3rd **ICMET 2019**

"International Conference on Maritime Education and Training"
SHERATON HOTEL SURABAYA, 21 NOVEMBER 2019
POLITEKNIK PELAYARAN SURABAYA

Enhancing the Maritime Education and Training Roles for Sustainable Maritime Transportation System in Industrial Revolution 4.0 Era

[**PROCEEDING**]

POLITEKNIK PELAYARAN SURABAYA

PACIFIC HALL

MERATUS PELINDO III BNI PT. DHARMA LAUTAN UTAMA

PROCEEDING BOOK OF

3rd International Conference on Maritime Education and Training

Enhancing the Maritime Education and Training Roles for Sustainable Maritime Transportation System in Industrial Revolution 4.0. Era

Sheraton Surabaya Hotel & Towers, Surabaya, 21 November, 2019

PROCEEDING BOOK OF

3rd International Conference on Maritime Education and Training

Steering Committe :

Ir. Umiyatun Hayati Triastuti, M.Sc.
Ir. I Nyoman Sukayadnya, M.M.
Capt. Heru Susanto, M.M.
Dr. Capt., Tri Cahyadi, M.H., M.Mar.
Heri Sularno, M.H., M.Mar.E.
Ferry Budi Cahyono, S.T., M.M.
Drs. Suharto, M.T.
Dr. Eko Nugroho Widjatmoko, M.M., M.Mar.E.

Reviewer :

Dr. Capt., Tri Cahyadi, M.H., M.Mar.
Dr. Eko Nugroho Widjatmoko, M.M., M.Mar.E.
Dr. Capt. Antoni Arif Priadi, M.Sc.
Dr. Capt. Sahabudin Sunusi, M.T., M.Mar.
Dr. Muh. Harliman Saleh, M.Pd.
Dr. Trisnowati Rahayu, M.AP
Dr. Karmini, M.P.A.

Editorial Board

Dr. Cepi Kurniawan (Universitas Negeri Semarang)
Dr. Ahmad Faizal Ahmad Fuad (Universiti Malaysia Trengganu)
Dr. Imran (Netherlands Maritime Institute of Technology, Malaysia)

Organizing committee :

Chairman	Ari Yudha Lusiandri, M.Pd.
Vice Chairman	Siti Fatimah, S.Si.T., M.Pd.
1st Secretary	Dwi Yanti Margosetiyowati, S.Kom. M.Sc
2nd Secretary	Maulidiah Rahmawati, S.Si., M.Sc.
	Retno Wulan Sari, S.S
	Rafiqa Amalia, S.Pd.
	Nila Juwita Antaranti, S.Sos.
	Duwi Purwati
	Winda Ayu Permatasari, S.Kom.

Treasurer	Dany Frisca Dwiasri, S.E., M.Ak.
	Ita Masita, S.E.
	Selvy Wulansari Purwanty
	Hagni Dinar Larasati
Protocol	Novrico Susanto, S.T., M.M. (Coordinator)
	Bugi Nugraha, S.ST.,M.M.Tr.
	Cardiana, S.Tr.Pel
	Diyah Purwitasari, S.Psi., S.Si., M.M.
	Femmy Asdiana, S.H., M.H.
Invitation	Elise Dwi Lestari, S.Sos., M.Pd. (Coordinator)
	Alice Rachmahanani P.
	Kukuh Primananda Putra
Equipment	Muhammad Darwis, S.T. (Coordinator)
	Muhammad Zainul
	Muhadjir
Events and Trials	Sereati Hasugian, M.T. (Coordinator)
	Anak Agung Istri Sri Wahyuni, S.Si.T., M.Sda.
	Elly Kusumawati, S.H., M.H.
	Sri Mulyanto Herlambang, S.T., M.T.
	Indah Ayu Johanda Putri, S.E., M.Ak.
	Daviq Wiratno, S.Si.T., M.T.
	Agus Prawoto, S.Si.T., M.M.
	Agus Dina Mirianto, S.Si., S.Kom.
	Luqman Firmansyah Armadhani
Welcome Dinner & Dishes	Rika Fitriani, S.Pd.,M.Pd. (Coordinator)
	Maliana S.Sos.
	Witang Pranestia Megara, S.E.
	Ardhiana Puspitacandri, S.Psi., M.Psi.
	Frita Ayu Sistyana Putri, S.E., M.S.A.
	Erly Finara
Paper and Registration	Monika Retno Gunarti, S.Si.T., M.Pd. (Coordinator)
	Diana Alia, S.T, M.Eng
	Rizqi Aini Rakhman, S.S.T.Pel, M.M.Tr
	Agus Ramayana, S.E.
	Karunia Dyah Palupi, S.S.T.
	Venna Febrian Rindiyani
	Mega Nanda
	Irma Rifatus Sholihah
Web Server	Prima Yudha Yudianto, S.E., M.M. (Coordinator)
	Deny Hana Saputra
Documentation and Report	Faris Nofandi, S.Si.T., M.Sc. (Coordinator)
	Yonky Wita Shirly
	Ali Surya Tomy
Sponsorship, Cooperation & Exhibition	Capt. Tri Mulyatno Budhi H., S.Si.T., M. Pd. (Coordinator)
	Rachmansyah, S.SiT. Pel.
	Rohmat Taufik
	Nurmalita Diansari
	Sita Wulandari

