THE IMPACT OF UNIVERSITY ENVIRONMENT TO THE STUDENT PERFORMANCE OF NIBM

HIGHER DIPLOMA IN SOFTWARE ENGINEERING

STATISTICS FOR COMPUTING

COURSE-WORK - III

22.1F

SCHOOL OF COMPUTING AND ENGINEERING

NATIONAL INSTITUTE OF BUSINESS MANAGEMENT

GALLE

THE IMPACT OF UNIVERSITY ENVIRONMENT TO THE STUDENT PERFORMANCE OF NIBM

HIGHER DIPLOMA IN SOFTWARE ENGINEERING

STATICTICS FOR COMPUTING

COURSE-WORK - III

22.1F

NATIONAL INSTITUTE OF BUSINESS MANAGEMENT

HIGHER DIPLOMA IN SOFTWARE ENGINEERING 21.1F

Supervised By

Ms. Thilini Darmasena

Submitted By

GAHDSE221F- 004 Umindu Chethiya

GAHDSE221F- 006 Dineth Jayanga

GAHDSE221F- 028 C.M.Dahanayaka

GAHDSE221F- 021 K.H.N. Kaveesha

GAHDSE221F- 013 Nisal Denuka

Year of submission – 2023

The project is submitted in partial fulfilment of the requirement of the Diploma of Computer System.

Declaration

"I certify that this project does not incorporate without acknowledgement, any material previously submitted for a Diploma in any institution and to the best of my knowledge and belief, it does not contain any material previously published or written by another person or myself except where due reference is made in the text. I also hereby give consent for my project report, if accepted, to be made available for photocopying and for interlibrary loans, and for the title and summary to be made available to outside organizations."

GAHDSE221F- 004 Umindu Chethiya

GAHDSE221F- 006 Dineth Jayanga

GAHDSE221F- 028 C.M.Dahanayaka

GAHDSE221F- 021 K.H.N. Kaveesha

GAHDSE221F- 013 Nisal Denuka

Table of Contents

Abstract

The National Institute of Business Management (NIBM) gives a thorough investigation of the impact of the academic environment on student performance in this article. In order to gain an understanding of how university education affects student results, this study looks into a number of factors that affect how well NIBM students learn and perform in class.

In overall, this investigation contributes to the body of research already available about the connection between the learning environment at universities and student achievement. It offers a detailed knowledge of the elements that affect student achievement at the institution by addressing the particular context of NIBM. At NIBM and other similar colleges and universities, the results from this study can guide targeted actions and activities aimed at enhancing the environment on campus and promoting favorable student outcomes.

List Of Figures

Acknowledgement

We would like to extend our sincere gratitude to our lecturer, Ms. Thilini Dharmasena for their guidance and lectures, which will aid in the success of our endeavors. We appreciate everyone who helped make this possible. This report is dedicated to anyone seeking knowledge.

Also, we would like to express our gratitude towards all the lectures who guide us and all academic and non-academic staff of NIBM.

We extend our thanks and gratitude to our parents, friends and those who helped us directly and indirectly for the successful completion of this project work. Finally, we would like to thank our batch mates and all those who have helped us in completing this project.

Date: ……...

Reg. No: …….

Chapter 1 – Introduction

1.1 Background

This study's primary goal was to investigate how the university setting affected NIBM students' academic performance. There seems to be a connection between academic success and the university environment. Students that feel capable and successful are more motivated and confident therefore this type of environment makes for the ideal learning environment. This study is concerned with how NIBM Student views their surroundings and how it influences their academic performance. A straightforward sampling method was used to choose the sample of 40 students. According to the research we have 5 independent variables and one dependent variable. Independent variables are friendly studying culture, workload and stress, lecturer support, facilities of university, assignments and coursework's and dependent variable is student performance.

1.2 Research Problem

Problem Research

By doing this operation, we hope to find out the responses of the students regarding the rules and regulations, facilities, how to friendly studying culture, workload stress etc., in the NIBM campus. We choose this research to study how it affects the mental level of students, can students balance stress with workload, how to manage time, how lecture's support affects the campus environment, how to control life and campus works, students can maintain stress, lecturers are approachable and available to assist you outside of class or to respond to your questions etc.

