networking that may be employed: institutional networking; sectoral networking; and regional networking.

Institutional Networking. Should maritime education and training institutions decide to venture into distance learning, an Indonesian MET eLearning Consortium should be formed. The Consortium will be a network of networks composed of: a network of MET academies (STIP, BP3IP, PIP, BP2IP); a network of universities (a national university, Universitas Terbuka and regional universities - Universitas Hasanuddin, Universitas Diponegoro, SIT, etc); and a network of shipping companies. The content will be provided by the MET academies. The eLearning Platform will be provided by the network of universities. The shipping companies would provide: the use of on board facilities for learning; and the appointment of officers as affiliate professors, mentors, tutors.

Sectoral Networking. Sectoral networking refers to partnerships between public and private MET institutions. Consider the following breakdown of MET institutions - one (1) BP3IP; five (5) government academies; sixty-eight (68) private institutions – totaling seventy four (74) academies. The entire maritime sector should share resources to improve their respective delivery systems.

Regional Networking. With STCW2010, Indonesia should tap the strategic strengths of its regional partners in exchange for its strategic strengths. For instance, its maritime academies are relatively strong in Bridge Team Management (BTM) and Engine Resources Management (ERM), wherein Singapore and the Philippines academies may be a little weak. However, Indonesian maritime academies may be weak in maritime security, which is the strength of Singapore and Maritime English, which is the strength of the Philippines. Sharing delivery systems among the maritime academies of these three countries would strengthen them collectively.

CONCLUSION

Based on the arguments presented above, this paper concludes that the Indonesian maritime education and training sector can maximize its contribution to the country's Gross National Product by engaging in eLearning. Furthermore, it can significantly decrease the educational expenditures of maritime officers as well as the opportunity costs incurred.

This paper recommends that the Indonesian maritime education and training sector should accelerate its speed of development as a global maritime power by initiating eLearning programs in collaboration with national and regional institutions of higher education. Additionally, it recommends the adoption of the following strategies: program improvement; instruction improvement; and delivery systems improvement.

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