

CHAPTER FOUR: RESULT

4.1. INTRODUCTION

This chapter analyses the empirical findings of this study. First the general characteristics observed from the data are reported. These characteristics have in one way or another influence on the tuition fee of a program and therefore form the background to the analysis of the determinants of tuition fees. This is followed by the report of the regression results and finally the analysis of the determinants of tuition fees.

4.2. DESCRIPTIVE CHARACTERISTICS OF THE DATA

4.2.1. CONCENTRATION AND DIVERSIFICATION OF PROGRAM

The number of various types of program investigated are summarized in Table 4. It is obvious that some programs are more popular than the others. Out of the sample of 135 degree programs, 44% are business programs, 31% are IT programs, 13% are engineering programs and only 3% are art and design programs. There are slightly more programs that are hybrid between business and IT (7%) compare to engineering and IT (3%). Summing up all the courses related to either business study or computer study (including the two hybrids), the total would be 113.

Table 4

Distribution of programs in the sample

TYPES OF PROGRAM	PRIVATE COLLEGE	LOCAL UNIVERSITY	BRANCH CAMPUS	TOTAL
BUSINESS	44	12	3	59
IT	24	14	3	41
ENGINEERING	5	8	5	18
ARTS & DESIGN	4	0	0	4
BUSINESS AND IT	7	0	2	9
ENGINEERING AND IT	1	0	3	4
TOTAL	85	34	16	135

Source: computed

Within the same type of program (same field of study) there are high degree of differentiation in the way the credentials are labeled. The 59 business programs in the sample lead to 27 credentials with different titles, each showing specialization of certain segment in the field of business study. For example: Bachelor of Marketing, Bachelor of Human Resources and others. According to some course counselors, the programs are specialized in this way to prepare the students for more diverse occupational specialties and at the same time to differentiate their program from the program offered by their rivals. The credentials must also be labeled so that they appeal to the needs of the students.

The innovativeness of the private colleges does not stop at labeling of credential but it goes on to the flexible design of the course content of the 3 + 0 programs. Even though all the 3 + 0 programs award the students with degree from the foreign universities, the content or the syllabus of the

program may not be the identical twin of those of the foreign universities. This study found that some colleges innovatively confer internal certificate and diplomas to students after they completed first or second years of study. These types of arrangements are not found in the foreign universities that are supposedly their twin.

4.2.2 STATISTICAL DESCRIPTION OF THE PHEIs

In the sample, the private colleges are generally older than the private universities, both local and foreign. There are three generations within the private colleges, the oldest college is 50 years old (Stamford College) and the youngest is only 5 years old (Kolej Ikram). The local private universities are fairly young with the oldest being only 8 years of age (UNITEN) and the youngest only 3 years old (KUTPM). Both the foreign branch campuses are set up in the last 4 years.

In the sample, there are only 15 PHEIs in total with MSC status. Half the private college and 3 out of 5 private local universities have obtained this status. However none the foreign branch campuses has this status. As for the ISO 9000 award, none of the private university, either local or foreign, has the award. Out of 24 colleges surveyed only 6 have been awarded with one of the ISO 9000 series.

Both the branch campuses and all the local private universities except offer MBA program but only 8 private colleges offer MBA.

The summary of the descriptive statistics of the PHEIs are given in Table 5.

Table 5
Descriptive statistics of the PHEIs in the sample

PHEI	MEAN AGE	NUMBER OF PHEI WITH MSC STATUS	NUMBER OF PHEI WITH ISO STATUS	NUMBER OF PHEI OFFERING MBA
PRIVATE COLLEGE	14.5	12	6	8
LOCAL UNIVERSITY	5.5	3	-	5
BRANCH CAMPUS	2.6	-	-	2

Source: computed

4.2.3. CHOICES OF PROGRAMS AVAILABLE

The number of PHEIs investigated in this study offering the different programs mentioned above is summarized in the Table 6. Even though most of the PHEIs are multi-discipline, there are some that specialize only in certain field. For example APIIT specializes in the field of IT.

Students who want to do course related to business study or computer study has a wide variety of PHEIs to choose from as these courses are being offered in about 50% of the private colleges, all 4 local universities and all 2 branch campuses. Unfortunately there aren't so many choices for those students who inspire to be engineers as the engineering programs are offered in only 4 private colleges and 2 local universities. However both the branch campuses do offer engineering programs. The 4 art and design programs in the sample are offered by only 2 private colleges (KBU and LimKokWing) and no other PHEIs.

