Journal of Education and Practice
ISSN 2222-1735 (Paper) ISSN 2222-288X (Online)
Vol.9, No.36, 2018

Factors Affecting the Rate of Completion of Undergraduate Students

Othman Almenaie
Department of Educational Policy, College of Education, King Saud University, Riyadh, Saudi Arabia,
P .Box 145111 ZIP 4545

Abstract
The present study is an attempt to examine factors affecting undergraduates' rate of completion. Data from 7,443 students collected during 2017 were adopted in this research, and a predictive approach and multiple regression analysis were used. Results indicated that the most influential academic factors on the rate of completion were cumulative grade point average (GPA) and discipline; medical college students had a higher rate of completion compared to students of basic science and humanities. The second factor influencing the rate of completion was admission criteria, and the achievement test emerged as the most important factor of admission criteria. Among the social factors that affected academic achievements were gender and age variables, and there was a significant gender difference, favouring females. This study emphasizes the role of academic factors and admission criteria in affecting the rate of completion, contradicting most previous studies, which have indicated that economic characteristics are the most significant factors affecting the rate of completion.
Keywords: higher education; rate of completion; King Saud University; undergraduate students.

1. Introduction

Higher education plays a fundamental and influential role in achieving progress in the various economic, social, political, and other fields of human society. It contributes to development and progress and increases the productive capacities of societies to face future challenges. Hence, most countries are witnessing a clear social and economic transformation towards knowledge-based economies, which work to invest and disseminate knowledge to improve citizens' quality of life in a sustainable manner. The role of higher education institutions, particularly universities, in building a knowledge-based economy has been confirmed in many studies (Saad 2016). One of the basic tasks of scientific research in universities is knowledge exchange and technology transfer to society. Thus, higher education is considered a vital factor in human development. Improving citizens' quality of education allows them to interact positively with community issues, and to participate more effectively in the development process.

Due to the increasing demand on university education and, accordingly, the continuous increase in the number of applicants to public universities, a burden has been placed on government expenditure, and most countries have faced an increase in university costs. This has prompted the idea of privatisation as a new educational path that contributes to the provision of government spending on educational services and simultaneously achieves the comprehensive development that is required. Moreover, universities have been forced to seek new funding resources in order to meet university requirements.

There is no doubt that university education in Saudi Arabia is of vital importance due to cultural, national, economic, and political factors: a large number of students enter universities to improve their status and enhance their social lifestyle. The vision of the Kingdom of Saudi Arabia 2030 calls for the privatisation of university education, its financial and administrative independence, and reliance on its own financial resources, which necessitates that universities work to reduce their costs (Al-Dossary 2008). The retention of students in academic programmes for longer than the official time is one of the invisible costs accrued by universities. The primitive data for the academic year 2012 demonstrate that the rate of completion at King Saud University was 35%, 46%, and 32% for the colleges of Education, Engineering, and Business Administration respectively; this points to a serious problem that should be researched, discussed, and solved.

Most countries have faced economic problems related to their public expenditure on education, due to the increase in demand on public universities. During the East Asian economic crisis from 1996-1999, Malaysia strove to privatise higher education in order to facilitate educational reform and produce quality graduates that could transform Malaysia into a knowledge-based economy, thus enhancing its competitiveness (Sivalingam 2006). Meanwhile, the 1990s witnessed a major turn in the history of contemporary higher education in India. This decade was one of turmoil, with an important development being the sustained efforts toward privatisation of higher education, through reduction in public expenditure and the introduction of cost-recovery measures, accompanied by policy measures to directly privatise higher education (Tilak 2002). Bawija (2017) stated that there was a need to privatise higher education in India for the following reasons: (1) To increase the competitive efficiency of the public sector; (2) To meet the growing demand for higher education with the rapid growth in population; (3) To reduce the financial burden on government and decentralise educational institutions; (4) To disseminate quality education and training and shape the curriculum according to global, national, and local

needs; (5) To fulfil the need for skilled manpower and the country's needs in terms of liberalisation, privatisation, and globalisation; and (6) To facilitate technological developments and information-based economic development. In Egypt, the demand for higher education is growing and the sector is undergoing considerable change, with a range of new, private providers joining established publicly funded universities since 1992 (Ayoubi & Loutfi, 2018).