For that purpose, we have collected data from selected students and analyzed them, hoping to find solutions to the existing problems. we tried to get meaningful idea about impact of student's performance in NIBM University.

1.3 Objectives of the project

i. To determine the major effects of friendly studying culture on students' academic performance.
ii. To determine the major effects of workload and stress on students' academic performance.
iii. To determine the major effects of lecturer support on students' academic performance.
iv. To determine the major effects of facilities of university on students' academic performance.
v. To determine the major effects of assignments and course work on students' academic performance.

1.4 Research Questions

i. What is the major effect of friendly studying culture on students' academic performance?
ii. What is the major effect of workload and stress on students' academic performance?
iii. What is the major effect of lecturer support on students' academic performance?
iv. What is the major effect of facilities of university on students' academic performance?
v. What is the major effect of assignments and course work on students' academic performance?

Chapter 2 – Methodology

2.1 Introduction

This section describes how we collected our data requirements and how we implemented those things to our research, we collected 40 sample data from NIBM students. We created a Google form to gather data from questionnaire and provide 22 questions to answer.

2.2 Population, sample, and Sampling technique

The NIBM students were taken as the population of the research and the 40 NIBM students were taken as the sample of the study. The sampling technique is convenient sampling. Therefore, 40 NIBM students were taken as the sample.

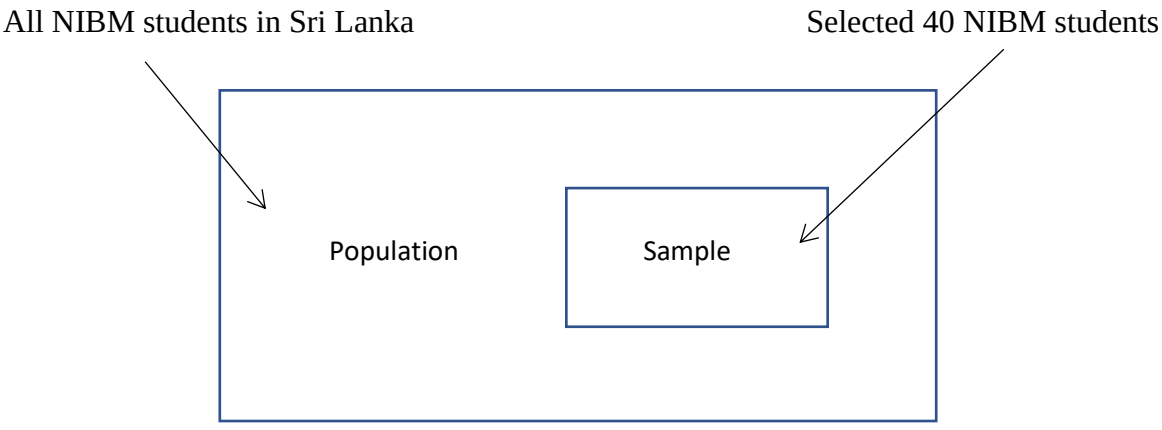


Figure 1:Population Diagram

2.3 Data collection Methods

We used Google form as a data collection method. You can find our google form link using below link.

https://docs.google.com/forms/d/e/1FAIpQLSemPVFKMkkKwX1tKorBjT3jZ1AuL5zaszB72ufifakzrrBdFw/viewform

2.4 Conceptual Diagram

The conceptual framework provides information about the research's dependent and independent variables.

