FACTORS AFFECTING THE CLASSIFICATION OF RECENT GRADUATES GROUPS WHO WERE EMPLOYED AND UNEMPLOYED, CASE STUDY: THE FACULTY OF SCIENCE AND TECHNOLOGY, THAMMASAT UNIVERSITY

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Factors Affecting the Classification of Recent Graduates Groups Who were Employed and Unemployed, Case Study: The Faculty of Science and Technology, Thammasat University

Synopsis:

The research objectives were to study the factors which affect the grouping of recent graduates groups into those who get and do not get a job. The results identified key variables: duration of additional training, achievement motivation, duration of job seeking, the desire to study a master degree, grade point average, and domicile. Using these variables, we were be able to classify members into the two groups, and to correctly predict the membership of the groups with an accuracy of 88.9%

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ABSTRACT

The purpose of this study was to determine the factors affecting the group classification of recent graduates as employed or unemployed. The population of the research was 638 recent graduates who had finished a bachelor degree at the Faculty of Science and Technology, Thammasat University in 2014. Sampling was employed to collect data from 623 recent graduates using a questionnaire covering gender, domicile, GPA (Grade Point Average), duration of job seeking, desire to do further study at Master degree level, duration of additional training, and achievement motivation level. The dependent variable was getting a job. Data were analyzed by frequency, percentage, mean, standard deviation, and discriminant analysis was conducted.

The study found that the percentage of recent graduates who were employed and unemployed were 55.9% and 44.1% respectively. Most of the members of both groups were female, domiciled upcountry, spent more than three months job seeking and most wish to do further study at Master degree level. We found no statistically significant male/female difference between recent graduates who were employed and unemployed, but statistically significant differences were found in Grade Point Average, domicile, duration of job seeking, desire to do further education, duration of additional training, and achievement motivation. The standard discriminant equation for determining success in finding employment was

$$D_Z = 0.106 \times Z_{domicile} - 2.038 \times Z_{seeking} + 0.221 \times Z_{desire} + 0.117 \times Z_{GPA} + 0.631 \times Z_{duration} + 2.280 \times Z_{achievement}$$

We found that this discriminant function correctly classified 88.9% of respondents as employed and unemployed.

Keywords: Classification of Recent Graduates, Faculty of Science and Technology, Discriminant analysis

1. INTRODUCTION

The Faculty of Science and Technology was founded in 1986. It was the ninth faculty of Thammasat University and the first at Rangsit Campus. Initially, the Dome Building (now called Administration Dome Building) housed the Faculty's teaching management, administration, and faculty rooms. There were five disciplines: Statistics and Mathematics, Computer Science, Environmental Sciences and Health Sciences. The faculty has been extending its teaching areas by adding new disciplines and establishment of the Faculty of Engineering and Health Science. Currently the faculty consists of ten departments. There are approximately 30 courses at the undergraduate and graduate level. Each year approximately 1,000 students enroll at all levels, including normal, special, and graduate programs, and more than 20 generations of students have graduated. In addition, the faculty offers foundation courses for other faculties and also has its own Master and Doctoral degree courses.

The Faculty of Science and Technology is responsible for teaching basic science courses to all other faculties at the Rangsit Campus. It aims to produce graduates with in both theoretical and practical knowledge, and also with strong moral principles. The Faculty of Science and Technology has to produce graduates in accordance with the Ministry of Education directives set out in the "Standard Higher Education Act", 2006. This specified the standard of quality for graduates, namely having knowledge, ethics, and the ability to learn and develop themselves (Bureau of Standards and Evaluation in Higher Education in 2010), and also according to the "Qualifications Framework of National Higher Education" ministerial rules about the system, criteria and procedures for quality assurance in 2010. The Commission of Higher Education uses the guidelines for internal quality assurance by following-up and monitoring the quality of education in higher education institutions as appropriate, and developing educational quality assurance at the faculty level. The monitoring of the quality of education is performed at least once every three years and the results are reported to the Higher Education Commission (Thai Royal Gazette, 2010). The indicator of quality of education for graduates in science and technology, as specified by the Office of Public Sector Development, is the percentage of Bachelor degree graduates who were employed or self-employed within one year of graduation. The Faculty of Science and Technology has a target of 92.0% for the percentage of Bachelor graduates that are employed or self-employed within one year of graduation (Faculty of Science and Technology, Thammasat University, 2012:23).