Usher	Dwi Haryanto, M.M. (Coordinator)
	Drs. Teguh Pribadi, M.Si, QIA
	Antonius Edy Kristiono, M.Pd.
	Sutoyo, S.Si.T., M.Pd.
	Capt. Manungku Trinata Pramudhita, S.Si.T., M.Pd.
	Yan Kusdyana, A.Md.
	Nurstefani Dwi Putri
	Angelia Dwi Luckytasari
	Qhisti Sabrina
	Nungki Fenaning Diah
	Erika Dyah Savitri
	Umu Nailatul Hasna
	Nita Cahayani Sumanto
Transport and Accommodation	Capt. Damoyanto Purba, S.Si.T., M.Pd. (Coordinator)
	Didik Dwi Suharso, S.Si.T., M.Pd.
	Hendra Purnomo, S.Si.T., M.Pd.
	Sigit Purwanto, S.Psi., M.M.
	Rama Syahputra S., S.ST. Pel
	Daniel Y. Rizal Maretta, S.Tr.Pel
	Fahmi Sulistian, S.Tr.Pel
	Fatta Nur Ardiansyah, S.Tr. Pel
	Roma B Sitorus , S.E.
	Saiful Irfan, S.Si.T., M.Pd.
	Edi Kurniawan, S.ST., M.T.
	Farhan Sufi Akbar
	David Yudha Bhakti
	Cecep Taufik Rokhman
	Sri Taufan
Cadet Briefing & Security	Semuel D. Parerungan, S.H., M.H. (Coordinator)
	Anak Agung Ngurah Ade Dwi Putra Yuda, S.Si.T., M.Pd.
	Raditya Huda Pranowo, S.Pd., M.M.
	Nurjana
Certification	Capt. Upik Widyaningsih, M.Pd, M.Mar. (Coordinator)
	Yunaidi, S.T.
Health	drg. Umi Muniroh (Coordinator)
	dr. Dewi Widowati, MM
	Eko Deddy Setiawan, A.Md.Kep.
Moderator	Dr. Muh. Harliman Saleh, M.Pd.
	Agus Dwi Santoso, S.T., M.T., M.Pd.
	Hariyono, S.T., M.M.
	Arleiny, S.Si.T., M.M.
	Dyah Ratnaningsih, S.S., M.Pd.

PREFACE

Assalamualaikum Wr.Wb.

Thanks to Allah SWT that Proceeding of the 3rd International Conference of Maritime Education and Training can be completed.

In recent years, marine education and training has played an important role in the advancement of human resources in related fields to enhance the development of academic studies, meanwhile, researchers are faced with many problems. With such a background, the 3rd International Conference on Maritime Education and Training (ICMET 2019) was held on 21 November 2019 in Surabaya. The purpose of this activity is to provide a forum to exchange insights, perspectives and thoughts for experts, lecturers, educators, researchers, practitioners, and related government in the field of marine shipping and transportation from within and outside the country, to report on the latest achievements of research efforts, to discuss various problems faced today face to face, and to be inspired and enlightened by the works of others. Conference activities include invitation speeches and oral presentations in sessions.