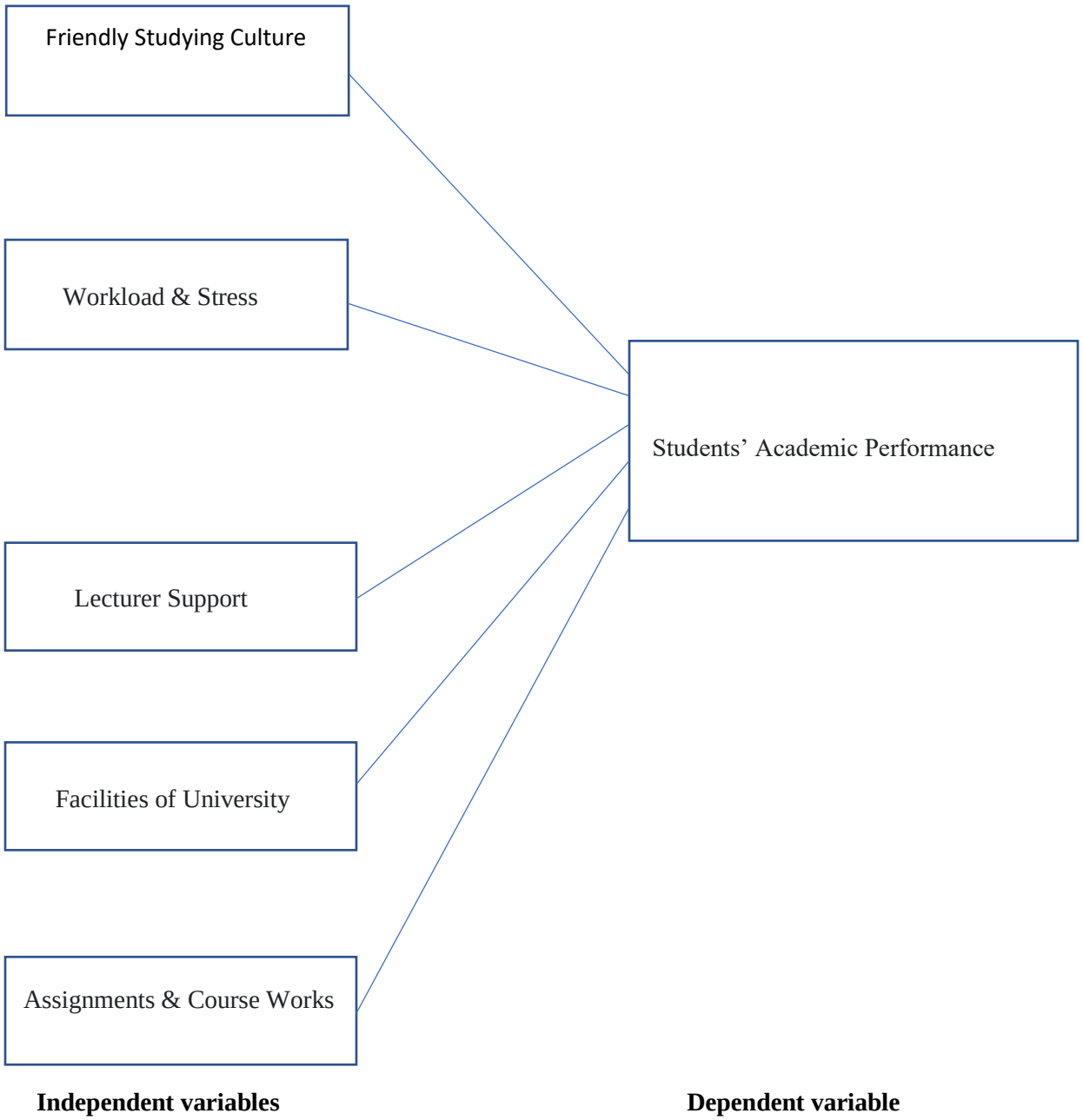


Figure 2:Conceptual Diagram

Chapter 3 – Data Analysis

3.1 Introduction

This chapter presents the findings from the analysis of research data drawn from a questionnaire that was created using the conceptual framework. Data were examined using the Microsoft Excel program.

3.2 Data Analysis

To better understand how five variables affected students' academic achievement, the study data from the questionnaire were transformed into sets of data. The data is displayed in Regression, Nova, and Normal Probability plot tables.

Friendly Studying Culture

- **Summary Table**

SUMMARY OUTPUT	
Regression Statistics	
Multiple R	0.623417847
R Square	0.388649812
Adjusted R Square	0.372561649
Standard Error	1.227131632
Observations	40

R is a correlation of coefficient that assesses the magnitude and direction of the relationship between two variables in a scatterplot.

