

Determinants Affecting Thai Merchant Marine Students' Decision in Selecting a Maritime Institute in Thailand: Nautical Science Program

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Abstract : The objective of the research was to study the determinants affecting the decision to study nautical science program within a Thai maritime institute in preparation for working post-graduation as a ship officer on a merchant ship. The samples are classified by institute, academic year, cumulative score level, domicile, and parent's monthly income. The total sample of study was 386 Thai merchant marine students. The data collection method was a one to five rating scale questionnaire. The statistical methods applied in analyzing the data were percentage, mean, standard deviation, t-test, one way analysis of variance and a Sheffe's test. The study shows seven factors that influenced the decision in descending order; expectations, tuition and scholarships, selection system, quality of the institute, background and private capability, generality of the institute and external influences on the decision. The decision to select an institute was classified by institute and revealed that different institutes had distinct determinants that led to the decision. The students were from The Merchant Marine Training Center and from The International Maritime College, Kasetsart University were differences. There were no dissimilarity between academic year, cumulative score level, domicile, and parent's monthly income.

Key words : Merchant Marine Student, Maritime Institutes, Nautical Science Program

1. INTRODUCTION

Although there are no dedicated maritime universities in Thailand as other countries have Thailand has three public institutes that are training mariner officers for both domestic and international shipping companies, Currently there are three institutions, The Merchant Marine Training Center (MMTC) , The Faculty of Logistics (LF) of Burapha University and The International Maritime College (IMC) of Kasetsart University. In Thailand, graduating high school students who would like to pursue a career as a mariner officer to work on merchant ship, will choose to enroll in one of the above three institutes. Each institute is outstanding and unique in different ways but each have similar academic standards in order to produce high-potential students creating qualified mariner officers and build up their reputations as a first rate institutes.

The goal of university education is to focus on the creating quality graduates with the knowledge and decision making processes that meet the needs of society and modernizing trends in the world today Thai Instructor

Senate (2003). Maritime institutes are public institutions at the university level and responsible for creating mariner officers. Therefore, they need to consistently develop their organization and produce qualified personal in accordance with the Standards of Training Certification and Watchkeeping (STCW) 2010. In Thailand, 93.44% of graduating high school students continues their education at university level. Thai Ministry of Education (2010). A portion of these students decide to study in a maritime institute within a nautical science program from one of the three institutes available in the country. Thus, maritime institutes in Thailand are competing to attract high-potential students to study at their institution. The determination of the factors affecting the decision which maritime institute a mariner officer chooses after graduation is an important knowledge base to understand in order develop future strategies to improve maritime institutes in Thailand; this in turn will have an impact on creating improved mariner officers and the nations maritime industry in the future.

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2. LITERATURE REVIEW

Saithanu and Mekpanyup (2011) studied an application which employs a practical method for finding the influential variables or factors of decision in continuing study for Master's degree of the fourth year students (224 persons), Faculty of Science, Burapha University, by the use of factor analysis. The model predicted the decision in continuing study for a master's degree and then was later modeled by discriminant analysis. The result of this research showed eight influential variables: GPA, number of persons in family who finished their Master's degree, status of family, progress in working, the cost of continuing study, social acceptance, knowledge and skill and competence of the faculty. The model was built through use of a cross validation data set, confusion matrix provides the correction percentage is up to 71.90%.

Kulprapa (2009) studied the factors affecting the selection of a university by undergraduate students at Sripatum University. The results showed that the university itself was the most important factor. Most students belong to a continuous student loan program. Motivation varied on gender, year of study, faculty, GPA and loan status of personal factors at significance level 0.05 and also varies on father's income, mother's income and family expense per month of family background factors at significance level 0.05. Personal factors are related to family background factors. According to the study, the university should emphasize its quality such as educational services, environment and technologies, which are considered the major factors that influence on the motivation of undergraduate students to make their choices of education.

Boonchaiyah (2008) studied the motivation factor for further master degree in recreation at Srinakharinwirot University according to the sex, age, education in bachelor's degree and experience. The results of the research found that the motivation factor for furthering master degree in recreation at Srinakharinwirot University in overall aspect was high level and each aspect, it was found self-development, related person compliance were highest and institution, social, occupation were high level. The students with different genders had a motivating factor in overall aspect was high level and each aspect, it was found self-development, related person compliance were highest

and institution, social, occupation were high level. The students with different ages had varying motivating factors in overall aspect was high level and each aspect, it was found self-development, related person compliance were highest and institution, social, occupation were high level. The students with different bachelor degrees had motivating factors in overall aspect was high and each aspect, it was found self-development, related person compliance were highest and institution, social, occupation were high level. The students with different working experiences had motivating factors in overall aspect was high and each aspect, it was found self-development, related person compliance were highest and institution, social, occupation were high level.