We would like to thank all the conference committee members who carried out the conference activities and prepared this report. It was realized that this report still had many weaknesses. Suggestions are expected to support the writing of this report. Hopefully, this Proceeding can provide benefits in sharing insight and knowledge.

DIRECTOR OF
POLITEKNIK PELAYARAN SURABAYA

Capt. HERU SUSANTO, M.M.

Table of Contents

The business strategy management model in a Merchant Marine Colleges using balanced scorecard framework

Iskandar[1], Muh. Harliman Saleh[2]
[1]iskandarxv@gmail.com, [2]harlimans3@gmail.com
[1]Politeknik Pelayaran Sorong, Sorong, Indonesia
[2]Politeknik Pelayaran Surabaya, Surabaya, Indonesia

Abstract: Merchant Marine Colleges that have diploma program is one of Higher education is the level of education after secondary education. Merchant Marine Colleges that have diploma program One of the common characteristics of organizational development is that organizational development is a continuous and dynamic process. Executors should be able to change strategy during the ongoing process as a result of emerging problems and organizational events. This is because it has a strong influence on the achievement of college goals, especially organizational development concerning financial perspective, costumer, education service process, and learning and growth. Balanced Score-card (BSC) as an alternative to organizational development. Within the framework of organizational development, Merchant Marine Colleges should optimize education services with the potential of existing resources in accordance with the demands of internal and external environment. as well as six steps in Business Strategy Management System, namely: (1) formulation, (2) planning, (3) program making, (4) budgeting, (5) implementation, and (6) monitoring. The Business Strategy Management within BSC framework can be applied to Merchant marine colleges status which give positive effects to the organization.

Key words: business strategy management, balanced scorecard, merchant marine colleges.

This paper is presented in The 3rd International Conference on Maritime Education and Training
21 November 2019, Surabaya, Indonesia

160

1. INTRODUCTION

The success of developing higher educational institution in this modern era are not only influenced by its performance, but also by external element which competition occurs continuously. It needs resources to achieve the mission and functions. In addition, it shall compete with others to absorb the alumni in the industry. Whereas, to get better revenue, every higher educational institution has to compete to rise fund from the public who take benefit of education service, as the changing status to BLU (Badan Layanan Umum/Public Service Agency). It shows the importance of the role of management and its strategic to achieve. Strategic management applications have envolved from business and industry management to others including on public services as well as on education management.

Politeknik Pelayaran Surabaya has developed a strategic management using Balance Score Card (Iskandar, 2017). Balanced scorecard is a fast, precise, and comprehensive management, measurement, and control system that can give managers an understanding of business performance (Dally, 2010). The BSC as the core of the strategic management system has three advantages: 1) motivating personnel to think and act strategically in bringing the company into the future, 2) generating a comprehensive and coherent total business plan 3) producing measurable strategic goals. The strategy management system is through the following stages: (a) strategy formulation, (b) strategic planning, (c) programming, (d) budgeting, (e) implementation, (f) monitoring (Mulyadi, 2001). The first step is the formulation of the strategy and the outcomes that determine the survival of an organization are: 1) the results of macro and industrial environment, 2) mission, 3) vision 4) basic beliefs and basic values of organization, 5) goals, 6) strategies to achieve the vision and the goals.

The second stage is strategic planning. Mulyadi (2001) states that strategic planning consists of three components: 1) strategic goals, 2) targets, 3) strategic initiatives. The strategic planning stage is a crucial stage, because this stage is the initial stage of strategy description. The third stage is the preparation of the program. The stage is a bridge between strategic planning with the preparation of the budget (Mulyadi, 2001). Selected programs must represent the strategic initiatives that have been defined in the strategic planning. Programs are structured in relation to long-term profit planning. The fourth stage is budgeting. The budgeting is the process of preparing short-term plans (usually for one year) containing the steps taken by the company in implementing some programs (Mulyadi, 2001). The fifth stage is implementation. In the implementation of college strategies need to take advantage of long-term goals and short-term goals. Short-term goals translate long-term goals into current year targets to be implemented. The last stage is the monitoring stage. Monitoring is the process of knowing the existence of suitability/deviation between the implementation with the plan in order to achieve the goals. Sonhadji (2013) adds the key to the success of strategy management is held by analyzing the SWOT and Balance Scorecard. SWOT analysis is done at the stage of strategy formulation while the Balanced Scorecard is in the strategy implementation and assessment stage.