R value is 0.623417847. Therefore, it represents that there is a moderately positive impact to students' academic performance from friendly studying culture.

R square is used to explain how much variability of friendly studying culture can be caused to students' academic performance.

R square value is 0.388649812. Therefore, variability of friendly studying culture can be caused to changes of students' academic performance by 38%.

- **ANOVA Table**

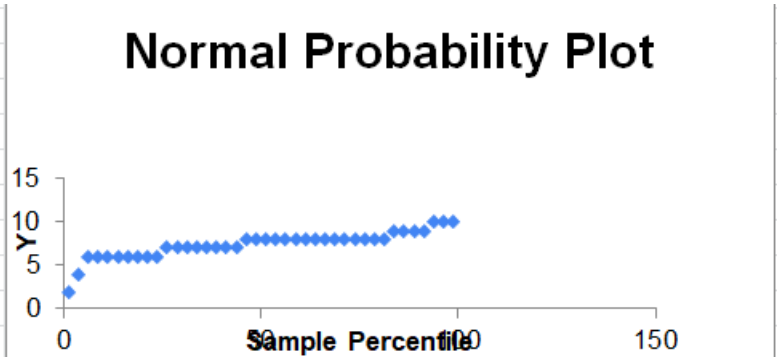
ANOVA					
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	36.37762238	36.37762238	24.1575011	1.73063E-05
Residual	38	57.22237762	1.505852043		
Total	39	93.6			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	2.05034965	1.105585868	1.854536776	0.071434774	-0.187791928	4.288491229	-0.187791928	4.288491229
X Variable 1	0.356643357	0.072561815	4.915028087	1.73063E-05	0.209749643	0.503537071	0.209749643	0.503537071

y= mx+c
m=0.356643357
x= Friendly Studying culture
c=2.05034965

Y (students' academic performance) = 0.356643357 X (Friendly Studying Culture) + 2.05034965

- **Probability Plot**



- The above graph shows a monotonic behavior.

Workload & Stress

- **Summary Table**

SUMMARY OUTPUT	
Regression Statistics	
Multiple R	0.562164738
R Square	0.316029193
Adjusted R Square	0.298029961
Standard Error	1.29797076
Observations	40

R is a correlation of coefficient that assesses the magnitude and direction of the relationship between two variables in a scatterplot.

R value is 0.562164738. Therefore, it represents that there is a moderately positive impact to students' academic performance from work load and stress.

R square is used to explain how much variability of work load and stress can be caused to students' academic performance.

R square value is 0.316029193. Therefore, variability of work load and stress can be caused to changes of students' academic performance by 31%.

- **ANOVA Table**

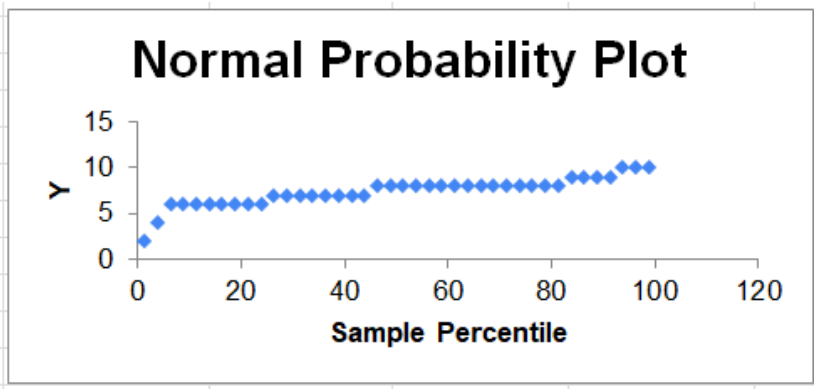
ANOVA					
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	29.58033247	29.58033247	17.55792677	0.00015995
Residual	38	64.01966753	1.684728093		
Total	39	93.6			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	3.886677593	0.863209283	4.502590125	6.1938E-05	2.13920176	5.634153428	2.139201758	5.634153428
X Variable 1	0.263170218	0.062805854	4.190217986	0.000159953	0.13602641	0.390314021	0.136026414	0.390314021

y= mx+c
m=0.263170218
x= Work Load and Stress
c=3.886677593

Y (students' academic performance) = 0.263170218 X (work load and stress) + 3.886677593

- **Probability Plot**



- The above graph shows a monotonic behavior.