Haruehansawasin and Kiattikomol (2008) studied factors affecting high school graduates decisions to further study in high vocational certificate level in business computer major, case of private vocational schools in Bangkok. Data was analyzed by using frequency, percentage, mean, standard deviation, and factors analysis. The results revealed that factors were: 1) Future expectation 2) School's regulation 3) Personal attitude to Business Computer major 4) Teaching's media 5) School's services 6) School's reputation 7) Academic strength and facilities 8) Public relations media 9) Scholarship and 10) Personal persuasion and direct marketing strategies.

Lunsuchep (2002) studied the motivation to study at Mahidol University International College the results showed that the subjects have a high motivation to study at MUIC due to four factors namely; personal factors, social factors, employment factors and institutional factors. After considering each factor, it was found that the personal factor of the motivation to study at MUIC consisted of course being taught in English, while the social factor of the motivation to study at MUIC is that the subject gained experience in relation to the institute and international companies. Apart from this, employment factors provided motivation to study at MUIC in that the subjects need employment with high remuneration and institutional factors towards the motivation to study at MUIC is that the instructors have sound capabilities.

Glasser (1996) summarized the ten principles of Choice Theory. Firstly, only persons whose behavior we can control is our own. Secondly, all we can give another person is information. Thirdly, all long lasting psychological

problems are relationship problems. Fourthly, the problem relationship is always part of our present life. Fifth, what happened in the past has everything to do with what we are today, but we can only satisfy our basic needs right now and plan to continue satisfying them in the future. Sixth, we can only satisfy our needs by satisfying the pictures in our quality world. Seventh, all we do is behave. Eighth, all behavior is total behavior and is made up of four components: acting, thinking, feeling and physiology. Ninetieth, all total behavior is chosen, but we only have direct control over the acting and thinking components, we can only control our feeling and physiology indirectly through how we choose to act and think. Lastly, all total behavior is designated by verbs and named by the part that is the most recognizable.

3. MATERIAL AND METHODS

3.1 Population and sample

The samples of the research questionnaire were Thai merchant marine students from three maritime institutes using a simple random sampling. A total 386 samples responded to the questionnaire survey.

3.2 Collecting research data

Based on a literature study from related document, textbook and research it created research variables and questionnaire. Likert scale is used to this study to express how much they agree or disagree with a particular statement. The format of a typical 5 levels Likert item is strongly disagree, disagree, neither agree nor disagree, agree and strongly agree. Questionnaire created by attitude components presented 5 levels of Likert rating scale. The 29 research variables in questionnaire were evaluated by index of item objective congruence technique (IOC), afterwards tries out the test to non-actual samples of 30 persons and evaluates discrimination value of questionnaire in each item by applying t-test to select item which has discrimination higher than 1.734. It also evaluates reliability value of questionnaire by α -coefficient evaluation.

3.3 Statistic applied for data analysis

It used basic statistical analysis such as mean and standard deviation. And then statistics applied for quality determination included discrimination evaluation by using t-test and reliability analysis by α -coefficient evaluation. Difference of mean test of two more samples was applied by One Way Analysis of Variance. When One Way Analysis of Variance gave a significant result or case of the differences were significant statistically. This indicated that at least one group differed from the other groups, therefore the test method of Scheffe was examined.

4. RESULTS

4.1 Basic statistical analysis of samples

From table 1 institutes content, most marine student samples are from IMC 47.7%, secondly from MMTC 37.0% and lastly from LF 15.3%. Academic year content, most marine student samples are from 1st year level 36.0%, secondly from 2nd year level 31.1%, thirdly from 3rd year level 24.6%, fourthly from 4th year level 7%, fifthly from 5th year level 0.3% and lastly no response 1.0%. Cumulative score level content, most marine student samples are 2.51-3.00 grade level 44.3%, secondly 2.01-2.50 grade level 28.2%, thirdly 3.01-3.50 grade level 15.3%, fourthly not over 2.01 grade level 6.2% fifth, over 3.50 grade level 4.9% and lastly no response 1.1%. Domicile content, most marine student samples are from east region 28.2%, Bangkok and circumference 18.1%, central region and west region 15.3%, north region 15.3%, northeast region 12.4%, southern region 9.6% and no response 1.1%. Parent's monthly income content, most marine student samples are 10,001-20,000 baht 30.3%, 20,001-30,000 baht 25.4%, over 40,000 baht 17.4%, 30,001-40,000 baht 16.8% no response 1.3%.

