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THE POTENTIAL OF INDIVIDUAL FACTOR  
TOWARDS GRADUATE ON TIME (GOT) AMONG  
PHD STUDENTS IN UNIVERSITI UTARA  
MALAYSIA (UUM)



MASTER OF HUMAN RESOURCE  
MANAGEMENT UNIVERSITI UTARA  
MALAYSIA  
April 2020

**THE POTENTIAL OF INDIVIDUAL FACTOR TOWARDS GRADUATE ON TIME  
(GOT) AMONG PHD STUDENTS IN UNIVERSITY UTARA MALAYSIA (UUM)**

**By**

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**Thesis submitted to  
School of Business Management,  
College of Business,  
Universiti Utara Malaysia,  
In Partial Fulfillment of The Requirement for the Master of Human Resource  
Management (MHRM)**



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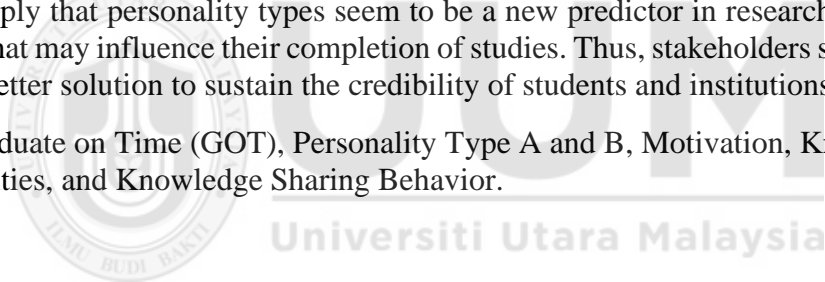
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## Abstract

One major issue faced by higher learning institutions in many countries' especially Malaysia is Graduate on Time (GOT), particularly among PhD students. This is followed by the concerns of university images and rankings. Past studies have shown that Graduate on Time (GOT) could be influenced by various factors. Therefore, this study investigated the relationship of individual factors such as personality type A and B, motivation, knowledge, skills, and abilities, and knowledge sharing behaviour as a predictor of graduate on time. A total of four hypotheses were developed, and binary logistic regression was carried out to examine the effect. The sample consisted of 159 PhD students and students were selected starting from 3<sup>rd</sup> semester and above. This is because the outcome of graduation among 1<sup>st</sup>-semester students is not identifiable. Two of the hypotheses were supported, and the results showed that knowledge, skills, and abilities and knowledge sharing behavior have a significant effect on the outcome of graduate on time. This study aims to implement the proposed models that comprise several factors in predicting the outcome of students that will complete their PhD studies on the predetermined time. The analysis techniques used are Binary Logistic Regression Model, whereby a set of data were examined to determine the outcome. The results and findings in this study may contribute major insights into institutions and students themselves as the gaps concerning student's personality traits as the causes of the decrease of graduation rates and how to handle and measure them. Moreover, the findings also imply that personality types seem to be a new predictor in research which lead to a person actions that may influence their completion of studies. Thus, stakeholders should join hands in providing a better solution to sustain the credibility of students and institutions as a whole.

**Keywords:** Graduate on Time (GOT), Personality Type A and B, Motivation, Knowledge, Skills, and Abilities, and Knowledge Sharing Behavior.



## Abstrak

Isu utama yang dihadapi oleh institusi pengajian tinggi di seluruh dunia terutamanya Malaysia adalah kadar tamat pengajian, terutamanya di kalangan pelajar PhD. Ini diikuti oleh kebimbangan terhadap imej dan kedudukan universiti. Kajian lepas menunjukkan bahawa tamat pengajian pada masa yang ditetapkan (GOT) boleh dipengaruhi oleh pelbagai faktor. Oleh itu, kajian ini menyiasat hubungan faktor individu seperti jenis keperibadian A dan B, motivasi, pengetahuan, kemahiran, dan kebolehan, dan tingkah laku perkongsian pengetahuan sebagai peramal tamat pengajian. Sebanyak empat hipotesis telah disarankan, dan regresi logistik binari digunakan untuk mengkaji hasilnya. Sampel terdiri daripada 159 pelajar PhD dan pelajar dipilih bermula dari semester ke 3 dan ke atas. Ini kerana hasil tamat pengajian di kalangan pelajar semester pertama tidak dapat dikenalpasti kerana masih dalam peringkat awal pengajian. Dua hipotesis disokong, dan hasilnya menunjukkan bahawa pengetahuan, kemahiran, dan kemampuan serta tingkah laku perkongsian pengetahuan pelajar menunjukkan kesan yang ketara terhadap hasil tamat pengajian tepat pada masa yang ditetapkan. Kajian ini bertujuan untuk melaksanakan model yang dicadangkan yang merangkumi beberapa faktor dalam memprediksi hasil pelajar yang akan menyelesaikan kajian PhD mereka pada masa yang telah ditetapkan. Teknik analisis yang digunakan adalah Model Regresi Logistik Binary, di mana satu set data diperiksa untuk menentukan hasilnya. Hasil dan penemuan dalam kajian ini boleh menyumbangkan pemahaman utama kepada institusi dan pelajar sendiri dan mengenal pasti jurang mengenai ciri keperibadian pelajar sebagai punca penurunan kadar kelulusan. Selain itu, penemuan dalam kajian ini juga mengimplikasikan bahawa jenis keperibadian seseorang menjadi ramalan baru dalam penyelidikan yang membawa kepada tindakan seseorang serta mungkin mempengaruhi penyediaan pengajian mereka. Oleh itu, pihak berkepentingan perlu bersatu dalam menyediakan penyelesaian yang lebih baik untuk mengekalkan kredibiliti pelajar dan institusi secara menyeluruh.