Researchers are therefore interested in studying the factors that influence the classification of recent graduates who were employed or unemployed; to identify the main features that characterize recent graduates who were employed or unemployed six months after graduation; and to use this information as a basis for planning guidelines for the development of teaching and learning, to suit the needs of the labor market, in order to develop the country in the future.

2. RESEARCH OBJECTIVES

1. To identify factors which affected the employment of unemployment of recent graduates.

2. To study the ability of the discriminant equation to predict membership of the groups of employed and unemployed.

3. TARGET POPULATION AND SAMPLE

The target population of the research comprised 638 recent graduates who had finished a bachelor degree within the start of a fieldwork at the Faculty of Science and Technology, Thammasat University in 2014. The sample size was 623.

4. INSTRUMENT AND DATA ANALYSIS

A questionnaire was used as the research instrument to obtain data, which was analyzed by frequency, percentage, mean, standard deviation and discriminant analysis.

5. VARIABLES

1. The independent variables consist of : gender, domicile, GPA (Grade Point Average), seeking (duration of job seeking, measured by the number of months necessary for finding a job after graduation), desire (desire to do further study at Master degree level), training (duration of additional training, measured by the number of days used for additional training) and achievement (achievement motivation level).

2. The dependent variable is job (getting a job).

6. RESULTS

The survey found that the percentage of recent graduates who were employed and unemployed were 55.9% and 44.1% respectively. Most of the members in both groups of the samples were female, domiciled upcountry, spent more than three months job seeking and most of them want to do further study at Master degree level.

It is noteworthy that most of the recent graduates who were employed (46.0 %) had a GPA of 2.76 or higher, while most of those who were unemployed (40.5 %) had a GPA in the range between 2.41 and 2.75.

It was also found that most of the recent graduates who were employed (68.4 %) spent about 14-35 days in additional training, while most of the recent graduates who were unemployed (78.2 %) spent no more than 14 days in additional training. Most of the recent graduates who were employed (34.5 %) had rather high achievement motivation, while most of the recent graduates who were unemployed (31.3 %) had moderate achievement motivation (as shown in Table 1 below).

Table 1. The attributes of the recent graduates who were employed or unemployed

The attributes	Employed	Unemployed	Total
Total	**55.9**	**44.1**	**100.0**
Gender			
Male	25.0	27.6	26.2
Female	75.0	72.4	73.8
Domicile			
Bangkok	25.0	17.8	21.8
Upcountry	75.0	82.2	78.2
Grade point average			
2.00-2.40	27.5	25.9	26.8
2.41-2.75	26.6	40.5	32.7
2.76-4.00	46.0	33.6	40.5
Job seeking			
Not more than 3 months	25.3	42.2	75.7
More than 3 months	74.7	57.8	24.3
Desire to do further study			
Desire	76.7	56.0	67.6
No desire	23.3	44.0	32.4
Additional training			
Never (0 days)	8.9	10.2	9.5
Not more than 14 days	22.7	78.2	47.2
15- 35 days	68.4	11.6	43.3
Achievement Motivation			
Low	3.7	5.1	4.3
Rather low	8.9	15.8	18.8
Moderate	24.7	31.3	10.8
Rather high	34.5	26.5	31.0
High	28.2	21.3	35.2

By comparison, the average of the attributes (independent variables) of the recent graduates who were employed and unemployed (in Table 2) revealed that the proportion of males in the employed group was 25% and in the unemployed group was 28.0%. The proportion of recent graduates domiciled in Bangkok was 25% in the employed group and in the unemployed group

was 18.0%. The proportion of recent graduates who wish to study at Master degree level was 77% in the employed group and in the unemployed group was 56.0%.

The GPA, duration of job seeking (seeking), duration of additional training (training) and achievement motivation (achievement) of recent graduates who were employed was higher than that of those who were unemployed. In particular the duration of additional training of the employed graduate group was higher than that of the unemployed graduate group: the average of difference days used to attend additional training courses was 19.21 for the employed group, while it was 6.08 days for the unemployed group (as shown in Table 2).

Using ANOVA at the 0.05 level, we found that there was no statistically significant male/female difference between the recent graduates who were employed and unemployed, but there were a statistically significant differences on other independent variables (GPA, domicile, duration of job seeking, desire to do a further education, duration of additional training, and achievement motivation).