Table 1 Basic statistic analysis of samples

	Research variables	Amount	Percentage
Institutes	MMTC	143	37.0
	LF	59	15.3
	IMC	184	47.7
	Total	386	100.0
Academic year	First	139	36.0
	Second	120	31.1
	Third	95	24.6
	Fourth	27	7.0
	Fifth	1	0.3
	No response	4	1.0
	Total	386	100.0
Cumulative score level	Not over 2.01	24	6.2
	2.01-2.50	109	28.2
	2.51-3.00	171	44.3
	3.01-3.50	59	15.3
	Over 3.50	19	4.9
	No response	4	1.1
	Total	386	100.0
Domicile	Bangkok and circumference	70	18.1
	North region	59	15.3
	Northeast region	48	12.4
	East region	109	28.2
	Central region and West region	59	15.3
	Southern region	37	9.6
	No response	4	1.1
	Total	386	100.0
Parent's monthly income (Baht)	Not over 10,000	34	8.8
	10,001-20,000	117	30.3
	20,001-30,000	98	25.4
	30,001-40,000	65	16.8
	Over 40,000	67	17.4
	No response	5	1.3
Total	386	100.0	

Table 2 Classified by back ground and private capacity

Item	Factor	\bar{x}	S.D.	Level	Sequence
1.	English skill	3.54	0.853	High	3
2.	Admission score	3.45	0.942	Medium	5
3.	Physical ability	3.61	0.850	High	1
4.	Parent's monthly income	3.61	0.902	High	1
5.	Parent's career	3.49	1.012	Medium	4
Total		3.54	0.91	High	

4.2 Factors affecting to select the maritime institutes

From table 2 overview of factors affecting to select the maritime institutes that classified by back ground and private capacity are high level ($\bar{x} = 3.54$). The top three of them are physical ability and parent's monthly income ($\bar{x} = 3.61$) and English skill ($\bar{x} = 3.54$) respectively.

From table 3 overview of factors affecting to select the maritime institutes that classified by student expectations are high level ($\bar{x} = 3.94$). The top three of them are income after graduation ($\bar{x} = 4.09$), acknowledgement from shipping companies ($\bar{x} = 3.92$) and pride and love in institutes ($\bar{x} = 3.80$) respectively.

Table 3 Classified by student expectations

Item	Factor	\bar{x}	S.D.	Level	Sequence
1.	Income after graduation	4.09	0.793	High	1
2.	Pride and love in institutes	3.80	0.867	High	3
3.	Acknowledgement from shipping companies	3.92	0.813	High	2
Total		3.94	0.82	High	

From table 4 overview of factors affecting to select the maritime institutes program that classified by external influences are medium level ($\bar{x} = 3.37$). The top three of them are senior or alumni of high school ($\bar{x} = 3.52$), online advertising of marine institutes ($\bar{x} = 3.41$), idol graduated from this maritime institutes ($\bar{x} = 3.38$) and also various printing media of maritime institutes ($\bar{x} = 3.38$) respectively. Least significant is recommendation from friends (3.23).

Table 4 Classified by external influences

Item	Factor	\bar{x}	S.D.	Level	Sequence
1.	Senior or alumni of high school	3.52	0.923	High	1
2.	Advisement in high school	3.31	0.971	Medium	5
3.	Recommendation from friends	3.23	0.935	Medium	6
4.	Idol graduated from this maritime institutes	3.38	0.980	Medium	3
5.	Online advertising of marine institutes	3.41	0.945	Medium	2
6.	Various printing media of maritime institutes	3.38	0.885	Medium	3
Total		3.37	0.94	Medium	

From table 5 overview of factors affecting to select the maritime institutes that classified by admission system are high level ($\bar{x} = 3.68$). The top three of them are institutes pattern ($\bar{x} = 3.78$), total students for admittance in each year ($\bar{x} = 3.66$) and subject test ($\bar{x} = 3.65$) respectively. Least significant item is competition ratio ($\bar{x} = 3.61$).

