

Economic Constraints on Maritime Training and Education in Turkey

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ABSTRACT: The quality improvement of the Turkish Maritime Education and Training (MET) system is a relevant political and scientific issue which strongly impacts the competitiveness of the shipping sector in Turkiye. However, MET is quite an expensive Education and Training (ET) system since it requires high investments and incurs high running costs. The existing situation enforces the training system to be able to execute under the desired level of sector expectations in terms of graduates quantity. This study mainly focuses on the investigation of the economic needs of MET facilities. And some of the relevant recommendations are drawn up to improve the efficiency of current MET system. In this respect, the proposed items basically refer to the need of concentrating and integrating resources in order to exploit some degree of economies and pursuing quality in MET.

1 INTRODUCTION

One of the most outstanding economic aims for a country (or region) is the optimization of its citizens' welfare. This may be attained by the provision of a sufficient number of high-quality products at a sufficiently low price or (Linden, 2001) perform economic constraints such as education and training systems.

Maritime Education and Training (MET) is expensive education and training system, particularly if costly equipment, such as simulators and training ships, is purchased and operated which is considered to be a necessary prerequisite for the offering of high-level MET (McConville, 1999). This situation, which suggests the sharing or the concentrating of these resources, which are worth several million dollar and incur considerable running costs, is acerbated by the reduced number of students at many MET institutions. It leads to the theses that not all institutions can offer high-quality MET (particularly not those which cannot afford expensive equipment) and that MET is more expensive than it needs to be (Lewarn, 2000). These arguments make it necessary to have a closer look at costs and financing of MET to investigate economic constraints (Mazzarino, 2005).

In this respect, the aim of this paper is to analyze the investigation of MET costs, economic constraints on MET and to contribute to the improvement of maritime education and training system. Very briefly, the objectives of the paper should be identified as follows; the need to improve

the quality of the Turkish MET system to be a relevant political and scientific issue which strongly impacts the competitiveness of the shipping sector in Europe (Mazzarino & Maggi, 2000). So that first, it aims to classify the maritime training and education costs. Secondly, it identifies the economic constraints of maritime education and training systems. Finally, the study tries to recommend a national strategic plan for using the MET funds with the maximum efficiency according to the costs which are classified.

2 CLASSIFICATION OF MET COSTS

MET is one of the best tools for increasing the competitiveness of the Turkish shipping sector, so that the most important aspects of the study are analyzing the effectiveness and efficiency of MET (Goss, 2004). The analysis of the financial aspects of MET, however, is not the only one that aims at optimizing cost of MET or, in other words, at making MET more efficient and more effective (Mazzarino, 2005).

MET costs are not itemized in an accounting subsystem such as a separate human capital account, but are depreciated in full in the year they arise (Winand, 1998). With respect to stated observation MET costs are classified as below:

1. Operation and Maintenance Costs

- Equipment/devices – repairs and maintenance
- Equipment/devices – new development, procurement and transfer

- Initial spares/Stocks
 - Consumables
 - Supplies
 - Replenishment spares
2. Training Facilities and Base Operation Support Costs
 - Utilities and Maintenance
 - Training facilities (classrooms, dorms, dinning halls, student centres)
 - Base Operating Supports (infrastructures such as medical center, gym, support services)
 - Construction and remodel
 - Training facilities
 - Base Operating Supports (BOS)
 3. Investigation Costs
 4. Teaching Costs
 - Wages
 - Academic Staff
 - Administration and Support Staff
 - Academic and Administrative Services
 - Libraries
 - Laboratories
 5. Accommodation costs
 6. Additional costs
 - Voyage
 - Books
 - Scholarships

The critical costs, which are described in this structure, are academic staff costs, accommodation costs, operational and maintenance costs and investments. When MET are benchmarked with other disciplines, the additional expenses on maritime education and training such as equipment (simulators), devices, initial spares and stokes of laboratories for maritime practice, special accommodation requirements should be considered. Therefore, supporting MET universities appears as the primarily issue for maritime administration and government (Sampson, 2004).