Table 6

Number of PHEIs offering the various programs in the sample

PROGRAM	PRIVATE COLLEGE	LOCAL UNIVERSITY	BRANCH CAMPUS	TOTAL
BUSINESS	15	4	2	21
IT	14	4	2	20
ENGINEERING	4	2	2	8
ARTS & DESIGN	2	-	-	2
BUSINESS AND IT	5	-	-	5
ENGINEERING AND COMPUTING	1	-	2	3

Source: computed

4.3. DETERMINANTS OF TUITION FEES

Based on the regression model in chapter three, the estimated coefficients for the overall model and both the institute specific models are ascertained. The results are presented in Table 7.

4.3.1. OVERALL MODEL

In the overall model, the explanatory variables were able to explain about 80% of the variation in the tuition fee in the PHEIs. The *F*-statistic and its *p*-value indicate the overall significance of the model.

Holding other things constant, the results show the following:

Types of award

Fees paid for programs leading to either a British degree or an Australian degree are significantly higher compare to a local degree (the base category). Comparing the British degree and the Australian degree, the latter seems to command a higher fee.

Status Of The Institute

The fee of a program offered by a PHEI with MSC status is significantly higher compare to a program offered by a PHEI without MSC status. Because of the advantages that come along with this status (see section 3.4.1) the parents or student are willing to pay a higher fee to an institution with this status.

However the fee of a program offered by a PHEI that had obtained ISO 9000 status is not significantly different from one that had not. This result seems to suggest the students or parents do not associate ISO 9000 status with the quality of education. However this result may be influenced by the fact that none of the private universities has this status.

Foreign University Ranking

Students pay a significant higher fee for 3+0 programs offered by foreign universities either British or Australian which are ranked top ten in their respective countries. Not being able to visit the foreign university personally in addition to the lack of information about the universities, the ranking provide a crucial guide to the quality of the program offered.

Types Of Program

In the overall model, the results show that the average fee of the IT program and both hybrids program that are related to IT is not significantly different from the fee of a business program, which was used as the base category. The IT related programs are thought to cost more due to higher investment needed to provide the program but, in this model, the higher cost are not translated into higher price. Programs related to business and IT are the most popular among the PHEIs in the sample as discussed in 4.2.2. In addition to the innovative credential labeling and flexible course structure the competition among providers of these course are also manifested by price cutting which leads to the insignificant difference in the fees of related to these two fields of study.

As for engineering programs the fees are significantly higher than the business program. There are only a total of 18 engineering programs offered by the PHEIs in the sample. The higher fee may be due to lack of competition and also the higher cost of conducting the programs.

There are only 4 arts and design programs in the sample. They are offered by only 2 private colleges (Table 6). In this model, the fees are significantly much higher than the business programs. This may be due to lack of competition in the market.

Types Of Institute

Students pay a significantly much higher fee to study in a branch campus compare to a local college in the overall model. Students also pay a significantly but slightly higher fee to study in a local university compare to a local college (the base category).

Age

This variable has no significant influence on the fee charged for various programs in all the models.

Post-graduate Study

The results shows that the students do not pay a significantly higher fee to study in an institute that allows them to do their post-graduate study without going elsewhere.

4.3.2. INSTITUTE SPECIFIC MODEL: PRIVATE COLLEGES

In this model, the explanatory variables were able to explain about 57% of the tuition fee in the PHEIs. The F -statistic and its p -value indicate the overall significance of the model.

Holding other things constant, the results show the following:

Types Of Program

In this model, the results are similar to the overall model where programs related to IT are not significantly different from the program related to business except the hybrid of IT and engineering which show a higher fee than the business program at 10% level of significance.

Table 6 shows that there is only one such program among the local colleges. Lack of supply may be the reason for the higher fee.

Both arts and design and engineering programs command a higher fee than the business programs. This result is similar to overall model.

Type Of Award

Among the private colleges, the fees of the program leading to a British degree or an Australian degree are significantly higher than those leading to a local degree (the base category). The programs leading to local degrees are only the local public universities franchised programs (refer to section 3.2.2). The results imply that both the 3 + 0 programs and the external program command higher fee than the local public university franchised programs. At the same time, the number of 3 + 0 programs is more than 10 times the number of local public university franchise. This confirms the students' preference for 3 + 0 programs.