According to the methodology adopted in the present study, the factors affecting rate of completion can be grouped into two main groups: academic and non-academic (social, economic, and psychological). Among the academic factors are lack of academic counselling, time management, admission criteria, and lack of desire for academic discipline, in addition to negative attitudes toward certain courses, and poor educational compatibility. Alfirih (2016) confirmed that the most crucial academic factors behind students' failure and low academic achievement are tests, the content-based curriculum, and the weak mutual relationship between students and faculty members. She advocated increasing the rate of completion due to the lack of a fixed academic agenda that includes deadlines for registration, withdrawal, addition, partial withdrawal, and postponement, and the absence of academic counselling. Lotkowski *et al.* (2004) indicated that 55% of all undergraduates suffered non-completion. This was attributed to several academic factors, including institutional commitment and selectivity (Lotkowski *et al.* 2004) In his dissertation, Schneiderheinze (2011) emphasised the relationship between instructors' teaching styles and students' rate of completion. Kangai & Mapolisa (2012) noted that among the major factors negatively impacting students' progress are poor communication and poor supervision by some tutors.

Kim (2014) demonstrated that, in a Korean local university, students who developed a positive relationship with faculty members had greater motivation to academic achievement. Conversely, students who had a negative relationship with faculty members tended to be less satisfied with their studies. In their study on the achievement and absorption capacity of one Kuwaiti private college, El-Hilali *et al*. (2015) found that it was influenced by students' participation, satisfaction, teaching methods, and programmes. Matthews *et al.* (2015) examined why black males leave higher education, only to eventually return and complete their degrees. Results demonstrated that the majority of participants had spent 10 years or more engaged in higher education, with the time taken to complete a degree ranging from a low of 5 years to a high of 27 years (Matthews *et al.* 2015). An interesting finding emerged in relation to the participants' choice of institutions: participants at 4-year institutions took less time to complete their degrees than those enrolled at 2-year institutions (Matthews *et al*, 2015). Hasnor *et al.* (2013) indicated that Malaysian universities aspire to produce graduates who are knowledgeable and equipped with problem-solving and critical thinking skills. Hasnor *et al.* (2013) found that students are more prone to using a deep approach to studying. The findings also revealed that there is an inverse relationship between the surface approach and academic achievement (Hasnor *et al.* 2013). Al-Shehry &Youssif (2017) studied factors affecting the academic performance of undergraduate students in a preparatory year for girls, at Najran University, Kingdom of Saudi Arabia, and found that among the factors affecting student performance and rate of completion were weakness in English language and computer and internet skills, in addition to the qualifications of staff members. Witteveen & Attewell (2017) demonstrated that graduate and non-graduate students take more difficult mathematical and technical courses at an equal rate. However, non-graduate students tend to withdraw in precisely those semesters in which they take the more difficult courses. Thus, they clearly emphasised the importance of carefully balanced course selection and the role of early career counselling (Witteveen & Attewell, 2017)

Non-academic factors include social, economic, and psychological factors, which significantly impact students' retention at universities (Donovan & Herrington, 2013). The shortage of social welfare programmes and cultural activities, the weak educational role of students unions, and students' reluctance to participate in activities are the most important social factors, in addition to students' concerns about family lifestyle and culture, weak family ties, and problems due to divorce.

(Lotkowski *et al.* 2004) emphasised the relationship between culture and students' achievement and stated that only 55% of all undergraduates (59% Caucasians, 41% African American or Hispanic) completed their study in the proper time or completed a four-year bachelor's degree within six years. The factors influencing students' completion included self-confidence, absence of academic goals, institutional commitment, and social support. In his study, Ibrahim (2012) indicated the effect of the family's lack of attention to their children's future, the weakness of the family's cultural level, cruelty or softness in the treatment of children, poor family supervision of children, and lack of relationship between the college and parents of students. Sawalha & Alamri (2013) emphasised the role of social relations and friendships with colleagues, mixing with bad peers, and marriage at a young age, having family responsibilities, and a weak cultural level as reasons for student non-completion. Mollborna & Everettba (2015) investigated the effect of gender on student rate of completion in several colleges. McLaughlin *et al.* (2010) investigated how gender role identity and the perceived gender appropriateness of careers was administered, and found these to be the key psychological attributes and constructions that differentiated between completers and non-completers of nursing education. McLaughlin *et al.*

