

## DECISION MODEL FOR SUSPENSION OR WITHDRAWAL OF COLLEGE STUDENTS IN TAIWAN: CONSTRUCTING A CONCEPTUAL MODEL

Chun-Min Hung<sup>1</sup>, Chun-Yen Chung<sup>2</sup>, Yan-Kuin Su<sup>3</sup> and Chin-Chiuan Lin<sup>4,\*</sup>

<sup>1</sup>Director of Computer Centre and Department of Information Management, Kun Shan University, Taiwan

<sup>2</sup> Department of Information Engineering, Kun Shan University, Taiwan

<sup>3</sup>President, Kun Shan University, Taiwan

<sup>4</sup> Department of Business Administration, Kun Shan University, Taiwan

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**ABSTRACT:** *The present study establishes eight hypotheses that had not previously been discussed and also proposes a conceptual model to reveal the black box of Taiwan college students choices related to suspension or withdrawal from school. Based on a literature review, practical data, and hypotheses, the decision model was constructed.*

**KEYWORDS:** Decision Model, Suspension, Withdrawal, Conceptual, College

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## INTRODUCTION

The quality of the youth labour force affects the future competitiveness of a nation, and this is especially true for college students. To improve the quality of the youth labour force in Taiwan, a program for educational reform and expansion by the Ministry of Education was advocated in 1994 by a Nobel laureate in chemistry, Dr. Y. T. Lee. Since then, the number of college students has rapidly increased. The nationwide college admission rate increased from about 45 percent in 1994 to 96 percent in 2007, and the number of annual college graduates increased from 70 thousands to 230 thousands in that period. Now there are 159 colleges (Table 1) and the total number of college students in Taiwan is more than 1.3 million.

**Table 1. Number of college and student in national and private colleges**

Year	Number of national college	Number of national college student	Number of private college	Number of private college student
2013	52	435,427	109	910,546
2014	51	434,655	108	905,194

Source: <http://ricelohas.blogspot.tw/>

However, due to the declining birth rate and neonatal (Table 2), the supply of college students has decreased rapidly. Furthermore, the recruit/apply rate has increased to over 100 percent, meaning that each student can be enrolled more than one college. This problem of an oversupply of college places will become increasingly critical since the annual birth rate has declined from 271,450 in 1998 to 166,886 in 2010 (Table 2).

**Table 2. Number of neonatal and predicted number of college students**

Year	Number of neonatal <sup>♦</sup>	Year	Predict number of college students <sup>★</sup>
1998	271,450	2016	250,426
1999	283,661	2017	235,846
2000	305,312 <sup>▼</sup>	2018	247,925
2001	260,334	2019	238,667
2002	247,530	2020	210,410
2003	227,070	2021	199,263
2004	216,419	2022	185,855
2005	205,854	2023	180,811
2006	204,459	2024	174,661
2007	204,414	2025	173,752 <sup>◎</sup>
2008	193,733	2026	164,673 <sup>◎</sup>
2009	191,310	2027	162,614 <sup>◎</sup>
2010	166,886	2028	141,853 <sup>◎</sup>

<sup>♦</sup>[http://www.naipo.com/Portals/1/web\\_tw/Knowledge\\_Center/Editorial/publish-193.htm](http://www.naipo.com/Portals/1/web_tw/Knowledge_Center/Editorial/publish-193.htm);

<sup>★</sup>Jin, 2013; <sup>▼</sup>Chinese dragon year; <sup>◎</sup>Predict by present study.

Table 3 shows the total number of recruited students and registered students, as well as the shortfall of college students over the past decade in Taiwan. Although the number of recruited and registered students decreased, the oversupply of college openings and the ratio of this oversupply increased over the past decade. Furthermore, the ratio of shortfall will reach about 40 percent in 2028 (Table 2).