Reducing the academic staff costs do not seem reasonable in the near future as to save money for the MET system. Indeed, if quality becomes the main goal for MET, it should be realized that quality is not easy to find around and since MET universities will have to be more and more competitive this heading will possibly be increased in the future. Quality means better lecturers and better lecturers want to be paid accordingly. And the investment in techno innovative systems is other major important parameter which directly impacts the effectiveness and competitiveness of MET system.

The investigation of the root costs can provide the observation of economic constraints impacts on

MET effectiveness and competitiveness. Further sections of this paper investigate the economic constraints and enforcements to decrease the impacts on maritime education and training program.

3 OVERVIEW OF ECONOMIC CONSTRAINTS

Rapid evolutions of technologies, increased globalization of information, communication and economy will occur. Therefore, to catch up with the technologic advancements, to improve the quality standards it is necessary to have the support of government fiscal resources (Teel, 1998). However, to define limit of fiscal resources will become an increasingly important policy parameter within Turkiye. Economic fluctuation, war, decrease of national income, political crisis and inefficient allocation of financial resources are some of the parameters that cause an economic constraint. Taking into account these criteria: enforcement of economic constraints (which are fiscal limitations on public allocations) interruption of funds, limitation on wages, and increasing of taxation directly effect the maritime education and training universities MET universities adoption of expensive high technology equipment for teaching and research, in order to fulfill their missions, will necessitate an increasing reliance on soft money (Bonnin & Lane & Rugguan & Wood, 2004).

In face of these economical constraints, to catch up with the quality standards, to build on their strengths to remain viable and competitive, to design the education of next generation and to compete with the international MET universities can not be possible for national MET universities. Otherwise economies of scale and restricted budgets will be imperatives for MET Universities to become more interdependent, to feel the impacts in minimum and always to be ready to execute economic advanced strategies.

4 RECOMMENDATIONS FOR FUTURE

With the implementation of economic constraints on maritime education and training, it is difficult to accomplish of making MET more efficient and more effective. Therefore it is necessary to give a decision about increasing maritime training and education level.

Increasing interdependence of MET universities, restricted budgets and unequal allocation of financial resources suggest that infrastructure should be built for the future on strong and substantial to remain competitive and effective, instead of prioritizing attempts to remedy weaknesses. To implement this

policy effectively, it will be necessary to prepare a natural strategic planning and resource allocation decisions according to the economical needs of MET facilities. Supervision organization must be instituted to make an evaluation of the plans whether they meet or not the desired outcomes and needed adjustments are to be made during the application phase of plan (Chinese University, 1999).

4.1 *Structure of National Strategic Plan*

Main goal of the preparation of the strategic plan is the compensation of the respond of financial needs of MET facilities, to maximize the resource using and to emphasize teaching efficiency with the help of student-centred learning, using convenient teaching technologies, and focusing on student outcomes. With respect to these main goals strategic plan is formed and indicated below:

- Improvement of students language competency
 - By developing their technology information literacy
 - By expanding language competency training
- Upgrading physical infrastructure for teaching and learning
 - By improving existing facilities
 - By improving new facilities
- Strengthening of continuous quality assurance programme for faculty
- Strengthening of research activities of individual and research groups
 - By upgrading research infrastructure
 - By developing further reward mechanisms for excellent achievements in research
 - By enhancing national and international collaboration
 - By creating targeted endowments in order to supplement existing teaching and research support and to conduct product evaluation leading to technology transfer
- Fostering for excellence
 - By adopting better strategies
 - By prioritizing these areas for infrastructural upgrading.
- Improvement of the cost effectiveness within the MET universities
 - By improving management efficiency
 - To allocate funds based on performance
 - To expand mechanisms for performance
 - To conduct regular management
 - To control internal audits
 - To embrace external audits
- Compensation for inadequate resources

- By pursuing international competitive research funding
- By developing technology transfer
- By generating revenue from soft-funded teaching programmes
- By targeting alumni and donors
- By reallocating resources

To accomplish the implementation of national strategic plan must be obtain values and information about the each section of plan, check the qualification of the plan about meeting financial needs of MET, and control of the contribution in improvement of education level. It is necessary to constitute a supervision organization to control or investigate the criteria which are implemented. Also, accomplishing the identification of sources of funds for MET including the contribution by students and using these funds of MET with the maximum efficiency is the other important necessity of plan (Chinese University, 1999).

