

# Determinants of Academic Performance of Undergraduate Students in Private Universities in Bangladesh: A Case Study

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## Abstract

Most of the existing literature studying the determinants of academic performance of undergraduate students in both public and private universities in Bangladesh are qualitative in nature. In this study, a combination of both qualitative and quantitative analysis has been done. Analyses were done using data collected from 605 students of several departments of International University of Business Agriculture and Technology (IUBAT), a private university located in Dhaka, the capital of Bangladesh. Statistical association between academic performance and several explanatory variables was checked. Variables such as type of department, result of preuniversity public examinations, gender, class attendance, teacher-student relationship, self-confidence level of the students, depression and amount of credit hours completed were found to impact the academic performance level significantly. The findings of this study would help students, teachers and concerned authority of the institution to comprehend the factors impacting academic performance of the students and take further actions accordingly.

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*Index terms*— academic performance, demographic variables, socio-economic variables, institutional variables, logistic regression analysis

## 1 I. Introduction

ince its independence back in 1971, there has been an upsurge in higher education in Bangladesh. Before the independence, only four public universities were available for tertiary education in this country. That figure is now 42 along with around hundred other private universities approved by the University Grant Commission (UGC) 1 . These numbers are in no mood to stop in near future. There are debates going on whether such large numbers of institutions for higher education, particularly the ever-increasing number of private universities are still needed in a developing country like Bangladesh. On the other hand, the quality in higher education is continuously moving in a declining trend. There are several issues responsible for such negative trend. But in this study, focus has been given to a specific issue regarding higher study, academic performance of the students who are admitted at undergraduate level in private universities.

Several factors are associated to the academic performance of the undergraduate students such as enthusiasm and individual characteristics of the students, demographic and socio-economic characteristics, institutional characteristics and so on 2 . But only a little research has been done to identify the significant factors, especially in case of Bangladesh. As long as academic performance is concerned, Cumulative Grade Point Average (CGPA) is considered as the indicator by most of the researchers around the world 3 . The family background, educational environment, and financial states of the learners are crucial factors affecting academic performance 4,5 . Involvement of the students in part-time jobs to bear partial educational expenses also affect their academic performance 6,7,8 . Motivation and strong personality direct the students in the way towards the achievement of

## 5 C.I. = CONFIDENCE INTERVAL, OR = ODDS RATIO, RC = REFERENCE CATEGORY

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43 their academic goal 9 . Academic performance at pre-university level (S.S.C. and H.S.C. in case of Bangladesh)  
44 was found to have significant association with its counterpart at university level 10 .

45 The objective of this study was to identify the factors that have significant impact on the academic performance  
46 of the undergraduate students of private universities in Bangladesh. The extent of association would also be tested  
47 through odds ratio applying logistic regression analysis.

## 48 2 II. Methodology

49 Primary data for the study were collected from undergraduate students of Fall semester 2018 of International  
50 University of Business Agriculture and Technology (IUBAT). A pre-coded self-directed questionnaire was initially  
51 developed for the data collection purpose. It was then finalized after being pretested on a small sample of 30  
52 students of BBA (Bachelor of Business Administration) program. There are approximately 10000 students in  
53 total under different colleges in IUBAT. An estimated sample size of 605 respondents was interviewed for the  
54 study considering 4% margin of error (3.86% to be exact) at 95% confidence interval ??1 Conceptual framework  
55 coefficients represents odd ratios (OR) for the given variable. The analysis was performed using SPSS version  
56 20.0. The dependent variable was dichotomous given value 1 if the delivery was attended by trained medical  
57 personnel and given value 0 otherwise. The model was fitted as:  $E(y) = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \dots + \beta_k x_k$  /  
58 , ??., ? k ],  $X = [x_1, x_2, x_3, \dots, x_k]$  /

59 here,  $y$  = dependent variable = academic performance,  $x_i$  = corresponding independent variables,  $\beta_i$  =  
60 parameters of the model.