(2010) findings indicated that males were more likely to leave the course than females. Furthermore, those who completed the course tended to view nursing as more appropriate for women, in contrast to the non-completers who had less gender-typed views. The female-dominated nature of nursing, the prevalence of stereotypes, and the gender bias inherent in nursing education seem to make this an uncomfortable place for males and those with less gendered-typed views. Harris *et al.* (2016) highlighted a potential need to educate students in the area of stress and support in order to prevent unnecessary withdrawal.

Although there are no tuition fees in Saudi universities, economic factors are nonetheless important. The economic factors leading to lower achievement and reducing willingness to complete university study include the following: students' preoccupation with extra-curricular activities; students' low economic level; high prices of books and study materials; daily expenses; low economic level and high study costs; and the excessive wealth of some families (Ibrahim 2012; Sawalha & Alamri, 2013). Among the major factors mentioned by Kangai &Mapolisa (2012) to negatively impact students' progress at the Open University of Zimbabwe are financial problems and lack of books and journals. Donovan and Herrington (2013) studied what factors affect college completion and student ability in the U.S. since 1900. They found that there was an increase in student completion from 1900-1950 due to the lowered cost of education which encouraged student enrolment; however, in recent years, due to the rising cost of education, most students are more careful about enrolment to avoid failure and its attendant extra costs.

The psychological factors affecting rate of completion are as follows: weak motivation and desire to work rather than to study; lack of interest in investing leisure time; low self-confidence; confusion and shyness; lack of ability to organise study time; fear and anxiety in relation to exams; difficulty absorbing some subjects; and poor health (Sawalha & Alamri, 2013; Othman *et al.* 2013). Motivation is considered a crucial factor affecting human behaviour and performance, particularly in terms of educational achievement (Aluçdibi & Ekici, 2012; Kian *et al.* 2014; Turan 2015; Alkış 2015; Azizoğlu *et al.* 2015; Orhan Özen 2017). In addition, self-efficacy, self-concept, attitude, and anxiety are other psychological factors significantly affecting, to varying extents, rate of completion, retention time, and students' achievement (Alkış 2015; Turan 2015; Hwang et al. 2016; Çikrıkci 2017; Orhan Özen, 2017; Dulay 2017).

2. Problem statement and research questions

2.1. Problem statement

To ensure that Saudi Universities orient towards their own financial and administrative independence, and in pursuit of cost reduction, the need has arisen to identify what factors influence student retention for long periods. At King Saud University, 7,443 students enrolled during the academic year 2007, of whom only 1,959 completed their courses according to their academic plan. This rate of 26% can be considered a low rate of completion and implies more pressure on university expenditure, thus leading us to study the factors affecting rate of completion.

2.2. Research questions

This study seeks to answer the following questions:

- What academic factors, if any, affect rate of completion?
- What admission criteria, if any, affect rate of completion?
- What social factors, if any, affect rate of completion?
- What economic factors, if any, affect rate of completion?

3. Study context and method approach

3.1. Study context

In 1957, in accordance with Royal Decree No. 17, King Saud University was founded in response to the educational and professional needs of a young nation. The aim was for this university to be one of the most prominent houses of culture and sciences, to reflect Islamic faith and civilisation, to disseminate and promote knowledge in the Saudi Kingdom in order to widen the base of scientific and literary study, and to keep abreast with other nations.

The first students began studying in the College of Arts in the 1957 academic year. Since then, the college has undergone many stages of development, and its administrative organisation has developed and adapted according to the diverse needs and expanding role of the nation. At present, the university comprises 24 colleges in various medical, scientific, and humanities disciplines.

3.2. Research design

This study uses the predictive study approach in which the independent variables (academic, social, economic, and admission criteria) are identified and correlated with the dependent variable (rate of completion).