Status Of The Institute

In this competitive market, both MSC status and ISO awards allowed the colleges to charge a significantly higher fee. The MSC variable shows similar result as in the overall model. The ISO 9000, though not significant in the overall model, is significantly important among the private colleges in terms of higher fee. Even though the ISO 9000 series award relate more to the efficiency of the management system, for students looking for signs of assurance of quality education, the ISO rewards seem to have provided certain level of confidence in the college. Thus they are willing to pay a higher fee to colleges bearing the logo.

Foreign University Ranking

The results are similar to the overall model.

Age

The results show that there are not significant difference between the fees charged by the private colleges established in different era in history. This also shows that the new entrants (second and third generation colleges) in the market are able to charge tuition fees not significantly different from the incumbents (first generation colleges). The new entrants investigated in this study are mainly member of MAPCO.

Post-graduate Study

The results shows that the students pay a significantly higher fee to study in an institute that allows them to do their post-graduate study without going elsewhere. Among the private colleges providing this additional program do allows them to command a higher fee for their degree programs.

4.3.3. INSTITUTE SPECIFIC MODEL: PRIVATE UNIVERSITIES

In this model, the explanatory variables were able to explain about 95% of the tuition fee in the PHEIs. The *F*-statistic and its *p*-value indicate the overall significance of the model.

Holding other things constant, the results show the following:

Types Of Program

In this not so competitive market, the IT programs command a higher fee compare to the business program. The higher investment cost is translated into higher fees for the programs. However the fee of the hybrid program related to both business and IT are not significantly higher than the business programs. This may indicate usage of less sophisticated computer facilities as compare to a full-fledge IT program.

Type Of University

In this model, there are two types of universities, namely the local universities and the foreign branch campuses. The results shows that the fees charged by the branch campuses are much higher than the local universities.

Status Of The University

MSC status of a university allows it to charge a significantly higher fee. This is the same as in the other two models.

Age

In this fairly young market (Table 5), the fee charged by the university is significantly influenced by its age. Results show that an increase of one year of establishment, the fee increased by about RM 3000.

4.4. CONCLUSION

The empirical studies of this paper find that there is an uneven distribution of programs across the different fields of study. Some seems more popular than the other. Within the same field of study, programs are very much differentiated by factors such as the nature of their credentials and the characteristics of their providers (the institutes). This study finds that there are certain factors that cause significant difference in tuition fee in both markets (private colleges and private universities). At the same time, there are certain factors significant in one market but not the other.

The conclusion and implications of this study will be included in the next chapter.

Table 7

Determinants of tuition fee of degree program for overall model and by institute

Dependent Variable: Price						
Heteroscedasticity-Consistent Standard Error & Covariance						
Explanatory Variables	Private College		Private University		Overall	
	Coef.	S. Error	Coef.	S. Error	Coef.	S. Error
Intercept	21494.24	1684.848	10246.79*	3558.671	20182.04*	1684.848
<i>Qualitative variables:</i>						
IT	380.1826	1276.626	4356.971*	2270.816	624.5856	1276.626
ENG	5378.997**	1726.961	15815.42*	2319.815	11128.87*	1726.961
ARTDSN	11433.23*	2980.870	-	-	11276.93*	2980.870
BUSIT	1319.242	1468.728	1482.858	1640.855	2243.083	1468.728
ENGIT	6364.425**	3821.605	1070601	5416.528	3933.432	3821.605
FOBRH	-	5116.957	51642.08*	2539.185	35028.76*	5116.957
LOUNI	-	1996.037	-	-	5607.368*	1996.037
UKDEG	4971.401**	1788.665	160.1706	1943.793	2847.979***	1788.665
AUSDEG	5260.061*	2006.935	-3257.293	6537.890	4325.808**	2006.935
MS ISO	1993.104***	1259.630	-	-	399.3472	1259.630
MSC	3589.518**	1414.875	5601.827*	2098.899	6350.753*	1414.875
ADVANCE	2085.987***	1281.433	-	-	1519.361	1281.433
RANK	11665.46*	4085.874	-	-	11789.17*	4085.874
<i>Quantitative variables:</i>						
AGE	16.25100	67.39210	2805.565*	638.2479	79.18279	68.62599
R ²	0.568891		0.949464		0.9897343	
N	85		50		135	
F-STAT	7.917581		83.50120		74.92438	
P(F-STAT)	0.000000		0.000000		0.000000	

Source: computed

*, **, *** indicate that the *t* values are significant at 1, 5 and 10% levels