**Table 3. The number of recruit, register, and shortfall of students for the past decade**

Year	Number of recruit	Number of register	Number of shortfall	Ratio of shortfall
2004	379K	319K	61K	15.9%
2005	370K	316K	55K	14.7%
2006	367K	310K	57K	15.4%
2007	358K	300K	59K	16.5%
2008	350K	290K	59K	17.0%
2009	336K	267K	69K	20.1%
2010	333K	271K	61K	18.5%
2011	328K	274K	55K	16.6%
2012	327K	272K	55K	16.8%
2013	324K	259 K	65K	20.2%

Source: Kim, 2013; Unit: K = thousand.

In Taiwan, the tuition for national colleges was about only one-half of that for private colleges due to large funding grants from the Ministry of Education. For example, in 2104 the 51 national colleges received more than NT\$ 41.6 billion in funding grants from the Ministry of

Education, whereas the 108 private colleges received only NT\$ 22.5 billion in funding grants from the Ministry of Education (Wu, 2016).

This low tuition fee is very attractive to students in Taiwan. Thus if the Ministry of Education does not reduce the number of places at national colleges (Table 1), the excess supply of college places will be a greater than 60 percent for private colleges in 2028 since there would remain about only 40K students for private colleges beyond those students enrolled in national universities. This indicates that more than 70 private colleges would need to close after 2028 (Table 2). Already, in 2015 there were 34 departments of private colleges that had no students registered in them. In addition, about 68 percent of the vulnerable (low income and special needs) were enrolled in private colleges (Lin et al., 2008). Therefore, the impact of the low birth rate has a more serious effect on private colleges than on national colleges under severe economic conditions.

Moreover, the number and ratio of students who are suspended or withdrew has increased substantially during recent years. For example, the number of suspended/withdrew students increased from 74,234 in 2010 to 81,249 in 2012, and the ratio of suspended/withdrew students over the entire student population increased from 5.5 percent to 6.0 percent, respectively (Lin, 2014). Furthermore, the ratio of suspended/withdrew students at private colleges was about triple that of national colleges. Therefore, how to attract more students and how to reduce the number and ratio of students who are suspension or withdraw are the two major issues for all private colleges in the future.

Furthermore, if we can determine: which students comprise the suspended/withdrew group, why they are (due to what reasons), and when they are (at what grade), then this should help to determine how best to guide each student on a path that leads to graduation (Owen et al., 2008). Thus this study constructs the decision connotation for a conceptual model to reveal the black box of course choices for the suspended/withdrew group of college students.

## LITERATURE REVIEW

For students who were suspended or withdrew from schools, it is unsurprising that only 35 percent of these students returned to school (Metzer, 1997). Metzer (1997) also reported that students who failed to return to education faced severe or complicated obstacles to their return, such as age, substance abuse, or extreme delinquency. Other reasons for not returning to school included childcare needs, viewing work and money (economic vulnerable) as a priority, and perceiving school as unchallenging or boring. Finn (1989) research on dropping out from school focused on characteristics of the individual or institution that correlate with the dropout decision and proposed two models (frustration-self-esteem and participation-identification) for understanding the decision to drop out as a developmental process that may begin in the earliest grades. In addition, van Uden, et al. (2014) indicated that student engagement is an important precursor for learning, and the strongest relations were found between the two dimensions of interpersonal teacher behaviour and the three components of student engagement (behavioral, emotional and cognitive engagement). Garvik et al. (2014) investigated how depression is linked to elements of student functioning in the school setting in areas other than academic achievement. They investigated possible correlates of depressive symptoms with school engagement and disengagement. They examined four specific school variables (school motivation, intentions to withdraw, absence, and truancy) in a sample of 791 adolescents

between 15 and 18 years of age in a Norwegian upper secondary vocational school. The results indicated that symptoms of depression could be a risk factor for school disengagement, and particularly for intentions to withdraw from school. However, as only moderate associations were found, it appears that many depressed students manage to keep up their school engagement. This applied to both genders. However, the findings underline the importance of developing effective methods to identify and help depressed students who do have difficulty keeping up school engagement. Lyttle-Burns (2011) indicated that grade retention has a negative effect and often results in students dropping out of school. Owen et al. (2008) reported that each year, almost one-third of all public high school students (and nearly one-half of all blacks, Hispanics and American Indians) fail to graduate from public high school with their original classes.