In addition, Iskandar (2017) explains that the Balanced Scorecard concept translates the organization's mission and strategy into a comprehensive set of performance measurements, which sets the framework for a strategic measurement and management system. The organizational performance measurement combines balanced four perspectives: financial, customers, internal business processes, and learning and growth. The Balanced Scorecard addresses the main disadvantages of

This paper is presented in The 3rd International Conference on Maritime Education and Training
21 November 2019, Surabaya, Indonesia

161

traditional management processes, namely the inability of traditional management processes to link long-term strategies with company operations.

Iskandar (2017) evaluates the implementation of Balanced Score Card on Politeknik Pelayaran Surabaya, and it showed the existence of interrelated elements and require improvement. In the primary data analysis of elements to be improved is the speed of service associated with the speed of certificate handover in the secondary data analysis. The preliminary IKM survey results show the element of service speed is the most unsatisfying element. Thus, management needs to improve the speed of service. High priority should be given to the element to improve user satisfaction or participants who follow education and training. These steps should be incorporated into the strategic plan, both short and long term.

Besides that, the evaluation also showed the increasing the value of IKM of Politeknik Pelayaran Surabaya, which prior to the testing of the model has a value of 71.37 to 74.95, up by 5% with the average value of 3.02 elements with the previous 2.87.

Table of IKM Politeknik Pelayaran Surabaya, before-after implemented model strategy business using balanced scorecard

No	Indicator	Value	
		Before	After
1	IKM	71.37	74.95
2	Kategori	B	B
3	Rerata	2.87	3.02

Table.1 IKM Politeknik Pelayaran Surabaya

This condition also shows the satisfaction of the customer. Based on the observation of secondary data, the model that has been developed by the researchers showed a significant positive result.

The table performance result before-after implemented Balanced scorecard model in strategy business at the Politeknik Pelayaran Surabaya

No	Instrument	Result	
		Before	After
1	The certificate submission	20,8 days	18 days
2	speed	66%	83,75%
3	GPA ≥ 3	92%	97,3%
4	Trainee's performance and attitude report ≥ B	9	17
5	Number of cooperation	69.313	76.299
6	Number of participant Revenue	73.803.128.646	136.589.185.251

Table 2 performance result of model strategy business

At the certificate submission speed instrument exceeded the target that is maximum 20 days after KBM finished to be only 18 days post KBM. GPA ≥ 3 reached 83.75% of the minimum target of 80%. The value of konduite (trainee's performance and attitude report) category "B" reached 97.3% with initial target of at least 80%. While the

This paper is presented in The 3rd International Conference on Maritime Education and Training
21 November 2019, Surabaya, Indonesia

162

number of cooperation with the targeted company there are at least 9 cooperation in 2016, reaching 17 cooperation such as previous explanation (Iskandar, 2017).

Thus, it is concluded that balanced scorecard framework can be applied to colleges/high education institutions with BLU status. The results of the implementation of the management model at Politeknik Pelayaran Surabaya showed positive results measured from the level of community satisfaction and the achievement of targets that have been determined, namely (1) the speed of certificate handover, (2) the achievement of learners, (3) kondite points, (4) number of cooperation with shipping industry, (5) number of training participants, (6) BLU revenue (Iskandar, 2017). The strategy can be implemented on other merchant marine colleges.