Kata kunci: Tamat Pengajian tepat pada masa (GOT), Jenis Keperibadian A dan B, Motivasi, Pengetahuan, Kemahiran, dan Kebolehan, dan Perilaku Perkongsian Pengetahuan.

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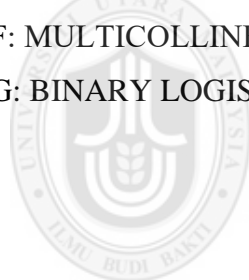
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## LIST OF ABBREVIATIONS

|        |  |
|--------|--|
| GOT    | Graduate on Time                                       |
| KSAs   | Knowledge, Skills, and Abilities                       |
| KSB    | Knowledge Sharing Behavior                             |
| SPSS   | Statistical Package for Social Sciences                |
| VIF    | Variance Inflation Factor                              |
| PhD    | Doctor of Philosophy                                   |
| UUM    | Universiti Utara Malaysia                              |
| UTM    | Universiti Teknologi Malaysia                          |
| CGS    | Council of Graduate School                             |
| NEO    | Neuroticism, Extraversion, Openness                    |
| OYAGSB | Othman Yeop Abdullah Graduate School of Business       |
| AHSGS  | Awang Had Salleh Graduates School of Arts and Sciences |
| GSGSG  | Ghazali Shafie Graduate School                         |
| SE     | Self-Efficacy  |
| RU     | Research University                                    |
| US     | United States  |
| UK     | United Kingdom   |
| STR    | Senior Tutor for Research                              |
| HEA    | Academic Affairs Department                            |
| IPTA   | <i>Institusi Pengajian Tinggi Awam</i>                 |
| ABBPS  | A/B Behavioral Pattern Scale                           |

|         |                                     |
|---------|-------------------------------------|
| MS      | Motivation to Achieve Success       |
| MF      | Motivation to Avoid Failure         |
| SEI     | Self-Efficacy Inventory             |
| AMS     | Achievement Motivation Scale        |
| ANOVA   | Analysis of Variance                |
| ANCOVA  | Analysis of Covariance              |
| MANOVA  | Multivariate Analysis of Variance   |
| MANCOVA | Multivariate Analysis of Covariance |
| TRA     | Theory of Reason Action             |
| DBMs    | Deep Boltzmann Machines             |
| SVMs    | Support Vector Machines             |
| GPs     | Gaussian Processes                  |



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# CHAPTER 1

## INTRODUCTION

### 1.0 Introduction

This is a study on the relationship of individual factor among PhD students and graduate on time (GOT). Hence, this chapter provides some background information on personality types and behavior of the selected respondent. This information is channeled through several part which is background of the study, followed by problem statement, research questions, research objectives, scope and limitations of the study, definitions of key terms and lastly is the organization of the theses.



### 1.1 Background of Study

Student's academic achievement is always a key contributor to the institution's education quality. The expeditious expansion in tertiary education can be seen through the admission rate in higher institutions. This escalation is in line with the burgeoning role of tertiary education which is to achieve the objective of tertiary education development 2001-2010, aims to provide sufficient quantity and quality of manpower to meet the needs of a country. Hence, it is an obligation for higher institutions to produce graduates who excel in academic, competent, competitive and possess a good attitude. In order to strengthen the capabilities of higher learning institutions, human capital with high caliber personality needs to be generated rapidly and it can be achieved by offering a higher qualification in education commonly known as Doctorate. Malaysia's strategy

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## APPENDIX A: QUESTIONNAIRE



### **The Potential of Individual Factor Towards Graduate on Time (GOT) among PhD Students in University Utara Malaysia (UUM)**

Respected participant,

Thank you for agreeing to take part in my research studies which is being conducted as a partial fulfillment for the requirement of Master in Human Resource Management (MHRM) at University Utara Malaysia.

The purpose of this research is to determine the influence of Individual Factor towards Graduate on Time (GOT) among PhD students. Below is the question to analyze about the factor influencing GOT which is, Type A and B personality, Motivation, Knowledge Skill and Abilities (KSAs), and Knowledge Sharing Behavior (KSB).

This questionnaire is in four (4) sections; the first section consist of demographic information and the rest is the independent variable questions. This study is conducted to identified whether individual factor influence a delay in PhD completion.

Your participation in this study will help in explaining these factors in detail. This study will also propose guidelines to University Management as to take in account about student's individual factor to ensure they achieve GOT. Your participation in this questionnaire is voluntary and your information will be treated as CONFIDENTIAL and your identity will be kept as ANONYMOUS. Your honesty and sincerity are required in answering the question and there is no right or wrong answer.

Your time and cooperation are highly appreciated. Thank you.