4.2 *Resource Allocation Decision*

In order to implement the effectiveness and efficiency of MET it is compulsory to identify the funds and resources. And one of the other compulsory criteria for efficiency is the allocation decision of funds and resources (Mazzarino, 2005). Nowadays, MET facilities are departments of the universities. That is the reason MET facilities don't have independent budgets indicating all the funds or resources. Hence, MET facilities have to allocate funds in maximum efficiency with the majority sequence of MET costs. In this respect, operation and maintenance costs are top of the sequence, accommodation cost is the special cost for maritime training and education, teaching cost is one of the important cost to emphasize on and the other ones are investment costs. The main goal here must be that of reducing fund loss or increasing the usage of funds with maximum efficiency and to ensure maximum benefits for MET facilities.

5 CONCLUSION

In this paper, the costs of maritime education and training system, causes and effects of economic constraints and justifying a number of national actions on the basis of MET to decrease the impact of economic constraints and giving decision to resource allocation are expressed. Recommendation for future actions refer to the effectiveness of concentrating and integrating MET resources in order to exploit some economies of scale. On top of that are the requirements to pursue quality in MET and to better allocate MET funds for education and

training. It is main concern in this study to emphasize the major costs of MET, distribution of these costs by exploiting economies of scale through the fund and resource sharing and which cost mostly influences the implementation of economic constraints. Therefore, recommendations for future which are national strategic plan and resource allocation decision are the critical point of this research. The main philosophy of the national strategic plan is maintained a stable maritime education and training system in each conditions of economy, raising the education standards, maintaining maximum efficiency in using MET funds and decreasing the impacts of economic constraints to minimum with the help of strategic plan. The outcomes of this paper can be utilized as a contribution to assist in structuring national strategic plan in practise.

As a further investigation, it can be performed a research on benchmarking with equivalent technical education and training system according to the education and training costs of systems. On the other hand the scope of the investigation can be extended to cover the cost and funds analyzing, making comparison of costs and financing between national and international MET institutions.

REFERENCES

- Bonnin D. & Lane T. & Ruggan S. & Wood G. 2004. Training and development in the maritime industry: the case of South Africa. *Human Resource Development International* 7(1):7-22.
- Goss R. 2004. International Association of Maritime Economists' Conference 'Economic Welfare and Maritime Economics' Izmir, June 2004.

- Lewarn, B. 2000. The potential for the association of maritime education and training institutions in Asia pacific (AMETIAP).
- Linden V.A.J. 2001. The economic impact study of maritime policy issues: application to the German case. *Maritime Policy and Management* 28(1):33-54.
- Mazzarino M. & Maggi E. 2000. The impact of the new onboard technologies maritime education and training schemes in some finding from the 'METHAR2 project. *Maritime Policy and Management* 27(4):391-400.
- Mazzarino M. 2005. Cost and Financing of Maritime Education and Training in Europe: Analysis and Policy Implications. *Transition Studies Review* 12(1):147-160.
- McConville, J. 1999. Maritime Manpower. *Maritime Policy and Management* 26(3):207-208.
- Sampson, H. 2004. Romantic Rhetoric, Revisionist Reality; the effectiveness of regulation in maritime education and training. *Journal of Vocational Education and Training* 56(2):245-267.
- Teel, S. 1998. Oceans' 88 A Partnership of Marine Interests Proceedings 'Maritime Training and Ocean Education', Baltimore, 31 Oct-2 Nov.
- The Chinese University of Hong Kong, 1999. 3rd Meeting of Senate "An Updated Institutional development Plan Capturing the Challenge of Change: Detecting the Direction for Achieving Distinction".
- Winand K. 1998. 'Vocational education and training – the European research field Background report', Luxemburg: Office for Official Publication of the European Communities.