Lecturer Support

- **Summary Table**

SUMMARY OUTPUT	
Regression Statistics	
Multiple R	0.573348331
R Square	0.328728309
Adjusted R Square	0.311063265
Standard Error	1.285864754
Observations	40

R is a correlation of coefficient that assesses the magnitude and direction of the relationship between two variables in a scatterplot.

R value is 0.573348331. Therefore, it represents that there is a moderately positive impact to students' academic performance from lecturer support.

R square is used to explain how much variability of lecturer support can be caused to students' academic performance.

R square value is 0.328728309. Therefore, variability of lecturer support can be caused to changes of students' academic performance by 32%.

- **ANOVA Table**

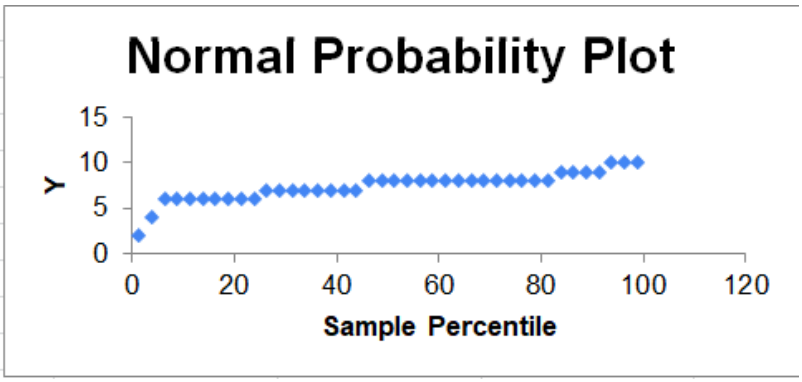
ANOVA					
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	30.76896973	30.76896973	18.60897147	0.000110122
Residual	38	62.83103027	1.653448165		
Total	39	93.6			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	3.188251173	0.997284744	3.196931661	0.002796834	1.169353757	5.207148589	1.16935376	5.207148589
X Variable 1	0.281252008	0.065198026	4.31381171	0.000110122	0.149265505	0.413238512	0.1492655	0.413238512

y= mx+c
m=0.281252008
x=Lecturer Support
c=3.188251173

Y (students' academic performance) = 0.281252008 X (lecturer support) + 3.188251173

- **Probability Plot**



- The above graph shows a monotonic behavior.

Facilities of University

- **Summary Table**

SUMMARY OUTPUT	
Regression Statistics	
Multiple R	0.671825666
R Square	0.451349726
Adjusted R Square	0.43691156
Standard Error	2.717557995
Observations	40

R is a correlation of coefficient that assesses the magnitude and direction of the relationship between two variables in a scatterplot.

R value is 0.671825666. Therefore, it represents that there is a moderately positive impact to students' academic performance from facilities of university.

R square is used to explain how much variability of facilities of university can be caused to students' academic performance.

R square value is 0.451349726. Therefore, variability of facilities of university can be caused to changes of students' academic performance by 45%.