Sincerely,

Nor Farah Ain Binti Mohamed Azman

(Master of Human Resource Management)  
School of Business Management (SBM) College of Business  
Universiti Utara Malaysia

**Section A**

Please tick (√) the appropriate box provided and answer the question in the space available

**1. Gender**

Male

Female

**2. Age**

20 – 30

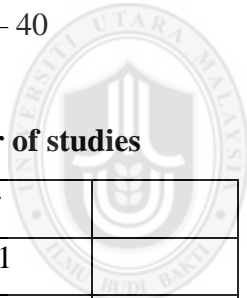
41 - 50

31 – 40

> 50

**3. Current year of studies**

|                      |  |
|----------------------|--|
| Semester             |  |
| Semester 1           |  |
| Semester 2           |  |
| Semester 3           |  |
| Semester 4           |  |
| Semester 5           |  |
| Semester 6           |  |
| Semester 7           |  |
| Semester 8           |  |
| Semester 9           |  |
| Semester 10 or above |  |



#### 4. Current Enrollment Status

Full Time

Part Time

#### 5. Faculty of Study

Othman Yeop Abdullah Graduate School of Business (OYA)

Awang Had Salleh Graduate School (AHS GS)

Ghazali Shafie Graduate School of Government (GSGSG)

#### 6. Progress of Study: If you are currently working on your thesis, what stage are you in now?

|                                  |  |
|----------------------------------|--|
| Submit Intent to Submit Proposal |  |
| Proposal Submitted               |  |
| Proposal Defense                 |  |
| Submit Intent to Submit Thesis   |  |
| Thesis Submitted                 |  |
| Submitted for Viva               |  |

**Section B:**

Below are statements about **Type A and B Personality**. Please indicate your level of agreement for each statement by tick (✓) the appropriate answer.

|                                    |                       |                      |                    |                             |
|------------------------------------|-----------------------|----------------------|--------------------|-----------------------------|
| <b>1<br/>Strongly<br/>Disagree</b> | <b>2<br/>Disagree</b> | <b>3<br/>Neutral</b> | <b>4<br/>Agree</b> | <b>5<br/>Strongly Agree</b> |
|------------------------------------|-----------------------|----------------------|--------------------|-----------------------------|

| No  | Question   | Answer |   |   |   |   |
|-----|--|--------|---|---|---|---|
|     |  | 1      | 2 | 3 | 4 | 5 |
| 1.  | I feel impatient when I don't have any work in hand.       |        |   |   |   |   |
| 2.  | I never feel rushed.                                       |        |   |   |   |   |
| 3.  | I prefer to finish the tasks at hand as soon as possible.  |        |   |   |   |   |
| 4.  | I am open in expressing my feelings.                       |        |   |   |   |   |
| 5.  | I prefer to sit at one place when I am not doing anything. |        |   |   |   |   |
| 6.  | I prefer to complete the tasks at hand slowly.             |        |   |   |   |   |
| 7.  | I have many interest outside my work.                      |        |   |   |   |   |
| 8.  | I take appointment casually.                               |        |   |   |   |   |
| 9.  | Leisure time is welcome after a spell of work.             |        |   |   |   |   |
| 10. | I relax whenever I want to do so.                          |        |   |   |   |   |

|     |   |  |  |  |  |  |
|-----|---|--|--|--|--|--|
| 11. | I do not work under time pressure.                            |  |  |  |  |  |
| 12. | I prefer to move around rapidly when I am not doing anything. |  |  |  |  |  |
| 13. | I prefer to concentrate on one task at a time.                |  |  |  |  |  |
| 14. | I enjoy doing two or more things simultaneously.              |  |  |  |  |  |
| 15. | I have never found time sufficient for the task at hand.      |  |  |  |  |  |
| 16. | I do not express all that I feel.                             |  |  |  |  |  |
| 17. | I always feel rushed.   |  |  |  |  |  |
| 18. | I have always been struggling to achieve more in less time.   |  |  |  |  |  |
| 19. | I am never late if I have appointment.                        |  |  |  |  |  |
| 20. | I have very few interests outside my work.                    |  |  |  |  |  |

**Section C:**

Below are statements about **Motivation**. Please indicate your level of agreement for each statement by tick (✓) the appropriate answer.

|  |                             |                            |                          |                                   |
|--|-----------------------------|----------------------------|--------------------------|-----------------------------------|
| <b>1</b><br><b>Strongly</b><br><b>Disagree</b> | <b>2</b><br><b>Disagree</b> | <b>3</b><br><b>Neutral</b> | <b>4</b><br><b>Agree</b> | <b>5</b><br><b>Strongly Agree</b> |
|--|-----------------------------|----------------------------|--------------------------|-----------------------------------|

| No | Question  | Answer |   |   |   |   |
|----|---|--------|---|---|---|---|
|    |   | 1      | 2 | 3 | 4 | 5 |
| 1. | I prefer to choose relatively difficult tasks or work.                                |        |   |   |   |   |
| 2. | I am ambitious and I believe that I can achieve a great deal.                         |        |   |   |   |   |
| 3. | I lack confidence in doing challenging work.  |        |   |   |   |   |
| 4. | I can easily cope with any problem in a crisis.                                       |        |   |   |   |   |
| 5. | No matter how difficult things are, I can be successful as long as I can try my best. |        |   |   |   |   |
| 6. | The harder a task, the more interested I am in it and the harder I work.              |        |   |   |   |   |
| 7. | I never give up when facing a problem, always trying out ideas until I resolve it.    |        |   |   |   |   |
| 8. | Taking risk is necessary for fulfilling my research.                                  |        |   |   |   |   |
| 9. | I am usually satisfied with my own choices and decisions.                             |        |   |   |   |   |

|     |   |  |  |  |  |  |
|-----|---|--|--|--|--|--|
| 10. | I worry that I might not be able to adapt to the future work demands.       |  |  |  |  |  |
| 11. | I like unfamiliar and difficult tasks, even risky ones.                     |  |  |  |  |  |
| 12. | I feel happy when I complete a difficult task.                              |  |  |  |  |  |
| 13. | I worry about failure when I deal with the task that I think are difficult. |  |  |  |  |  |
| 14. | I feel anxious when I think that I have an unfamiliar and difficult task.   |  |  |  |  |  |
| 15. | I like to start a task immediately even if I have much time.                |  |  |  |  |  |
| 16. | I feel anxious when I do the task that seems to be very difficult.          |  |  |  |  |  |
| 17. | I will be attracted by the opportunity that test my abilities.              |  |  |  |  |  |
| 18. | I feel anxious when I don't think I am competent for the task.              |  |  |  |  |  |
| 19. | I prefer to work unremittingly on unexpected problems.                      |  |  |  |  |  |
| 20. | I dislike the task that examine my abilities.                               |  |  |  |  |  |