3.3. Data collection and analysis

The data were collected from the academic records of 7,443 students who enrolled at King Saud University during the academic year 2007. As this study is of a predictive nature, the predictive approach was adopted. Multiple regression analysis was used for the data analysis, in order to determine what future decisions should be made to solve the present problems. Once the significance of the factors is corroborated, r2 can be calculated to examine the influence of the factor according to the coefficient of determination. In the case of nominal variables, post hoc tests can be used to determine which group of factors had a greater effect.

3.4. The coding approach

Rate of completion can be calculated as follows: in case of graduation according to the education plan, this means that the student completed his or her study within eight semesters. If the student completed study one semester before graduation, this means that s/he finished within seven semesters. If the student finished two semesters before graduation, this means that s/he finished within six semesters. The values 8, 7, and 6 are allotted for each of these respective cases. However, students who delayed by one or two semesters were allotted the values 9 and 10 respectively and this numbering system continued to 19 as the maximum graduation period is 19 semesters.

For the purpose of statistical analysis, it is logical that students who completed their studies earlier should be allotted the highest values; thus, the values were recorded in inverse order, with higher values given to those students who completed earlier. Thus, students who completed within six semesters were allotted the value 19 while those who completed within seven semesters were allotted the value 18. The true values can be calculated by applying a simple equation as follows:

The highest value (19) - the semester value needed to transfer + the lowest value (6)……..Eq. 1

The independent scaled variables are as follows: Cumulative Grade Point Average (GPA, 1-5), General Certificate of Secondary Education (GCSE, 1-100), Achievement Test (AT, 1-100), General Aptitude Test (GAT, 1-100), and age (1-40). The nominated variables are discipline (humanities 1, scientific 2, medical 3), gender (male 1, female 2), nationality (Saudi 1, other 2), marital status (unmarried 1, married 2), rewarding (received 1, non-received 2), and career status (employed 1, unemployed 2).

3.5. Limitation of the study

In this study, the factors affecting student completion rate were grouped into two categories: academic factors and non-academic factors (Lotkowski et al. 2004). The focus was on academic variables such as student academic discipline, cumulative grade point average (GPA), Achievement Test (AT), General Aptitude Test (GAT), and General Certificate of Secondary Education (GCSE). The social factors focused on were student age, marital status, gender, and nationality. Finally, the economic factors concerned career status that is, whether or not the student is employed, and whether or not s/he has been rewarded. Tuition fees are another important factor but these were not considered here as education is free in the Kingdom of Saudi Arabia.

4. Results

4.1. Research question 1: What academic factors, if any, affect rate of completion?

To answer this question, we conducted an analysis of variance regression (ANOVA) to ascertain the influence of academic variables on rate of completion (see Table 1).

Table 1. Analysis of variance regression (ANOVA) for the effect of academic variables on rate of completion.

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3165.597	2	1582.798	148.461	.000[b]
	Residual	79320.662	7440	10.661		
	Total	82486.259	7442			

a. Dependent Variable: completion rate.
b. Predictors: (Constant), GPA, Disciplines

Table 1 shows that academic variables have a significant effect on undergraduate students' rate of completion, where F =148.46 and p = 0.000, indicating that GPA and academic discipline affect student completion rate. To determine the strength of effect of academic factors on rate of completion, the coefficient of determination was used. As shown in Table 2, the coefficient of determination has a value of 3.8%, indicating a 3.8% variance and a difference in retention period in the study sample, which can be attributed to the academic variables (grade point average and discipline).

Table 2. Coefficient of Determination for the effect of academic variables on rate of completion

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	196[a]	.038	.038	3.2652

a. Predictors: (Constant), GPA, Disciplines

It is clear from Table 3 that GPA significantly affects rate of completion more than academic discipline, since the Beta value of the GPA was 0.160 while the value for academic discipline was 0.090.

Table 3. Linear regression output for the effect of academic variables on rate of completion.

Model		Unstandardized Coefficients		Standardised Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	11.466	.165		69.390	.000
	Disciplines	.397	.051	.090	7.845	.000
	GPA	.598	.043	.160	13.884	.000

a. Dependent Variable: Rate of completion

Since academic discipline has a significant effect on rate of completion, it may be useful to examine in which of the disciplines students are delayed by calculating the average retention rates for each discipline. As shown in Table 4, a significant difference was found between medical college students on the one hand, and both science and humanities students on the other. This indicates that medical college students finish their studies before science and humanities students. A significant difference is also observed between the scientific and humanities colleges, indicating that the former finish their studies before the latter.