Table 5 Classified by admission system

Item	Factor	\bar{x}	S.D.	Level	Sequence
1.	Institutes pattern	3.78	0.772	High	1
2.	Subject test	3.65	0.847	High	3
3.	Competition ratios	3.61	0.886	High	4
4.	Total students for admittance in each year	3.66	0.882	High	2
Total		3.68	0.85	High	

From table 6 overview of factors affecting to select the maritime institutes that classified by quality of education are high level ($\bar{x} = 3.67$). The top three of them are institutes' renown ($\bar{x} = 3.85$), success of students and alumniees ($\bar{x} = 3.61$) and instructors' renown ($\bar{x} = 3.54$) respectively.

Table 6 Classified by quality of education

Item	Factor	\bar{x}	S.D.	Level	Sequence
1.	Institutes' renown	3.85	0.817	High	1
2.	Instructors' renown	3.54	0.897	High	3
3.	Success of student and alumniees	3.61	0.880	High	2
Total		3.67	0.86	High	

From table 7 overview of factors affecting to select the maritime institutes that classified by generality of institutes are high level ($\bar{x} = 3.53$). The top three of them are education aid ($\bar{x} = 3.63$), institutes location ($\bar{x} = 3.59$) and facilities ($\bar{x} = 3.54$) respectively. Least significant is space area and modernization ($\bar{x} = 3.40$).

Table 7 Classified by generality of institutes

Item	Factor	\bar{x}	S.D.	Level	Sequence
1.	Space area and modernization	3.40	1.026	Medium	5
2.	Educational aid	3.63	0.926	High	1
3.	Beauty and be sylvan of area	3.49	0.982	Medium	4
4.	Facilities	3.54	1.020	High	3
5.	Institutes location	3.59	0.893	High	2
Total		3.53	0.97	High	

From table 8 overview of factors affecting to select the maritime institutes that classified by tuition fee and scholarship are high level ($\bar{x} = 3.77$). The top three of them are institute tuition fees ($\bar{x} = 3.79$), institute's budget for both domestic and international training ($\bar{x} = 3.77$) and scholarship offer ($\bar{x} = 3.74$) respectively.

Table 8 Classified by tuition fee and scholarship

Item	Factor	\bar{x}	S.D.	Level	Sequence
1.	Institutes tuition fees	3.79	0.871	High	1
2.	Scholarship offer	3.74	0.852	High	3
3.	Institute's budget for both domestic and international traing	3.77	0.944	High	2
Total		3.77	0.89	High	

From table 9 conclusion of factors affecting to select the maritime institutes that sort out according to significant factor as follow; student expectation ($\bar{x} = 3.94$), tuition fee and scholarship ($\bar{x} = 3.77$), admission system ($\bar{x} = 3.68$), quality of education ($\bar{x} = 3.67$), background ($\bar{x} = 3.56$), back ground and private capacity ($\bar{x} = 3.54$), generality of institutes ($\bar{x} = 3.53$) and external influences ($\bar{x} = 3.37$).

Table 9 Conclusion of factors affecting to select the maritime institutes

Factor	\bar{x}	S.D.	Level	Sequence
Student expectation	3.94	0.82	High	1
Tuition fee and scholarship	3.77	0.89	High	2
Admission system	3.68	0.85	High	3
Quality of education	3.67	0.86	High	4
Background and Private capacity	3.54	0.94	High	5
Generality of institutes	3.53	0.99	High	6
External influences	3.37	0.94	Medium	7
Total	3.64	0.90	High	

4.3 Comparison of factors affecting to select the maritime institutes

According to the One Way ANOVA test, $F = 8.890$ and $P\text{-value} = 0.000$ it mean that Thai merchant marine students from different institutes have different comment on selecting of marine institutes and the difference is statistically significant therefore the Scheffe's test method is selected for testing.

Table 10 Classified by institutes

Institutes	Amount	\bar{x}	S.D.
MMTC	143	3.48	0.45
LF	59	3.63	0.43
IMC	184	3.69	0.45
Total	386	3.60	0.46

Sources of variance	SS	df	MS	F	Sig
Between Groups	3.543	2	1.772	8.890	0.000
Within Groups	76.329	383	0.199		
Total	79.872	385			

From table 11 it showed that Thai merchant marine students from MMTC have comment on selecting of marine institutes different from Thai merchant marine student from IMC.