2. FRAMEWORK

In general, Iskandar (2017) draws framework describes the stages of the business strategy management process through the Balanced Scorecard framework by step-by-step: strategy formulation, strategic planning, programming, budgeting, strategy implementation, monitoring, and development of a high-profile strategy model.
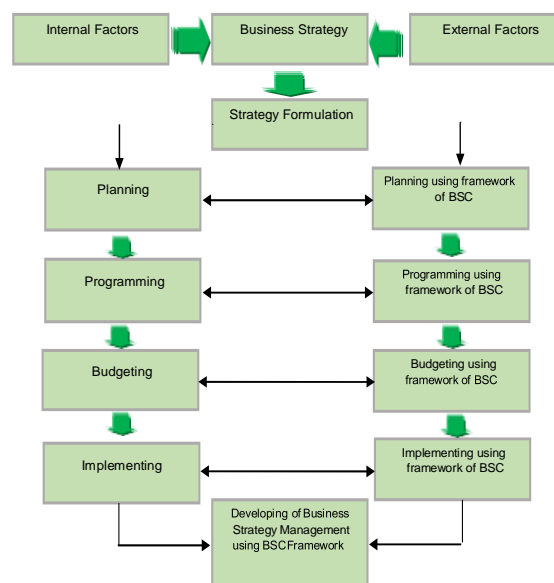
Figure 1 Framework

The reference that is used in the development of the strategy model is the performance of 2015. The involvement of external parties is achieved by the survey of IKM (Indeks Kepuasan Masyarakat/Satisfaction Index of Society) on the participants of the training courses held by college. The results of the survey become the reference in the determination of priority program in accordance with the demand from the users. Internal parties are involved by interviews on strategic planning strategy of the college.

This paper is presented in The 3rd International Conference on Maritime Education and Training
21 November 2019, Surabaya, Indonesia

163

Iskandar (2017) also draws she strategy management model as follows:

Figure 2 Managament Model

3. REPLICATION AND IMPLEMENTATION

The strategy model could be replicated and be implemented to othe collages based on the successful of implementation BSC method on Politeknik Pelayaran Surabaya. To do that, the colleges follow the ten steps to the implementation of research and development strategies, namely: (1) research and information collecting, (2) planning, (3) preliminary develop of product, (4) preliminary field testing, (5) main product revision, (6) main field testing, (7) operational product revision, (8) operational field testing, (9) final product revise, and (10) dissemination and implementation (Borg and Gall, 1983).
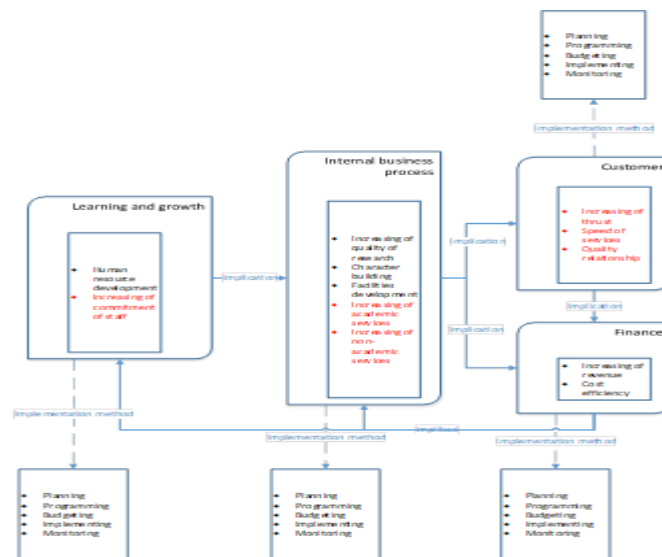
The first stage of research and information collecting is the pre-development stage of business strategy management model. The stage begins with gathering information on the business strategy management process at colleges. Information gathering is done by document studies, field observation, and interviews to actors of policy process and decision makers. The results of data analysis are some important notes for researchers about the business management process strategy.

The second stage is planning. The college analyzes and categorizes strategies and activities on the strategy plan into a Balanced Scorecard perspective, which consists of financial perspective, customer perspective, internal business process perspective, and learning and growth perspective.