Table 4. Post Hoc Tests for academic discipline comparisons on rate of completion.

(I) Disciplines	(J) Disciplines	Mean Difference (I-J)	Std. Error	Sig.
Medical	Humanities	1.0060*	.1056	.000
	Scientific	.4637*	.1122	.000
Scientific	Humanities	.5423*	.0863	.000

*. The mean difference is significant at the 0.05 level.

Table 5 shows the mean number of semesters required for students to finish their studies, by discipline. The average number of semesters required for medical college students is 10.13. If this mean is compared to the basic number of semesters, which is 8, it means that medical college students require an additional two semesters (10.13-8=2.13) to complete their studies, while scientific college students require more than two additional semesters (10.59-8=2.59), and finally, humanities students require three (11.13-8+=3.11) additional semesters.

Table 5. Means of retention period for academic discipline.

Disciplines	Mean	N	Std. Deviation	Real Mean
Humanities	13.867	3633	3.5943	19-13.87+6=11.13
Scientific	14.410	2468	2.9118	19-14.41+6=10.59
Medical	14.873	1342	3.1769	19-14.87+6= 10.13
Total	14.229	7443	3.3292	19- 14.23+6=10.77

4.2. Research question 2: What admission criteria, if any, affect rate of completion?

To answer this question, an analysis of variance regression (ANOVA) was conducted to ascertain the influence of admission criteria on rate of completion (see Table 6).

Table 6. Analysis of variance regression (ANOVA) for effect of admission criteria on the rate of completion.

Model		Sum of Squares	df	Mean Square	F	Sig.
1 1	Regression	2216.655	3	738.885	68.476	.000[b]
	Residual	80269.603	7439	10.790		
	Total	82486.259	7442			

a. Dependent Variable: completion rate

b. Predictors: (Constant), GCSE, GAT, Achievement test

Table 6 shows that admission criteria have a significant effect on undergraduate students' rate of completion, with an F value of 68.48 and a significance level of 0.000 indicating that, together, the AT and GAT affect student rate of completion. To determine the strength of admission criteria on rate of completion, the coefficient of determination was used as shown in Table 7.

Table 7. Coefficient of Determination for the effect of admission criteria on rate of completion.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.164[a]	.027	.026	3.2849

a. Predictors: (Constant), GCSE, GAT, and AT

Table 7 shows that the coefficient of determination has a value of 2.7%, indicating that there is a 2.7% rate

of variance and difference in the retention period in the study sample. This can be attributed to the admission criteria (GCSE, GAT, and AT)**.**

It is clear from Table 8 that the AT test significantly affects completion rate more than the GCSE and GAT, while, simultaneously, GCSE significantly affects rate of completion more than GAT since the Beta value of the AT is 0.088, that of GCSE is 0.31, and that of GAT is 0.079, which is slightly significant at a level of 0.023.

Table 8. Linear regression output for the effect of admission criteria on rate of completion.

Model		Unstandardized Coefficients		Standardised Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	6.588	.718		9.180	.000
	Achievement test	.027	.004	.088	6.020	.000
	GAT	.012	.005	.032	2.270	.023
	GCSE	.051	.009	.079	5.951	.000

a. Dependent Variable: completion rate

4.3. Research question 3: What social factors, if any, affect rate of completion?

To answer this question, we conducted an analysis of variance regression (ANOVA) to ascertain the influence of the social variables on rate of completion, as shown in Table 9.

Table 9. Analysis of variance regression (ANOVA) for the effect of social variables on rate of completion.

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	357.749	4	89.437	8.100	.000[b]
	Residual	82128.510	7438	11.042		
	Total	82486.259	7442			

a. Dependent Variable: completion rate

b. Predictors: (Constant), Marital Status, Nationality, Gender, Age

Table 9 shows that the social variables have a significant effect on undergraduate students' rate of completion, where the value of F=8.10 and the significance level of 0.000 indicate that students' gender, nationality, age, and marital status together affect student rate of completion. To determine the strength of social factors on rate of completion, the coefficient of determination was used, as shown in Table 10.