**Section D:**

Below are statements about **Knowledge, Skill and Abilities**. Please indicate your level of agreement for each statement by tick (✓) the appropriate answer.

|                                    |                       |                      |                    |                             |
|------------------------------------|-----------------------|----------------------|--------------------|-----------------------------|
| <b>1<br/>Strongly<br/>Disagree</b> | <b>2<br/>Disagree</b> | <b>3<br/>Neutral</b> | <b>4<br/>Agree</b> | <b>5<br/>Strongly Agree</b> |
|------------------------------------|-----------------------|----------------------|--------------------|-----------------------------|

| No  | Question  | Answer |   |   |   |   |
|-----|---|--------|---|---|---|---|
|     |   | 1      | 2 | 3 | 4 | 5 |
| 1.  | I have the capacity to communicate effectively with others orally.                                    |        |   |   |   |   |
| 2.  | I have the knowledge of research methodologies and capacity to interpret findings.                    |        |   |   |   |   |
| 3.  | I have the capacity to find, evaluate and use information.  |        |   |   |   |   |
| 4.  | I have the ability to work with numbers and graph.  |        |   |   |   |   |
| 5.  | I have the capacity to communicate effectively with others in writing.                                |        |   |   |   |   |
| 6.  | I have the ability to use knowledge and skills to prepare solutions to unfamiliar problems.           |        |   |   |   |   |
| 7.  | I can communicate effectively with others by using ICTs or multimedia.                                |        |   |   |   |   |
| 8.  | I have the capacity to interact and collaborate with others effectively.                              |        |   |   |   |   |
| 9.  | I am continually conscious that time is my most critical resource.                                    |        |   |   |   |   |
| 10. | In seeking satisfaction through my work, I tend to have a creative approach to solve problem solving. |        |   |   |   |   |

**Section E:**

Below are statements about **Knowledge Sharing Behavior**. Please indicate your level of agreement for each statement by tick (✓) the appropriate answer.

|                                    |                       |                      |                    |                             |
|------------------------------------|-----------------------|----------------------|--------------------|-----------------------------|
| <b>1<br/>Strongly<br/>Disagree</b> | <b>2<br/>Disagree</b> | <b>3<br/>Neutral</b> | <b>4<br/>Agree</b> | <b>5<br/>Strongly Agree</b> |
|------------------------------------|-----------------------|----------------------|--------------------|-----------------------------|

| No | Question   | Answer |   |   |   |   |
|----|--|--------|---|---|---|---|
|    |  | 1      | 2 | 3 | 4 | 5 |
| 1. | I feel that it is important to share knowledge with other students for the benefit of all. |        |   |   |   |   |
| 2. | I am afraid of mismatch might offend others.   |        |   |   |   |   |
| 3. | Students should voluntarily share their knowledge with peers.                              |        |   |   |   |   |
| 4. | Students have the mindset that sharing knowledge is a type of plagiarism.                  |        |   |   |   |   |
| 5. | It is better to avoid sharing information with peers whenever possible.                    |        |   |   |   |   |
| 6. | Learning from each other is a very important motivator for knowledge sharing.              |        |   |   |   |   |
| 7. | I preferred internet as a source of knowledge sharing for study related tasks.             |        |   |   |   |   |
| 8. | I would assist other students in database search, software and library use.                |        |   |   |   |   |
| 9. | I preferred face to face as a channel to share knowledge.                                  |        |   |   |   |   |

|     |   |  |  |  |  |  |
|-----|---|--|--|--|--|--|
| 10. | I only share when people share their knowledge. |  |  |  |  |  |
|-----|---|--|--|--|--|--|

THE END  
THANK YOU



## APPENDIX B: DESCRIPTIVE STATISTIC

### Gender

|       |        | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|--------|-----------|---------|---------------|--------------------|
| Valid | Male   | 99        | 62.3    | 62.3          | 62.3               |
|       | Female | 60        | 37.7    | 37.7          | 100.0              |
|       | Total  | 159       | 100.0   | 100.0         |                    |

### Current Enrollment Status

|       |           | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-----------|-----------|---------|---------------|--------------------|
| Valid | Full Time | 118       | 74.2    | 74.2          | 74.2               |
|       | Part Time | 41        | 25.8    | 25.8          | 100.0              |
|       | Total     | 159       | 100.0   | 100.0         |                    |

### Faculty of Study

|       |       | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-------|-----------|---------|---------------|--------------------|
| Valid | OYA   | 96        | 60.4    | 60.4          | 60.4               |
|       | AHSGS | 33        | 20.8    | 20.8          | 81.1               |
|       | GSGSG | 30        | 18.9    | 18.9          | 100.0              |
|       | Total | 159       | 100.0   | 100.0         |                    |

