
BENCHMARKING OF MALAYSIA MARITIME EDUCATION AND TRAINING INSTITUTE'S PERFORMANCE IN 2018.

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ABSTRACT

The purpose of this research is to compare the number of trainees trained by Malaysian Maritime Education and Training Institutes (METIs) from January 2018 to December 2018. We use frontier analysis in this non-parametric research approach to determine the percentage of performance efficiency. The results show that the majority of METIs have a performance efficiency of less than 39%. This study has contributed to the creation of a body of knowledge and is expected to raise awareness of METIs in Malaysia in order to improve their technical efficiency.

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1.0 INTRODUCTION

Following the implementation of the new Standards of Training, Certification, and Watchkeeping (STCW) code as amended in 2010, the number of Maritime Education and Training Institutes (METIs) in Malaysia has increased over the decades. As of 2018, a total of 25 METIs were registered with the Marine Department Malaysia (MarDep) and provided services to seafarers to close competency gaps (Maritime Training Institutions and Suppliers, n.d.). However, does all registered METIs are technically efficient?

According to the official Marine Department Malaysia website, MarDep has recently suspended the operation of a few registered METIs due to non-compliance with training standards. This brings us to our research question, "How efficient are METIs in Malaysia?" The goal of this study is to compare all registered METIs in Malaysia based on their training outcomes for the entire year of 2018.

2.0 LITERATURE REVIEW

Benchmarking is not a new concept in operational research. This exercise has previously been carried out in financial institutions (Camanho & Dyson, 1999; Mostafa, 2007), the maritime industry (Pinto et al., 2017; Venkadasalam, 2017), the education industry (Dick et al., 2020;

Ulucan, 2011), a healthcare centre (Rowena, 2001) and others (Li et al., 2015; Mitra Debnath & Sebastian, 2014).

The goal of a benchmarking exercise is to measure business level growth (Camanho & Dyson, 1999) and achieve higher performance and commercial success (Pinto et al., 2017) by improving operational efficiency (Min & Joo, 2006). This exercise has also proven to be the most effective method for quantifying a set of key performance indicators for both internal and external functions (Dias et al., 2009). Furthermore, such an exercise assists sector administrators in taking initiatives for the evaluation of utility and service performance, identifying gaps between existing best practises and other less-than-ideal practises, and evolving the extent of savings possible if inefficiencies are reduced (Vishwakarma et al., 2012).

Many academics, however, are subject to benchmarking on METIs. The majority of METI-related studies in the literature focus on either the challenges faced by METIs (Baylon & Santos, 2011) or the quality of training (Cooper et al., 2004). This study is expected to contribute to the body of knowledge on METI benchmarking in Malaysia.

3.0 METHODOLOGY

This study used a non-parametric approach to compare all METIs in Malaysia. There were 25 METIs registered and operating under the jurisdiction of the Marine Department Malaysia. Secondary data on the number of certificates issued in Malaysia in 2018 by month was obtained from the Marine Department Malaysia database. For this study, only active METI with a record of certificates issued in 2018 are considered. Based on these criteria, a total of 19 METIs were available for analysis. Benchmarking frontier analysis was carried out using the rank and percentile functions in Microsoft Office Excel. The efficiency percentage of each METI is computed, and a ranking is assigned accordingly.

4.0 FINDINGS AND DISCUSSION

Based on their 2018 performance, we conducted a frontier analysis of METI in Malaysia. The results of the frontier analysis are shown in Table 1. ALAM, PELITAKKB, RANACO, and PELITACBU are the top four best performing METIs (efficiency greater than 80%), while MSSBSB, SMTC, and SMA are the top three worst performing METIs (efficiency less than 40%).

Table 1: Result of benchmark frontier analysis

NO	MET	RANK	PERCENT
1	ALAM	1	100.00%
2	PELITAKKB	2	94.40%
3	RANACO	3	88.80%
4	PELITACBU	4	83.30%
5	META	5	77.70%
6	ILMU	6	66.60%
6	POLARIS	6	66.60%
8	PLPD	8	61.10%
9	SMACBU	9	55.50%
10	PELITAMAS	10	50.00%
11	MSTS	11	44.40%
12	MSSB	12	38.80%
13	CMEPKG	13	33.30%
14	PERMATA	14	27.70%
15	SMSTCKK	15	22.20%
16	ISB	16	16.60%
17	SMA	17	11.10%
18	SMTC	18	5.50%
19	MSSBSB	19	0.00%

Table 2 shows the METI cluster based on performance range. The majority of METIs are classified as weak (efficiency less than 39 percent). This group contains a total of eight METIs. Only four METIs are designated as industry leaders (efficiency greater than 80 percent)

Table 2: Results of cluster analysis

CLASS	RANGE	No. of METIs
A	>80%	4
B	70-79%	1
C	60-69%	3
D	50-59%	2
E	40-49%	1
F	<39%	8

5.0 CONCLUSION

Based on the 2018 performance, this study met the objectives of benchmarking METIs in Malaysia. As expected, the large METIs took the lead in the industry. ALAM, PELITAKKB, RANACO, and PELITACBU are their names.

One of the study's major limitations is the lack of up-to-date data. It would be interesting to conduct similar research to determine the performance of these METIs prior to, during, and after the COVID pandemic. Furthermore, the current study does not assess the scale efficiency of these METIs. Scale efficiency assesses a firm's efficiency based on its size and capacity. The size and capacity of METIs will be included in future studies for benchmarking. This could result in a return to the METI's scaled efficiency.

The study's findings will have a practical impact on the METI's ability to strategize and plan for the coming year by comparing it to the inputs and output variables of their peers. Furthermore, this study provides tools for MarDep to analyse the efficiency of METIs when it comes to the renewal of institutional accreditation.

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