Table 10. Coefficient of Determination for the effect of social variables on rate of completion**.**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.066[a]	.004	.004	3.3229

a. Predictors: (Constant), Marital Status, Nationality, Gender, Age

Table 10 demonstrates that the coefficient of determination has a value of 0.4%, indicating that there is only 0.4% of variance and difference in the retention period in the study sample. This can be attributed to the academic variables (gender, nationality, age, and marital status).

Table 11. Linear regression output for the effect of social variables on rate of completion.

Model		Unstandardized Coefficients		Standardised Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	16.071	.818		19.638	.000
	Gender	.328	.078	.049	4.205	.000
	Nationality	.417	.256	.019	1.627	.104
	Age	-.093-	.026	-.041-	-3.513-	.000
	Marital Status	-.236-	.373	-.007-	-.633-	.527

a dependent variable: Rate of completion

It is clear from Table 11 that gender significantly affects rate of completion more than age, since the Beta value of gender is 0.049 while the value for age is -0.041. The other variables, such as nationality and marital status, did not demonstrate a significant effect on rate of completion. The effect of age inversely affects rate of completion, which means that the older the students during submission, the longer the retention period.

As gender has a significant effect on rate of completion, it was considered worthwhile to examine the significant differences between male and female students, to ascertain which of them graduated earlier. Table 12 shows the t-test values and average retention period for each gender.

Table 12. T-test used for the effect of gender on the rate of completion.

Gender	N	Mean	Real mean	Std. Deviation	t	Sig.
Males	3220	14.047	19 -14.05+6=10.95	3.5727	-4.108-	.000
Females	4223	14.367	19-14.37+6=10.63	3.1243		

Table 12 shows that there is a significant gender difference, favouring females. Thus, female students completed their studies earlier than males. While male students required 10.95 semesters to complete their

studies, female students only required 10.63 semesters.

4.4. Research question 4: what economic factors, if any, affect rate of completion?

To answer this question, an analysis of variance regression (ANOVA) was conducted to ascertain the influence of the economic variables on rate of completion as shown in Table 13.

Table 13. Analysis of variance regression (ANOVA) for the effect of economic variables on the rate of completion

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	26.489	2	13.245	1.195	.303[b]
	Residual	82459.769	7440	11.083		
	Total	82486.259	7442			

a. Dependent Variable: Rate of completion

b. Predictors: (Constant), Rewarded, Career Status

Table 13 shows that economic variables have no significant effect on undergraduate students' rate of completion, where the value of F=1.195 and the significance level of 0.303 indicate that students' rewarded career status does not affect their rate of completion.

In general, the previous tables have demonstrated that most of the factors affecting rate of completion are academic factors, with $r^2 = 0.038$ (Table 2), while admission criteria are the second most influential, with $r^2 = 0.027$ (Table 7). Finally, social factors are the least influential, with $r^2 = 0.00.4$ (Table 10). As this predictive study aimed to estimate the number of semesters required for students to graduate, the linear regression equation for academic factors, which had the largest effect on rate of completion, was as follows:

Y = 11.47 + 0.6 (GPA) + 0.4 (disciplines)…..Eq. 2

If we assume that a student has completed the first year with a GPA of 3.5 and wants to study in medical college, we can predict the number of semesters required to complete the study by applying Eq. 2:

Y = 11.47 + 0.6 (3.5) + 0.4 (3)

= 11.47 + 2.1 + 1.2 = 14.77

To calculate the true number of semesters required for this student, we apply Eq. 1:

19 - 14.77 + 6 = 10.23

This means that this student requires an additional two semesters to complete his academic plan.

It is also possible to predict the number of semesters required for this student prior to admission using the linear regression equation as follows:

Y= 6.59 + 0.027 (AT) + 0.051 (GCSE) + 0.012 (GAT)…….. Eq. 3

If we assume that a student has a GCSE rate of 85%, an AT of 77%, and a GAT of 80%, then:

Y = 6.59 + 0.027 (77) + 0.051 (85) + 0.012 (80)

= 6.59 + 2.08 + 4.34+ 0.96

= 13.97

To calculate the true number of semesters required for this student, we apply Eq. 1:

19 - 13.97+ 6 = 11.03

This means that this student will require an additional three semesters to complete his academic plan.