### Progress of Study

|       |       | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-------|-----------|---------|---------------|--------------------|
| Valid | SISP  | 1         | .6      | .6            | .6                 |
|       | PS    | 37        | 23.3    | 23.3          | 23.9               |
|       | PD    | 42        | 26.4    | 26.4          | 50.3               |
|       | SIST  | 24        | 15.1    | 15.1          | 65.4               |
|       | TS    | 39        | 24.5    | 24.5          | 89.9               |
|       | SV    | 16        | 10.1    | 10.1          | 100.0              |
|       | Total | 159       | 100.0   | 100.0         |                    |

### Descriptive Statistics

|                    | N         | Minimum   | Maximum   | Mean      | Std. Deviation | Skewness  |            | Kurtosis  |            |
|--------------------|-----------|-----------|-----------|-----------|----------------|-----------|------------|-----------|------------|
|                    | Statistic | Statistic | Statistic | Statistic | Statistic      | Statistic | Std. Error | Statistic | Std. Error |
| TotalAB            | 159       | 49        | 87        | 64.84     | 5.975          | .822      | .192       | 1.975     | .383       |
| TotalMt            | 159       | 48        | 93        | 72.42     | 6.854          | -.109     | .192       | 1.582     | .383       |
| TotalKSAO          | 159       | 18        | 50        | 40.62     | 5.318          | -.685     | .192       | 1.534     | .383       |
| TotalKSB           | 159       | 19        | 48        | 36.24     | 3.816          | -.044     | .192       | 2.885     | .383       |
| Valid N (listwise) | 159       |           |           |           |                |           |            |           |            |

**APPENDIX C: PEARSON CORRELATION**

**Correlations**

|           |                     | TotalAB | TotalMt | TotalKSAO | TotalKSB |
|-----------|---------------------|---------|---------|-----------|----------|
| TotalAB   | Pearson Correlation | 1       | .395**  | .182*     | .382**   |
|           | Sig. (2-tailed)     |         | .000    | .022      | .000     |
|           | N                   | 159     | 159     | 159       | 159      |
| TotalMt   | Pearson Correlation | .395**  | 1       | .431**    | .458**   |
|           | Sig. (2-tailed)     | .000    |         | .000      | .000     |
|           | N                   | 159     | 159     | 159       | 159      |
| TotalKSAO | Pearson Correlation | .182*   | .431**  | 1         | .154     |
|           | Sig. (2-tailed)     | .022    | .000    |           | .052     |
|           | N                   | 159     | 159     | 159       | 159      |
| TotalKSB  | Pearson Correlation | .382**  | .458**  | .154      | 1        |
|           | Sig. (2-tailed)     | .000    | .000    | .052      |          |
|           | N                   | 159     | 159     | 159       | 159      |

\*\* . Correlation is significant at the 0.01 level (2-tailed).

\* . Correlation is significant at the 0.05 level (2-tailed).

## APPENDIX D: CRONBACH'S ALPHA COEFFICIENT

### a) Personality Type A and B

#### Reliability Statistics

| Cronbach's Alpha | Cronbach's Alpha Based on Standardized Items | N of Items |
|------------------|--|------------|
| .504             | .515   | 10         |

#### Item-Total Statistics

|      | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Squared Multiple Correlation | Cronbach's Alpha if Item Deleted |
|------|----------------------------|--------------------------------|----------------------------------|------------------------------|----------------------------------|
| ab1  | 30.19                      | 15.508                         | .263                             | .246                         | .459                             |
| ab2  | 30.60                      | 17.204                         | .066                             | .052                         | .526                             |
| ab3  | 29.36                      | 16.459                         | .270                             | .278                         | .462                             |
| ab4  | 30.23                      | 16.737                         | .156                             | .132                         | .494                             |
| ab5  | 30.45                      | 15.604                         | .367                             | .194                         | .433                             |
| ab6  | 30.40                      | 16.228                         | .233                             | .242                         | .470                             |
| ab7  | 30.33                      | 15.527                         | .325                             | .193                         | .441                             |
| ab8  | 30.07                      | 15.204                         | .313                             | .259                         | .442                             |
| ab9  | 29.72                      | 16.660                         | .217                             | .112                         | .476                             |
| ab10 | 30.35                      | 18.318                         | -.034                            | .031                         | .552                             |



### Reliability Statistics

| Cronbach's Alpha | Cronbach's Alpha Based on Standardized Items | N of Items |
|------------------|--|------------|
| .500             | .495   | 10         |

### Item-Total Statistics

|      | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Squared Multiple Correlation | Cronbach's Alpha if Item Deleted |
|------|----------------------------|--------------------------------|----------------------------------|------------------------------|----------------------------------|
| ab11 | 28.49                      | 15.859                         | .224                             | .130                         | .469                             |
| ab12 | 28.53                      | 15.947                         | .249                             | .117                         | .462                             |
| ab13 | 27.90                      | 15.775                         | .234                             | .192                         | .466                             |
| ab14 | 28.22                      | 16.628                         | .147                             | .111                         | .492                             |
| ab15 | 28.10                      | 16.635                         | .143                             | .086                         | .494                             |
| ab16 | 28.81                      | 14.386                         | .411                             | .302                         | .404                             |
| ab17 | 28.11                      | 15.729                         | .232                             | .135                         | .466                             |
| ab18 | 28.63                      | 15.399                         | .301                             | .290                         | .444                             |
| ab19 | 27.25                      | 17.633                         | .037                             | .113                         | .522                             |
| ab20 | 27.85                      | 16.863                         | .107                             | .088                         | .505                             |

**b) Motivation**

**Reliability Statistics**

| Cronbach's Alpha | Cronbach's Alpha<br>Based on<br>Standardized<br>Items | N of Items |
|------------------|---|------------|
| .715             | .742  | 20         |