Over the past two decades, there have been many studies on the suspended/withdrew students in China (eg. Huang, 1991; Zhang, 1991; Xiao, 1993; Shao et al., 1994; Su, 1998). The results showed that the major causes are health problems (physiological/mental illness) or death of the students (Liu, 1994).

In contrast, investigations on this topic are relatively rare in Taiwan. Furthermore, most investigations have been concerned with students of senior/junior high schools. There have been several studies to predict the factors that affect student decision to apply suspension/withdrawal in Taiwan. Zheng (2013) constructed a generalized associate classification multiple support system to predict withdrawal from college. Ko (2014) employed a qualitative research method to investigate the course selection and adaptation connotation of suspension/withdrawal from school. The results indicate that the causes can be divided into two parts: individual and environmental. The individual causes include personal interests, aptitudes, and self expectations; while the environmental causes include life stress, crisis situations, and family factors. However, the subjects might not have indicated the actual causes. Further, the decision connotation might be considered as a black box. Ting (2006) investigated the relationship between students' means of college entrance (direct application, unified exam, recommendation, and excellent skills) and their subsequent academic performance. Results indicated that the effects of means of entrance, semester of enrolment, and the three-order interaction all had significant effect on academic performance. However, Ting (2006) might have overlooked the mediating effect of enrolled department and learning motivation. Lin et al. (2008) reported that more than 70 percent of special needs (vulnerable) students are suspended or withdrew from schools over their first two years, and the major cause is learning difficulties. This result implies that the learning motivation (difficulty) might significantly affect the rate of suspension/withdrawal from school for normal students. Furthermore, only one third of the special needs students return to school after being suspended or withdrew from school.

However, many schools have no policies to encourage or attract students to return to school (Owen et al., 2008).

## **PRACTICAL DATA**

KS University is considered one of the best private colleges in Taiwan and has three enrolment formats, including regular daytime, evening, and inter-term systems. Tables 4 and 5 showed the enrolment data for KS University. The total number of students has increased during the

past decade, which was not easy for the university to achieve since the total number of students for most private colleges has declined overall. Moreover, the number and ratio of suspended/withdrew students from schools of KS University were lower than those of other private colleges due to this university's excellent administrative performance and reputation. However, the number and ratio of students suspended/withdrew from school increased substantially for all systems over the past decade.

**Table 4. Overall number and suspended/withdrew students, regular daytime system**

Year	Number of students	Number of suspended/withdrew	Ratio
2005	6,912	410	5.93%
2006	7,322	506	6.91%
2007	8,052	528	6.56%
2008	8,638	640	7.41%
2009	9,113	568	6.23%
2010	9,357	634	6.78%
2011	9,409	636	6.76%
2012	9,598	795	8.28%
2013	9,951	822	8.26%
2014	10,490	779	7.43%

**Table 5. Overall number and suspended/withdrew students for evening and inter-term systems**

Year	Number of students	Number of suspended/withdrew	Ratio
2005	3,198	600	18.76%
2006	3,253	624	19.18%
2007	3,367	704	20.91%
2008	3,580	770	21.51%
2009	3,654	826	22.61%
2010	3,752	815	21.72%
2011	3,834	902	23.53%
2012	3,613	968	26.79%
2013	3,762	1,052	27.96%
2014	3,809	1,106	29.04%

Reducing the number and ratio of suspension/withdrawal students is currently one of the most important issues for KS University and for all private colleges in Taiwan.