## 61 3 III. Results and Discussion

62 The background characteristics of the respondents are shown in Table 1. Out of 605 students, more than half  
63 (52.2%) were from Engineering departments. Academic performance of almost twothird of them (63.5%) was  
64 at satisfactory level. As far as family educational background is concerned, less than half (43.8%) of the family  
65 had highly educated one. More than three-fourth of the students (78.5%) performed well in S.S.C. and H.S.C.  
66 examinations which are the two pubic exams that take place at national level before they sit for undergraduate  
67 admission at university level. The number of male students was 1.78 times more than its Volume XVIII Issue  
68 XI Version I Several in dependent variables were considered that can be classified as: socio-economic variables  
69 such as location of residence, religion, yearly family income, students' part-time job status, students' physical  
70 health status, and educational background of family; demographic variables such as age and gender; institutional  
71 variables such as department, teacherstudent relationship, class size and course load; individualistic variables such  
72 as SSC and HSC result, regularity, and punctuality, self-confidence and depression. Other than the department,  
73 all other variables were dichotomous. The dependent variable for the study was academic performance which is  
74 also dichotomous, where CGPA  $\geq 3.00$  was coded as 1 and CGPA  $< 3.00$  was coded as 0. The association between  
75 academic performance and all the above-mentioned independent variables were checked by applying chisquare  
76 test, where p-value  $\leq 0.05$  indicated significant association.

77 Finally, logistic regression model was fitted among academic performance and the independent variables that  
78 showed significant association with it. Logistic regression is the widely applied regression analysis when the  
79 dependent variable is dichotomous.

80 No assumption regarding the distributions of the independent variables is needed. It delivers an estimated  
81 value for the strength of the association adjusting for other variables. The exponential of the female counterpart  
82 indicating the supremacy of male students at tertiary level education. A large proportion of the students (70.2%)  
83 belonged to the age group of above 20 years. Most of them (59.7%) came from urban areas which was expected  
84 since education in private universities is an expensive deal and is out of reach for most of the rural people. One of  
85 the positive aspects of the respondents was their class attendance. Around 93.7% of them attended their respective  
86 classes regularly. But the scenario was entirely the opposite one in case of library attendance. Only 19% of the  
87 respondents had regular attendance in library. One possible reason might be the increasing access of internet  
88 via smart phones where study materials are readily available in various formats in many cases, discouraging the  
89 students from spending some quality time in the library to exercise their brain. The teacherstudent relationship  
90 was found to be friendly in most of the cases (87.1%). The self-confidence level of 70.2% students was found  
91 to be high. There was nearly identical number of respondents as far as the depression status of the students is  
92 concerned. Most of the students were Muslim (89.9%) which was expected since a huge portion of the population  
93 of the country is Muslim. Relatively much higher proportion of students (85.3%) were involved with part-time  
94 job. The logistic regression results are shown in Table ???. Other than attendance, teacher-student relationship  
95 and depression, the remaining variables were still showing significant association with academic performance.

## 96 4 Table 3: Logistic Regression Results

## 97 5 C.I. = Confidence Interval, OR = Odds Ratio, RC = Refer- 98 ence Category

99 One notable part of the findings of logistic regression model was that academic performance of female students  
100 were 1.49 times better than their male counterparts. Students suffering from depression were less like to perform

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101 better than those without depression. The relationship pattern with the teachers also seemed to impact the  
102 academic performance of the students. As expected, irregular students were found to be less likely (OR = 0.60)  
103 to perform better than the regular ones. Students undertaking not more than nine credits were 1.77 times more  
104 likely to perform better than those undertaking above nine credits. This was also usual that the less the amount  
105 of credits, the less the burden of study materials for the students; consequently, more time is available to focus on  
106 less amount of study materials. Self-confidence level of the students seemed to have highly significant association  
107 (p-value = 0.000) with the academic performance of the students. Achievements of the students with low level  
108 of confidence were 0.44 times less likely to perform better. The findings of this study will have crucial strategic  
109 implications to the managements of private universities in Bangladesh. Not only the students but also their  
110 families will realize which factors would have significant impact on students' academic success. The study will  
111 also help to undertake proper actions by Institutional Quality Assurance Cell(IQAC) in the universities as well.  
112 The number of private universities will continue its ever-increasing trend in the upcoming days. Therefore, it is  
113 high time to take necessary steps to ensure the quality of education at this level. It is the huge amount of tuition  
114 feesbeing paid by the students in the private universities that ultimately runs the life of the institutions. Hence,  
115 their academic performance level must be taken care of seriously and sincerely.