**Item-Total Statistics**

|      | Scale Mean if<br>Item Deleted | Scale Variance<br>if Item Deleted | Corrected Item-<br>Total<br>Correlation | Squared<br>Multiple<br>Correlation | Cronbach's<br>Alpha if Item<br>Deleted |
|------|-------------------------------|-----------------------------------|---|------------------------------------|--|
| mt1  | 69.33                         | 42.312                            | .302                                    | .316                               | .702                                   |
| mt2  | 68.44                         | 41.134                            | .460                                    | .437                               | .687                                   |
| mt3  | 70.07                         | 48.166                            | -.157                                   | .376                               | .751                                   |
| mt4  | 68.81                         | 42.436                            | .341                                    | .452                               | .698                                   |
| mt5  | 68.20                         | 42.972                            | .336                                    | .559                               | .700                                   |
| mt6  | 68.50                         | 41.783                            | .408                                    | .550                               | .693                                   |
| mt7  | 68.19                         | 41.850                            | .519                                    | .668                               | .687                                   |
| mt8  | 68.35                         | 42.987                            | .326                                    | .502                               | .700                                   |
| mt9  | 68.64                         | 42.436                            | .360                                    | .390                               | .697                                   |
| mt10 | 69.29                         | 42.283                            | .252                                    | .415                               | .708                                   |
| mt11 | 69.12                         | 43.676                            | .211                                    | .294                               | .710                                   |
| mt12 | 67.92                         | 43.379                            | .390                                    | .404                               | .698                                   |
| mt13 | 68.88                         | 42.372                            | .267                                    | .490                               | .706                                   |
| mt14 | 69.03                         | 45.157                            | .084                                    | .617                               | .722                                   |
| mt15 | 68.18                         | 43.416                            | .336                                    | .230                               | .700                                   |
| mt16 | 69.02                         | 42.614                            | .292                                    | .535                               | .703                                   |
| mt17 | 68.65                         | 42.546                            | .450                                    | .429                               | .693                                   |
| mt18 | 68.93                         | 44.002                            | .198                                    | .355                               | .711                                   |
| mt19 | 68.62                         | 43.363                            | .258                                    | .253                               | .706                                   |
| mt20 | 69.73                         | 41.819                            | .334                                    | .304                               | .699                                   |

c) Knowledge, Skills, and Abilities (KSAs)

**Reliability Statistics**

| Cronbach's Alpha | Cronbach's Alpha Based on Standardized Items | N of Items |
|------------------|--|------------|
| .879             | .882   | 10         |

**Item-Total Statistics**

|        | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Squared Multiple Correlation | Cronbach's Alpha if Item Deleted |
|--------|----------------------------|--------------------------------|----------------------------------|------------------------------|----------------------------------|
| ksao1  | 36.53                      | 22.782                         | .543                             | .557                         | .873                             |
| ksao2  | 36.69                      | 22.128                         | .630                             | .586                         | .866                             |
| ksao3  | 36.59                      | 22.813                         | .679                             | .528                         | .862                             |
| ksao4  | 36.59                      | 23.813                         | .494                             | .407                         | .876                             |
| ksao5  | 36.52                      | 22.682                         | .653                             | .547                         | .863                             |
| ksao6  | 36.64                      | 22.750                         | .698                             | .585                         | .860                             |
| ksao7  | 36.64                      | 23.233                         | .594                             | .397                         | .868                             |
| ksao8  | 36.40                      | 24.457                         | .549                             | .395                         | .871                             |
| ksao9  | 36.38                      | 24.225                         | .580                             | .485                         | .869                             |
| ksao10 | 36.57                      | 23.234                         | .678                             | .586                         | .862                             |

**d) Knowledge Sharing Behavior (KSB)**

**Reliability Statistics**

| Cronbach's Alpha | Cronbach's Alpha Based on Standardized Items | N of Items |
|------------------|--|------------|
| .715             | .739   | 6          |