- **ANOVA Table**

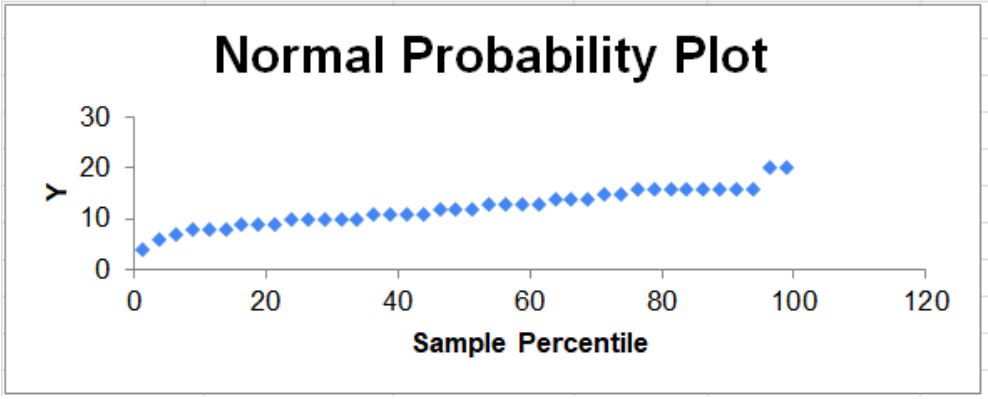
ANOVA					
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	230.8653846	230.8653846	31.2608785	2.07105E-06
Residual	38	280.6346154	7.385121457		
Total	39	511.5			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0.628205128	2.122554992	0.295966479	0.76886711	-3.66868281	4.925093	-3.668682809	4.925093066
X Variable 1	1.570512821	0.280892987	5.591142862	2.07105E-06	1.001874696	2.139151	1.001874696	2.139150945

y= mx+c
m=1.570512821
x=Facilities
c=0.628205128

Y (students' academic performance) = 1.570512821 X (facilities of university) + 0.628205128

- **Probability Plot**



- The above graph shows a monotonic behavior.

Assignments & Course Works

- **Summary Table**

SUMMARY OUTPUT	
Regression Statistics	
Multiple R	0.744249372
R Square	0.553907128
Adjusted R Sq	0.542167842
Standard Erro	1.048235269
Observations	40

R is a correlation of coefficient that assesses the magnitude and direction of the relationship between two variables in a scatterplot.

R value is 0.744249372. Therefore, it represents that there is a strong positive impact to students' academic performance from assignments & course work.

R square is used to explain how much variability of assignments & course works can be caused to students' academic performance.

R square value is 0.553907128. Therefore, variability of assignments & course works can be caused to changes of students' academic performance by 55%.

- **ANOVA Table**

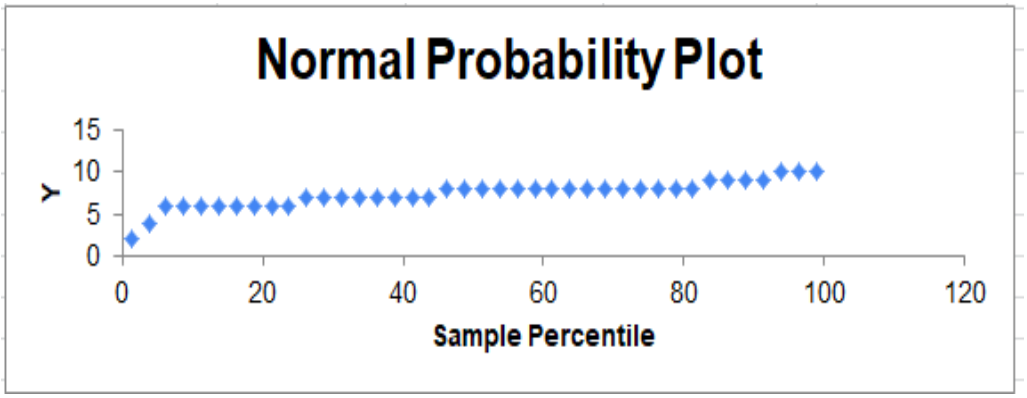
ANOVA					
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	51.84570718	51.84570718	47.18405556	3.69991E-08
Residual	38	41.75429282	1.09879718		
Total	39	93.6			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	1.33405226	0.898500831	1.484753508	0.145857988	-0.484867578	3.152972098	-0.484867578	3.152972098
X Variable 1	0.414765657	0.060381675	6.869065116	3.69991E-08	0.292529347	0.537001968	0.292529347	0.537001968

y= mx+c
m=0.414765657
x=Student Acadamic Performance
c=1.33405226

Y (students' academic performance) = 0.414765657 X (assignments & course works) + 1.33405226

- **Probability Plot**



- The above graph shows a monotonic behavior.