The third stage is to develop preliminary form of product. The development of business strategy management model is done by measurement method to the achievement result of business strategy management model that has been implemented. Performance measurement instruments business strategy management model uses primary data and secondary data. The primary data was obtained by measuring customer satisfaction level of education service and training user. The level of customer satisfaction is measured by customer satisfaction survey through questionnaires based on the decision of the Minister of State Apparatus Reforms No. KEP/25/M.PAN/2/2004. The survey results show that the element of service speed is the element that has the lowest value which means the respondents feel not satisfied

This paper is presented in The 3rd International Conference on Maritime Education and Training
21 November 2019, Surabaya, Indonesia

164

with this element. Thus, strategic steps are needed to improve the speed of service. High priority should be given to this element to improve user satisfaction or participants who follow education and training. These steps should be incorporated into the strategic plan, both short and long term. The secondary data was obtained from internal documents include the measures of business strategy success, among others: (1) speed of certificate handover, (2) achievement of students, (3) number of cooperation with shipping company, (4) number of training participants, and (5) BLU income. Thus, the strategy model was developed by taking into account the results of the analysis, namely the addition of strategic targets, strategic initiatives, and work programs.

The fourth stage is pre-testing by validating experts, ie education management experts, strategy practitioners and educational standards, and stakeholders at. This stage is held before the implementation of the test/field testing model on the real system.

The fifth stage is the final product, by reviewing the model that has been developed in the third stage with input from the experts. The revised business strategy model is translated into target of strategies, strategies, work programs and indicators.

The last stage is model testing. The method of model testing is done by implementing strategic initiatives. The model is tested using the instrument of achievement of target indicators of business strategy management model, namely: (1) society satisfaction index, (2) speed of certificate handover, (3) value of GPA of students, (4) number of cooperation with shipping company, (5) number of students, (6) income.

4. CONCLUSION

The development of a college business strategy management model by applying the BSC because the mission and strategy can be applied to the updated performance measurement is related to the opinion of Kaplan and Norton, (1996, p.10). A management system that translates the mission and strategy of higher education institutions into a comprehensive set of performance measures that provides a framework for strategic measurement and management and management systems.

Developing a business strategy model as the Kaplan and Norton opinion (1996) which includes four perspectives, namely, finance, custom customers, stakeholders, internal business processes, and learning / growth. Where in each perspective contains several strategic objectives. Strategic objectives in the BSC perspective component are implemented with the stages of the strategy management system, namely: (a) strategic planning, (b) programming, (c) budgeting, (d) implementation, (e) displacement.

Mulyadi (2001, p. 47) states regarding the strategy management system goes through the following stages: (a) strategy formulation, (b) strategy planning, (c) program preparation, (d) budget formulation, (e) implementation, (f)) monitoring, also generic, which can be used in various business sectors.

From two major theories that are still general / generic, it conducted a variety of research and development activities including: collecting, compiling, illustrating, testing, and revising so that a new model in the form of business strategy management model of the Surabaya Merchant Marine Polytechnic was developed to improve organizational performance and increase power college competitiveness according to its vision and mission.

This paper is presented in The 3rd International Conference on Maritime Education and Training
21 November 2019, Surabaya, Indonesia

165

REFERENCES

Borg, R. W., & Gall, M. D. (1983). Educational Research: An Introduction. New York: Longman.

Clinton, B. D., & Hsu, K.-C. (1997). JIT and the balanced scorecard: lingking manufacturing control to management control. Management Accouting, 18-24.

Dally, D. (2010). Balanced Scorecard: Suatu Pendekatan dalam Implementasi Manajemen Berbasis Sekolah.

Iskandar, Murtadlo, and Suratman. (2017). The development of business strategy management model in a college using balanced scorecard framework (the case study of Politeknik Pelayaran Surabaya. ICEI, 393-398.

Iskandar. (2017). Pengembangan model manajemen strategi bisnis perguruan tinggi dengan rerangka balanced scorecard (studi kasus pada politeknik pelayaran surabaya). Dissertation Thesis. Universitas Negeri Surabaya.

Kaplan, R. S., & Norton, D. P. (2001). The Strategy Focussed Organization: How Balanced Scorecard Companies Thrive in The New Business Environment.

Mulyadi. (2001). Balanced Score Card: Alat Manajemen Kontemporer untuk Pelipatganda Kinerja Keuangan Perusahaan (Kedua ed.). Jakarta: Salemba Empat.

Sonhadji. (2013). Manusia, Teknologi, dan Pendidikan. Malang: UM Press.

This paper is presented in The 3ʳᵈ International Conference on Maritime Education and Training
21 November 2019, Surabaya, Indonesia

166