5. Discussion

This study has sought to determine what factors affect students' rate of completion at King Saud University. The data comprised 7,443 students who enrolled at King Saud University during the academic year 2007. The results demonstrated that academic factors, admission criteria, and social factors affected student rate of completion in descending order, while economic factors demonstrated no effect. This is because academic factors such as students' GPA and academic discipline are directly related to rate of completion. Katsikas & Panagiotidis (2010) indicated that the prolonging of studies seems to be an institutional effect deriving from the conditions of schooling rather than from students' financial circumstances. Radunzel & Noble (2012) confirmed the effect of GPA on students' rate of completion.

In terms of academic factors, it has been shown that GPA is more influential on rate of completion than academic discipline. This may be because students with high GPAs do not need to withdraw or fail in any semester, and therefore they finish their studies on time or even before. Academic discipline was also found to influence rate of completion: students in medical disciplines exhibit a higher rate of completion than humanities and science students. This may be because excellent students' first desire is to study medical sciences, followed by scientific and human sciences. Woodfield (2014) identified that the composition of the student body varies considerably across disciplines, in addition to other social factors.

The results also indicated that the university admission criteria affected rate of completion, with the AT demonstrating a higher effect than the GCSE and GAT. This may be because the educational strategy adopted is content-based and depends on memorisation.

This study has also emphasised the effect of social factors, such as gender, on rate of completion. Female students tend to complete their studies earlier than males. This is attributed to the social customs and community culture in Saudi Arabia, where females are eager to raise their status in society through higher learning. Kusurkar *et al.* (2010) reported the effect of gender equality on motivation to study medical sciences between males and females. Their findings demonstrated that females display higher levels of internal control and are more intrinsically motivated than males. Woodfield (2014) adopted gender as one of the social factors affecting completion rate. Age is another important factor influencing rate of completion, with older students found to take longer to complete their studies, perhaps due to the difficulties they encounter attending classes and completing the required assignments. Kusurkar *et al.* (2010) reported the effect of maturity and age on strength of motivation to study at medical school. On the other hand, students' marital status seems not to influence rate of completion, perhaps because most students are unmarried. Similarly, nationality was not shown to affect academic achievement.

Contrary to most previous studies (Donovan & Herrington 2013; Ngwili 2014), economic factors did not demonstrate any effect on student retention, which may be related to the generally higher incomes of Saudi families. Thus, most students did not require the governmental reward, and government education is free. This situation may vary in the case of private universities where tuition fees are very high.

6. Conclusions

Among the academic factors prominent in impacting the rate of students' completion at King Saud University are GPA and discipline. This requires that a new method be devised to develop areas related to academic aspects such as curricula, teaching methods, and training of faculty members and to provide a supportive and motivating learning environment. This development would likely be reflected in students' achievement, and positively reflected in the rate of completion, allowing students to finish their academic programs in the proper time. On the other hand, students' desire fulfilment in selecting the discipline and the study plan is an important factor for increasing academic achievement.

The present study examined the social factors affecting the academic achievement. It is recommended that different development programs be implemented according to gender, due to the difference in nature between male and female students, particularly in conservative eastern societies. The admission criteria should be developed, updated, and varied to meet the needs of both male and female students.

Age should also be taken into consideration during admission. Young students have been found to be more likely to finish their academic programmes in the proper time. The older the student, the more time is required to complete the academic program. Moreover, in terms of admission criteria, the selection of discipline seems to have more weight than other factors. In general, the higher education system should be based on the understanding and diversity of the various applications, which allow students to engage in any field of their disciplines, rather than the present system, which is based on achievement or memorisation strategy.

Unlike previous studies, in this study, economic factors were not found to have a clear impact on rate of completion; thus, further studies are required to examine the future impact of economic factors on rate of completion. These factors can be linked to new variables such as family income.

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Othman Almenaie, Associate Professor in the Department of Educational Policy, College of Education at King Saud University (KSU), Saudi Arabia; teaching "Ethics of Education", "Analysis of Educational Systems", "Philosophy of Education", Advising and supervising the department graduate students. June 2015 – present, Vice Dean of Admission and Registration for Development and Quality.June 2013 – May 2015, Head of the Department of Educational Policy.