**Item-Total Statistics**

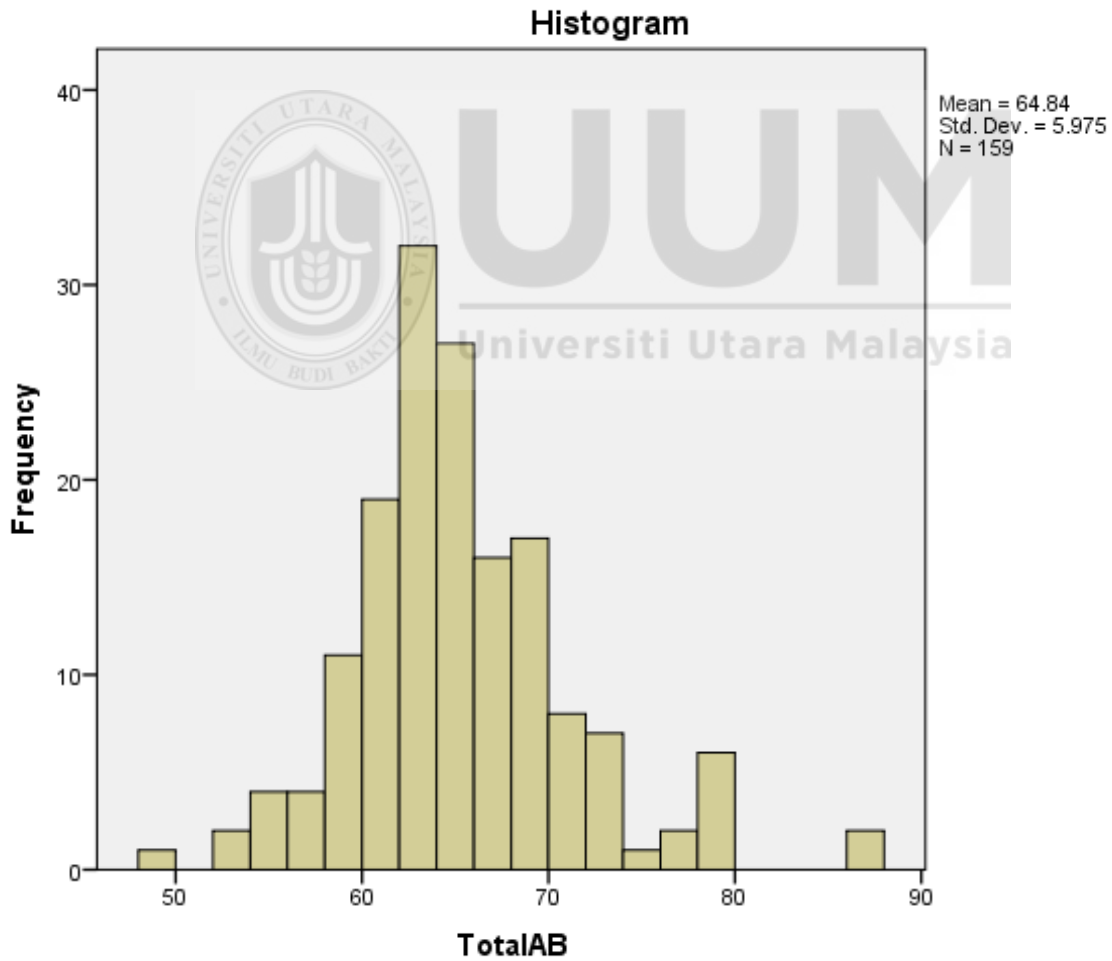
|      | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Squared Multiple Correlation | Cronbach's Alpha if Item Deleted |
|------|----------------------------|--------------------------------|----------------------------------|------------------------------|----------------------------------|
| ksb1 | 20.30                      | 5.855                          | .635                             | .477                         | .620                             |
| ksb2 | 21.21                      | 6.296                          | .256                             | .083                         | .759                             |
| ksb3 | 20.37                      | 6.197                          | .450                             | .369                         | .675                             |
| ksb6 | 20.37                      | 6.501                          | .483                             | .318                         | .668                             |
| ksb8 | 20.51                      | 6.239                          | .559                             | .365                         | .646                             |
| ksb9 | 20.60                      | 6.684                          | .420                             | .284                         | .685                             |