Multiple Regression

- **Summary Table**

SUMMARY OUTPUT	
Regression Statistics	
Multiple R	0.824660805
R Square	0.680065444
Adjusted R Square	0.633016245
Standard Error	0.938488686
Observations	40

R is a correlation of coefficient that assesses the magnitude and direction of the relationship between two variables in a scatterplot.

R value is 0.824660805. Therefore, it represents that there is a strong positive impact to students' academic performance from university environment.

R square is used to explain how much variability of university environment can be caused to students' academic performance.

R square value is 0.680065444. Therefore, variability of university environment can be caused to changes of students' academic performance by 68%.

- **ANOVA Table**

ANOVA					
	df	*SS*	*MS*	*F*	*Significance F*
Regression	5	63.65412555	12.73082511	14.45434678	1.31802E-07
Residual	34	29.94587445	0.880761013		
Total	39	93.6			

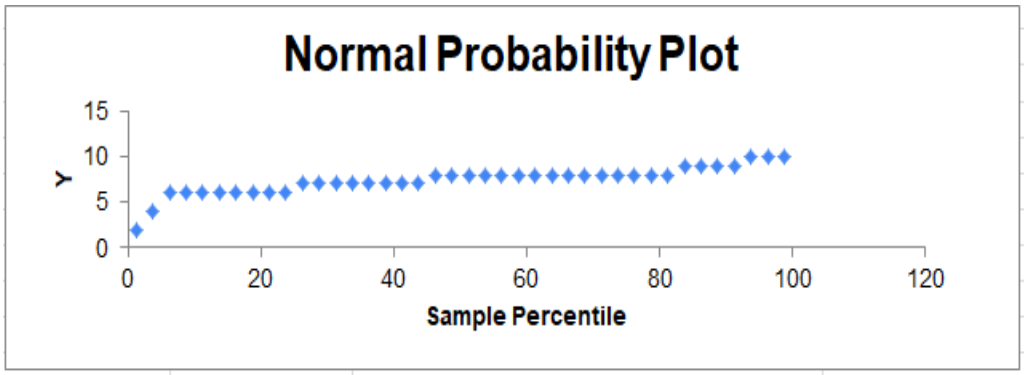
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0.705153168	0.898733971	0.784607226	0.438116738	-1.121294009	2.531600345	-1.121294009	2.531600345
X Variable 1	0.192873734	0.08808836	2.189548482	0.035517079	0.013856649	0.371890819	0.013856649	0.371890819
X Variable 2	-0.125977053	0.084855948	-1.484598967	0.146863036	-0.298425088	0.046470982	-0.298425088	0.046470982
X Variable 3	-0.178022344	0.101248592	-1.758269828	0.087701424	-0.383784238	0.027739551	-0.383784238	0.027739551
X Variable 4	0.18826185	0.069348864	2.714707068	0.010344509	0.047328003	0.329195697	0.047328003	0.329195697
X Variable 5	0.399535823	0.117448658	3.401791296	0.001728073	0.160851432	0.638220214	0.160851432	0.638220214

y=m1x1+m2x2+m3x3+m4x4+m5x5+C
m1=0.192873734
m2= -0.125977053
m3 = -0.178022344
m4= 0.18826185
m5 =0.399535823

Regression equation

Y (students' academic performance) = 0.192873734 X_1 (Friendly Studying culture) - 0.125977053 X_2 (Work Load and Stress) - 0.178022344 X_3 (Lecturer Support) + 0.18826185 X_4 (Facilities of university) + 0.399535823 X_5 (Assignments and course works) + 0.705153168

- **Probability Plot**



- The above graph shows a monotonic behavior.

Chapter 4 – Discussion & Recommendation

4.1 Discussion

Student performance and overall development are significantly shaped by the university environment. The purpose of this research article is to examine how the academic environment at the National Institute of Business Management (NIBM) affects students' performance. This report offers a thorough understanding of how the university environment affects student performance by looking at important elements like educational quality, facilities and resources, a supportive learning environment, research and practical exposure, co-curricular and extracurricular activities, assessment and feedback infrastructure, as well as collaboration and career opportunities.