## 116 **6 IV. Conclusion**

**1**

Frequency

Percentage

Figure 1: Table 1 :

**2**

Figure 2: Table 2 .

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| Year                          |                     |          |       | Academic Performance |     |     |     | Satisfactory | Not Satisfactory | Total | Sig |     |
|-------------------------------|---------------------|----------|-------|----------------------|-----|-----|-----|--------------|------------------|-------|-----|-----|
| 2018                          |                     |          |       |                      |     |     |     |              |                  |       |     |     |
| Department                    | Business            |          |       | 121                  |     |     | 57  |              | 178              |       |     |     |
|                               | Engineering         |          |       | 209                  |     |     | 106 |              | 315              | ??    |     |     |
|                               | Others              |          |       | 54                   |     |     | 58  |              | 112              | p-v   |     |     |
|                               | Total               |          |       | 384                  |     |     | 221 |              | 605              |       |     |     |
| Education of Family           | Highly Educated     |          |       | 171                  | 213 | 94  | 127 |              | 265              | 340   | ??  |     |
|                               | Moderately Educated |          |       | 384                  |     |     | 221 |              | 605              |       | = 0 |     |
| SSC & HSC Result              | Good Not Good       |          |       | 316                  | 68  | 384 | 159 | 62           | 475              | 130   | ??  |     |
|                               | Total               |          |       |                      |     |     |     | 221          |                  | 605   |     | = 0 |
| ( Family Income )             | Good Not Good       |          |       | 162                  | 222 | 89  | 132 |              | 251              | 354   | ??  |     |
|                               | Total               | Male     |       | 384                  | 236 | 221 | 151 |              | 605              | 387   | 0.6 |     |
| Gender Age                    | Female              |          |       | 148                  |     |     | 384 | 70           | 221              | 218   | 605 | val |
|                               | Total               |          |       | 115                  | 269 | 65  | 156 |              | 180              | 425   | 0.2 |     |
| Global Residence              | At most 20          |          |       | 115                  | 269 | 65  | 156 |              | 180              | 425   | 0.2 |     |
|                               | Above 20            | Total    |       | 384                  | 228 | 221 | 133 |              | 605              | 361   | ??  |     |
| Journal Attendance of Library | Urban               | Rural    |       | 156                  | 384 | 88  | 221 |              | 244              | 605   | 0.8 |     |
|                               | Total               | Regular  |       | 368                  | 16  | 384 | 199 | 22           | 567              | 38    | val |     |
| Human Attendance              | Irregular           |          |       | 77                   | 307 | 384 | 221 | 38           | 605              | 115   | 0.7 |     |
|                               | Total               | Regular  |       | 343                  | 41  | 384 | 183 | 221          | 490              | 605   | ??  |     |
| Social Relation-ship          | Irregular           |          |       |                      |     |     |     | 184          | 37               | 527   | 78  | = 0 |
|                               | Total               | Friendly |       |                      |     |     |     | 221          |                  | 605   |     |     |
| - Science                     | Unfriendly          | Total    |       |                      |     |     |     |              |                  |       |     |     |
|                               | High                | Low      | Total | 298                  | 86  | 384 | 127 | 94           | 425              | 180   | ??  |     |
| Self-confidence               |                     |          |       |                      |     |     | 221 |              | 605              |       | = 0 |     |
|                               | Good                | Not Good |       | 311                  | 73  | 384 | 172 | 49           | 483              | 122   | ??  |     |
| Physical Health               | Total               |          |       |                      |     |     |     | 221          |                  | 605   |     | = 0 |
|                               | No                  | Yes      | Total | 209                  | 175 | 102 | 119 |              | 311              | 294   | ??  |     |
| Depression                    |                     |          |       |                      |     |     | 384 |              | 221              |       | = 0 |     |
|                               |                     |          |       |                      |     |     |     |              |                  |       |     |     |
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| Global                        |                     |          |       |                      |     |     |     |              |                  |       |     |     |
| Journals                      |                     |          |       |                      |     |     |     |              |                  |       |     |     |

Figure 3: Table 2 :

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