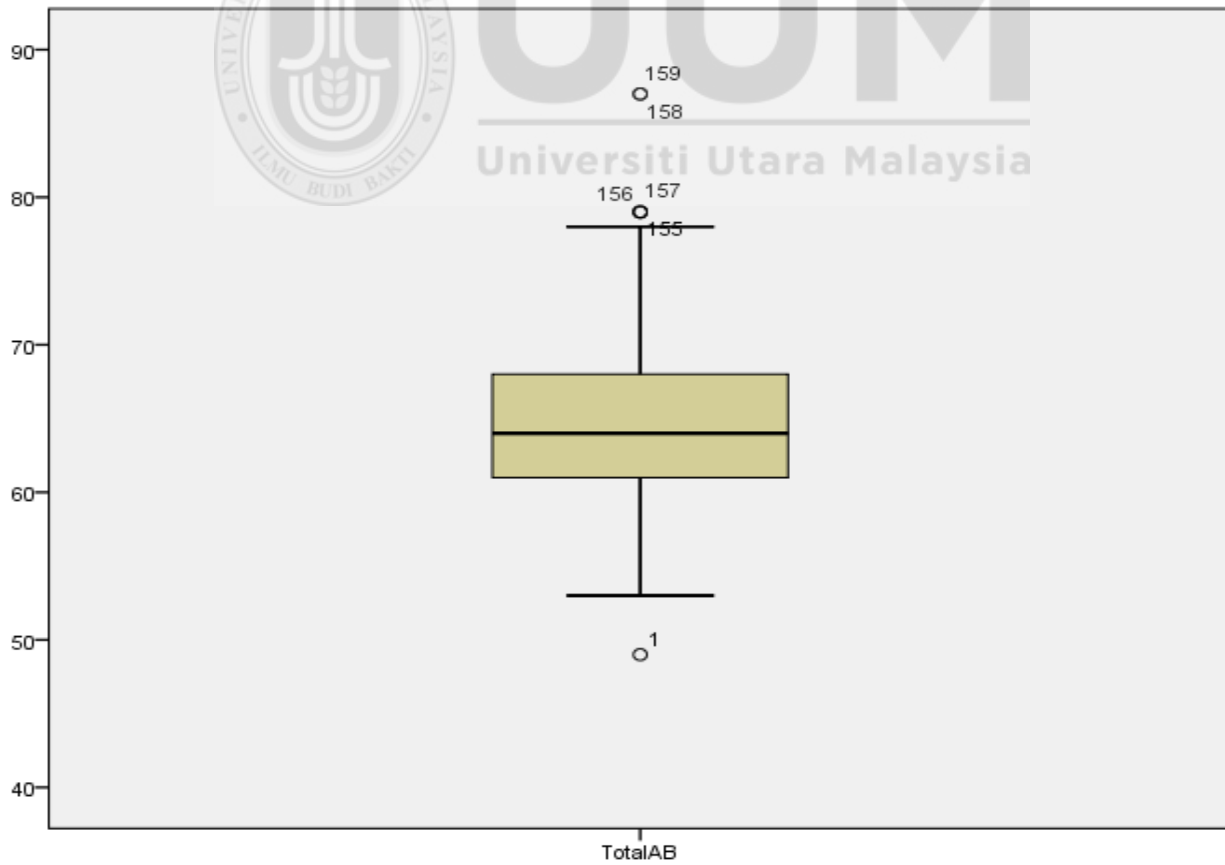
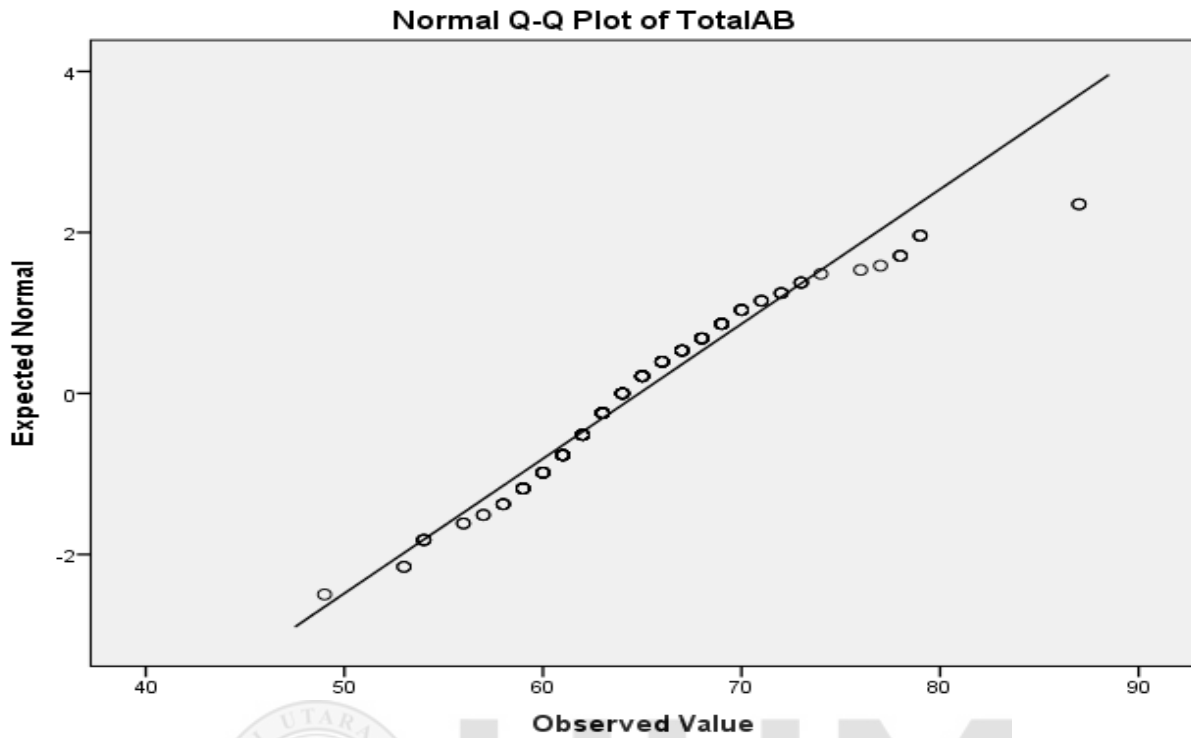
**APPENDIX E: NORMALITY TEST**

**Tests of Normality**

|         | Kolmogorov-Smirnov <sup>a</sup> |     |      | Shapiro-Wilk |     |      |
|---------|---------------------------------|-----|------|--------------|-----|------|
|         | Statistic                       | df  | Sig. | Statistic    | df  | Sig. |
| TotalAB | .118                            | 159 | .000 | .950         | 159 | .000 |

a. Lilliefors Significance Correction





## APPENDIX F: MULTICOLLINEARITY

### Coefficients <sup>a</sup>

| Model |                                  | Collinearity Statistics |       |
|-------|----------------------------------|-------------------------|-------|
|       |                                  | Tolerance               | VIF   |
| 1     | Total AB personality             | .784                    | 1.275 |
|       | Total Motivation                 | .656                    | 1.525 |
|       | Total Ksao's                     | .840                    | 1.191 |
|       | Total Knowledge Sharing Behavior | .753                    | 1.328 |

a. Dependent Variable: Progress of Study

## APPENDIX G: BINARY LOGISTIC REGRESSION

### Variables in the Equation

|                             | B     | S.E.  | Wald  | df | Sig. | Exp(B) | 95% C.I. for EXP(B) |       |
|-----------------------------|-------|-------|-------|----|------|--------|---------------------|-------|
|                             |       |       |       |    |      |        | Lower               | Upper |
| Step 1 <sup>a</sup> TotalAB | -.024 | .033  | .554  | 1  | .457 | .976   | .916                | 1.040 |
| TotalMt                     | -.033 | .033  | 1.018 | 1  | .313 | .968   | .908                | 1.031 |
| TotalKSAO                   | .012  | .037  | .109  | 1  | .742 | 1.012  | .941                | 1.089 |
| TotalKSB                    | .014  | .054  | .070  | 1  | .791 | 1.014  | .912                | 1.128 |
| Constant                    | 3.782 | 2.417 | 2.450 | 1  | .118 | 43.925 |                     |       |

a. Variable(s) entered on step 1: TotalAB, TotalMt, TotalKSAO, TotalKSB.