To understand the causes of the students being suspended or applying to withdraw from school the current study investigated these causes for KS University students in 2014. Tables 6 and 7 showed the number and ratio of withdrawals due to health and economic reasons for students from KS University during the 2012-2014. Table 6 indicates that the ratio of withdrawals due to health reasons was less than 2 percent during these years, and even after adding those due to

economic reasons (Table 7), the total was still less than 5 percent. This result is in dramatic contrast to previous studies for China (Huang, 1991; Zhang, 1991; Xiao, 1993; Shao, et al., 1994; Su, 1998) indicating that health and economic problems were the major causes (overall around 90 percent) for students in the suspended/withdrew group. This result indicates that there might be a black box of decision connotation for college students who are suspended or withdrew from school in Taiwan. Therefore, there is need for an investigation of the actual causes for suspension or withdrawal of students in order to support early warning and prevention measures.

**Table 6. Health reasons of students being suspended or withdrew from school**

Year	Health reason	Number of students suspended/withdrew from school	Ratio
2012	Yes	30	1.70%
	No	1733	98.30%
2013	Yes	23	1.24%
	No	1851	98.76%
2014	Yes	22	1.17%
	No	1885	98.83%

**Table 7. Economic reasons of students being suspended or withdrew from school**

Year	Economic reason	Number of students suspended/withdrew from school	Ratio
2012	Yes	51	2.89%
	No	1712	91.36%
2013	Yes	37	1.97%
	No	1837	98.03%
2014	Yes	29	1.54%
	No	1856	98.46%

Table 8 shows the external causes for suspension/withdrawal from school. The top five causes are overdue return to school, transfer to another school, overdue registration, obtaining employment, and serving in the army. None of these top five causes are related to health or economic, and they are likely to relate to the learning motivation, academic performance, and achievement. Therefore, we made a preliminary analysis for the academic performance of students suspend or withdraw from school. We found that the average academic performance for 90 percent of these students is below 60 points. This result indicates that the learning motivation, academic performance, and achievement might be the most significant causes affecting the students who are suspended or who withdraw from school.



**Table 8. External causes of suspension/withdrawal from school in 2014**

Apply causes	Number of suspension/withdrawal	Ratio
Overdue return to school	612	32.47%
Transfer to another school	258	13.69%
Overdue registration	247	13.10%
Obtaining employment	212	11.25%
Serving in the army	176	9.34%
Family reasons	84	4.46%
Lack of interest	35	1.86%
Economic reasons	29	1.54%
Health reasons	22	1.17%
Others	210	11.14%

## ESTABLISH HYPOTHESIS OF CONCEPTUAL MODEL

To understand the actual reasons for students being suspended or withdrew from school, the present study considered several hypotheses to construct the decision connotation model for students' suspension/withdrawal from school.

First, college students in Taiwan come from both ordinary high schools and vocational high schools. Furthermore, there are many ways to apply for entrance: direct application, unified exam, and others. Of these, direct application and unified exam are the two major ways to enter college. In general, students who study in ordinary high schools are major to enter ordinary universities, whereas students in vocational high schools are major to enter colleges of science and technology or obtain employment. Therefore, the courses given in ordinary high schools and in vocational high school are quite different. The Ministry of Education has combined these means of application since 2010 so that all students can enter either ordinary universities or colleges of science and technology. However, the purpose and major instructional components differ substantially between ordinary high school students and vocational high school students. For example, vocational high schools pay more attention to practicum courses but ordinary high schools do not. These differences can significantly affect the students' means of application.

**Hypothesis 1:** The major subject in high school significantly affects means of application to college.

Second, for many special departments (art, sports, culinary, etc.) in colleges of science and technology, the score weights for technical subjects are greater than those for general subjects. This can significantly affect the means of application to the particular department.

**Hypothesis 2:** The application means are significantly affected by the department applied to.

Third, if the department in which students are enrolled is not their favourite they may have less interest in learning, which could significantly affect their learning motivation.

**Hypothesis 3:** The department a student enrolls in significantly affects their learning motivation.

Fourth, if students have less learning motivation in their enrolled department, they will have less class attendance and activity participation.