Table 2 Statistical testing of the differences in attributes of recent graduates who were employed and unemployed

	Employed	Unemployed	F	Sig.
Gender	.25	.28	0.551	.458
Domicile	.25	.18	4.663	.031
Grade point average (GPA)	2.70	2.62	5.722	.017
Duration of job seeking (seeking)	3.27	2.71	27.152	.000
Desire to do a further study (desire)	.77	.56	31.538	.000
Duration of additional (training) training	19.21	6.08	393.640	.000
Achievement Motivation (achievement)	4.07	3.37	127.145	.000

Six independent variables were selected in the discriminant equation namely, domicile, duration of job seeking, desire to do further study, GPA, duration of additional training and achievement motivation.

The discriminant coefficients of independent variables for the employed and unemployed groups are shown in Table 3.

Table 3 Coefficients of independent variables in the discriminant equation

	Unstandardized	Standardized
Domicile	.256	.106
Duration of job seeking (seeking)	-1.524	-2.038
Desire to do further study (desire)	.484	.221
Grade point average (GPA)	.310	.117
Duration of additional training (training)	.077	.631
Achievement Motivation (achievement)	2.953	2.280
Constant	-8.739	

From unstandardized coefficients and standardized coefficients in Table 3 the following discriminant equations can be obtained.

Unstandardized discriminant equation

$$D = -0.8739 + 0.256 \times \text{domicile} - 1.524 \times \text{seeking} + 0.484 \times \text{desire} + 0.310 \times \text{GPA}$$
$$+0.077 \times \text{duration} + 2.953 \times \text{achievement}$$

Standardized discriminant equation

$$D_Z = 0.106 \times Z_{\text{domicile}} - 2.038 \times Z_{\text{seeking}} + 0.221 \times Z_{\text{desire}} + 0.117 \times Z_{\text{GPA}} + 0.631 \times Z_{\text{duration}}$$
$$+2.280 \times Z_{\text{achievement}}$$

The statistical test for discriminant equations in Table 4 shows that the groups could be classified by the equation, reflected in the high canonical correlation coefficient. (Coefficient = 0.762)

Table 4 The statistic value for testing discriminant equation.

Function	Canonical Correlation	Wilks' Lambda	Chi-square	df	Sig.
	.762	.419	537.96	6	.000

The discriminant equations were able to correctly predict, with accuracy of 88.9%, the classification of members into groups. The equations were able to correctly predict the employment and unemployment status of recent graduates with an accuracy of 85.3% and 93.5% , respectively (as shown in Table 5).

Table 5 Percentage of accuracy in predicting group membership

		The group forecast		Total
		Employed	Unemployed	
The actual data	Employed	297	51	348
		85.3%	14.7%	100.0%
	Unemployed	18	257	275
		6.5%	93.5%	100.0%
Accuracy in predicting group membership: 88.9 %				

7. Discussion

This research shows that recent graduates who were employed were as a group, more ready to enter the labor market than those who were unemployed. The grade point average, duration of additional training / job seeking, and achievement motivation of employed graduates were all significantly higher than those of unemployed graduates. This reflects the responsibility for learning of the graduates who found employment, both when they were students in the university, and in their efforts to improve themselves to be ready to enter the labor force and their determination in seeking a job after graduation.

A limitation of this survey is that the proportion of recent graduates who were unemployed was low as the data were collected. Some graduates were waiting for recruitment by the potential employer or university in the case that they wish to pursue further study. We assume that after longer period from graduation the proportion of recent graduates who were employed would be higher. Therefore, necessary to follow up graduates who are unemployed over a longer period.

8. Recommendations

1. The analytical method presented research enables administrators to assess readiness and potential to enter the labor market, of students who are currently enrolled. Administrators should be aware that additional training is necessary to help the students to get a job in the future and that they should encourage students to increase their achievement motivation.

2. There should be further study of other variables that may affect the employment of recent graduates in more appropriate ways. There should also be a careful follow-up of recent graduates for a period of six months or one year after graduation.

3. From the point of view of instruction planning, to better meet the needs of the labor market, studies should be conducted of variables or attributes of employers of recent graduates, to understand the factors that influence their decision to recruit recent graduates.

9. Reference

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