The effectiveness of the NIBM program has a big impact on how well students succeed. The development of knowledge and skills is aided by a well-structured curriculum and experienced lecturers. the National Institute for Business improves student performance and learning by providing modern courses and employing efficient teaching techniques.

The university environment's facilities and services have a direct impact on how well students achieve their goals. A supportive learning environment is promoted by NIBM's investment in well-equipped classrooms, libraries, computer laboratories, and access to academic publications and online resources. These tools enable students to engage fully and achieve their academic goals.

4.2 Recommendations

Several recommendations can be made to further enhance the university environment and encourage student success based on the analysis of the impact that the university environment on student performance at NIBM.

Increase Education Quality Constantly: NIBM should routinely evaluate and update its curriculum in order to make sure it remains current and in line with industry requirements. To improve teaching methods and keep educators current with the most recent developments in their disciplines, faculty development workshops and training should also be held.

Invest in Resources and Infrastructure: To provide an innovative learning environment, NIBM should keep making investments in resources, technology, and infrastructure that are current. This includes updating the libraries, computer labs, and classrooms as well as giving students access to internet databases and research papers. Students will be able to flourish in their studies with the help of sufficient resources and facilities.

Promote an Inclusive, Respectful, and Collaborative Learning Environment: NIBM should work to promote an environment that is supportive of learning. Students can feel comfortable asking for help and exchanging ideas in an environment that promotes open communication, group discussions, and peer learning. Additionally, addressing the unique requirements and difficulties of students will be accomplished through offering academic advising, mentorship, and counseling services.

Implement efficient mechanisms for evaluation and feedback: NIBM should make sure that evaluation procedures are impartial, open, and in line with learning objectives. To help students advance, timely and helpful feedback on tasks, projects, and tests should be given. For student learning and development, including assessments by themselves and others might be helpful.

By implementing these suggestions into practice, NIBM can provide a stimulating and supportive academic environment that maximizes student performance and prepares them for profitable positions.

4.3 Conclusion

In conclusion, the university environment at NIBM has a big impact on the way students perform. The NIBM fosters an ecosystem that supports academic excellence and overall development through the high caliber of instruction, resources, and facilities, supportive learning environment, research and practical exposure, co-curricular and extracurricular activities, assessment and feedback mechanisms, as well as networking and career opportunities. NIBM can continue to improve student performance and guarantee success in the workforce by recognizing and optimizing these factors.

The following questionnaire was used by the researcher to collect data.

1. Do you feel comfortable approaching and interacting with your classmates for academic discussions and study sessions?
2. Do your classmates cooperate and support one another when working on school related tasks and projects?
3. Do you feel studying culture promotes inclusively and respects diversity among students?
4. Do you feel that there are enough opportunities for students to engage in social interactions and build connections within your university?
5. Do you feel you are able to maintain a healthy student work life balance?
6. Do you feel that the workload assigned to you is manageable within the given time frame?
7. Are you satisfied with the activities done by the university to reduce students' workload and stress?
8. Is it satisfying that education can be done in balance with the university workload and stress?
9. Do you believe that lecturers are approachable and available to assist you outside of class or to respond to your questions?
10. Are lecturers providing quick responses to your e-mails or other forms of communication?
11. Do lecturers offer extra materials to enhance your study such as readings, internet resources or supplemental materials?
12. Do lecturers actively encourage and facilitate your personal and intellectual growth?
13. How happy are you with the accessibility performance of technological resources on campus such as computers, printers and Wi-Fi?
14. Are there sufficient IT support services available to assist you with technical issues or questions?
15. Are the lecture halls, cafeteria libraries and other academic spaces adequately equipped and maintained?
16. Do the facilities satisfy your expectations for sports, reaction, or physical fitness?
17. Do you feel that the assignments and course work are aligned with the learning objectives of the course?

18. All the assignments designed to help you develop and apply the knowledge and skills covered in the course?
19. Do the assignments allow for creativity and independent thinking in approaching the topics or problems?
20. Are you satisfied with the receive guidance and support from the instructor or teaching staff regarding assignments?
21. Are you satisfied with your current academic performance?
22. According to your university environment can you improve your academic performance.