**Hypothesis 4:** The learning motivation significantly affects class attendance and activity participation.

Fifth, if the students have lower class attendance and activity participation, their academic performance and achievement will be lower.

**Hypothesis 5:** The class attendance and activity participation significantly affects the academic performance and achievement.

Sixth, if the students' academic performance and achievement are below the requirements for graduation (English requirement, professional licences, grades for classes... etc.), they will tend to be suspended or withdraw from school.

**Hypothesis 6:** The academic performance and achievement significantly affect the suspension/withdrawal from school.

Seventh, if the department in which the students enrol is not their favourite, they would have less interest in learning, and so they would be suspended or withdraw from school in order to transfer to other colleges their first year. Conversely, students who are suspended or withdraw from school in later years might be affected more by lower academic performance and achievement.

**Hypothesis 7:** The students' year of study significantly affects their reasons for suspension or withdrawal from school.

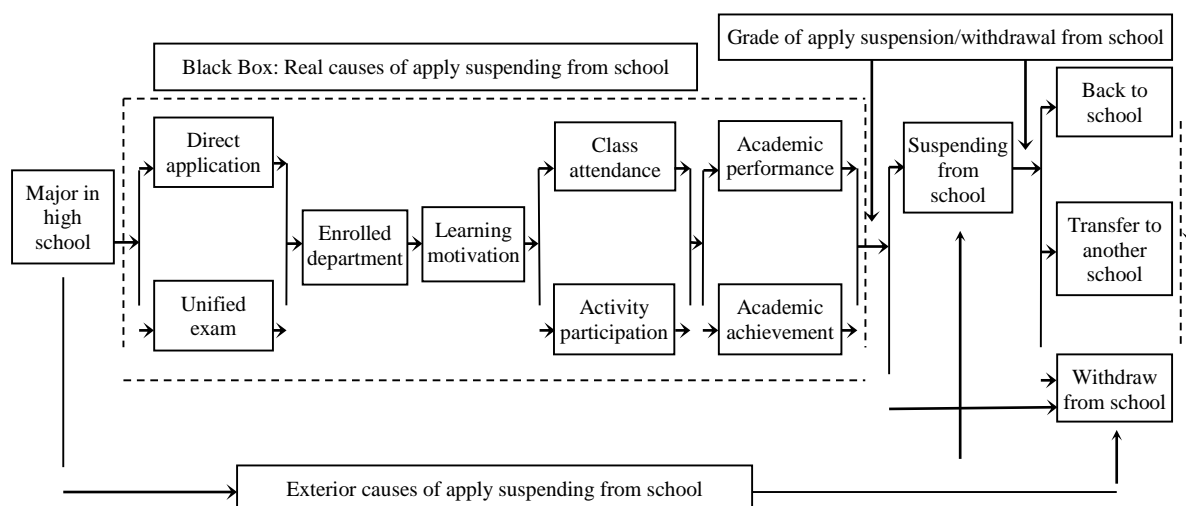
Eighth, if the students are suspended or withdrew from school in earlier years, they might be less likely to return to their original school due to transfer to other schools. And conversely, if the students are suspended or withdrew from school in later years, they might return to school due to low academic performance and then obtain employment or serve in the army.

**Hypothesis 8:** The year in which the students are suspended or withdrew from school significantly affects their choice of returning to school or suspending their education.

## CONSTRUCT CONCEPTUAL MODEL

Based on the literature review, practical data, and hypotheses, the present study constructed following decision connotation model which completely covers the factors that might affect the decision choices of students who are suspended or withdraw from school.





**Figure 1. Decision model for suspension or withdrawal from school**

## CONCLUSION

The present study establishes eight hypotheses that had not previously been discussed and proposes a decision of conceptual model to reveal the black box of choices affecting the suspension or withdrawal from school of college students in Taiwan. Based on the literature review, practical data, and hypotheses, the decision model was successfully constructed. However, this decision connotation model should be further verified. Therefore, in the near future the authors will continue conduct empirical studies to confirm this decision connotation model.

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