Table 11 Scheffe's test of maritime institutes selecting

Factors Affecting to Select the Maritime Institutes	MMTC	LF	IMC
MMTC		0.109	0.000*
LF	0.109		0.644
IMC	0.000*	0.644	

According to the One Way ANOVA test, $F = 1.499$ and $P\text{-value} = 0.202$ it mean that Thai merchant marine students from different annual layer don't have difference in maritime institutes selecting.

Table 12 Classified by academic year

academic year	Amount	\bar{x}	S.D.
1 st year	139	3.55	0.52
2 nd year	120	3.65	0.39
3 rd year	95	3.63	0.42
4 th year	27	3.61	0.45
5 th year	1	2.90	0.52
Total	382	3.60	0.46

Sources of variance	SS	df	MS	F	Sig
Between Groups	1.241	4	0.310	1.499	0.202
Within Groups	78.029	377	0.207		
Total	79.270	381			

According to the One Way ANOVA test, $F = 0.882$ and $P\text{-value} = 0.475$ it mean that Thai merchant marine students from different grade level don't have difference in maritime institutes selecting.

Table 13 Classified by grade level

Grade Level	Amount	\bar{x}	S.D.
Less than 2.01	24	3.57	0.44
2.01-2.50	109	3.58	0.46
2.51-3.00	171	3.65	0.45
3.01-3.50	59	3.55	0.48
More then 3.50	19	3.54	0.40
Total	382	3.60	0.46

Sources of variance	SS	df	MS	F	Sig
Between Groups	0.735	4	0.184	0.882	0.475
Within Groups	78.535	377	0.208		
Total	79.270	381			

According to the One Way ANOVA test, $F = 0.955$ and $P\text{-value} = 0.446$ it mean that Thai merchant marine students from different domicile don't have difference in maritime institutes selecting.

Table 14 Classified by domicile

Domicile	Amount	\bar{x}	S.D.
Bangkok and Boundary	70	3.66	0.48
North region	59	3.66	0.47
Northeast region	48	3.52	0.43
East region	109	3.57	0.43
Central region and West region	59	3.63	0.36
Southern region	37	3.55	0.60
Total	382	3.60	0.46

Sources of variance	SS	df	MS	F	Sig
Between Groups	0.994	5	0.199	0.955	0.446
Within Groups	78.276	376	0.208		
Total	79.270	381			

According to the One Way ANOVA test, $F = 0.824$ and $P\text{-value} = 0.510$ it mean that Thai merchant marine students from different Parent's income per month don't have difference in maritime institutes selecting.

Table 15 Classified by parent's income per month

parent's income per month (Baht)	Amount	\bar{x}	S.D.
Less than 10,000	34	3.64	0.47
10,001-20,000	117	3.59	0.47
20,001-30,000	98	3.63	0.40
30,001-40,000	65	3.65	0.43
More than 40,000	67	3.53	0.52
	381	3.60	0.46

Sources of variance	SS	df	MS	F	Sig
Between Groups	0.686	4	0.172	0.824	0.510
Within Groups	78.259	376	0.208		
Total	78.946	380			

5. DISCUSSION

This research is an insight into Thai maritime students who are presently studying and their opinions on how they made a decision in selecting an institution for mariner officer profession based on different of institutes, academic years, cumulative score level, domicile and parent's monthly income. The results from study indicated seven factors that influenced the decision to choose an institution which every maritime institute in Thailand should use as guidelines for planning strategies for the development of the institution to become the institute that all students would want to attend. Moreover, there should be pro-activeness in public relations and suggestion of useful information including the promotion of cognition in mariner profession for attracting high-potential young people who live in various regions of the country to become mariner officers. And there should be continuous study about these factors affecting the decision of Thai maritime students to study in a Nautical Science Program according to a changing world to obtain accurate information, update and benefit for organization development.

6. CONCLUSIONS

The determinants that affect a Thai merchant marine student's decision in selecting a maritime institutes were permuted from high to low of factors respectively. Firstly, student expectations that concentrates on income after

graduation. Secondly, tuition fees and scholarships that concentrates on institute tuition fees. Thirdly, the admission system that concentrate on the pattern for each institute. Fourthly, the quality of education that concentrates on what the institute is known for. Fifth, background and private capacity that concentrates on monthly family income and physical ability. Sixth, generality of institutes that concentrate on education aid and lastly, external influences that depending on senior or alumni of high school.

The decision of the institution when classifying by academy found that the maritime students from different institutes have different opinion on the decision to select that institution. The students in different academic year, cumulative score level, domicile, and parent's monthly income have similar opinion on the decision to the institution.

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