INTERFACE CHARACTERISTICS, PERCEIVED EASE OF USE, PERCEIVED USEFULNESS AND INTENTION TO USE UUM E-LIBRARY

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ABSTRAK

e-perpustakaan menyediakan kaedah yang sangat berkesan dan konsisten dalam mencari, mendapatkan maklumat dan hasrat untuk digunakan oleh pengguna. Kajian terdahulu dan senario semasa memberi penekanan terhadap ciri-ciri antara muka peranan e-perpustakaan dan dilihat menggunakan penggunaan niat untuk menggunakan e-perpustakaan. Sehubungan itu, dengan berlatar-belakangkan model TAM, kajian ini bertujuan untuk mengkaji pengaruh ciri-ciri antara muka e-perpustakaan iaitu terminologi, reka bentuk skrin dan navigasi terhadap pengaruh kemanfaatan dan pengaruh mudah guna yang membawa kepada hasrat menggunakan e-perpustakaan. Sampel kajian terdiri daripada 176 pelajar pasca siswazah di Universiti Utara Malaysia. Semua data dianalisis menggunakan *Statistical Package for Social Science* (SPSS). Keputusan menunjukkan bahawa kedua-dua pengaruh kemanfaatan dan pengaruh mudah guna mempunyai pengaruh yang signifikan terhadap hasrat untuk menggunakan e-perpustakaan UUM. Malahan, kajian ini secara empirikal menyokong pengaruh ciri antara muka terhadap pengaruh kemanfaatan dan pengaruh mudah guna serta kesan daripada pengaruh itu terhadap niat untuk menggunakan e-perpustakaan. Walau bagaimanapun, navigasi tidak mempunyai pengaruh signifikan terhadap pengaruh mudah guna e-perpustakaan UUM. Akhirnya, penjelasan mengenai implikasi dan batasan kajian serta dan cadangan kajian pada masa hadapan dinyatakan secara ringkas.

Kata kekunci: e-perpustakaan, ciri-ciri antara muka, pengaruh kemanfaatan, pengaruh mudah guna, hasrat.

ABSTRACT

An e-library provides highly efficient and consistent methods for search, retrieval of information, and intention to use by the users. Previous literatures and current scenario emphasis the role of interface characteristics of e-library, perceived usefulness, and perceived ease of use on intention to use of e-library. Therefore, drawing upon TAM model, this study aims to investigate the influence of interface characteristics of e-library namely terminology, screen design and navigation on the perceived usefulness and perceived ease of use which lead to intention to use of e-library. The sample consisted of 176 postgraduate students of Universiti Utara Malaysia. All data are analyzed using software of Statistical Package for Social Science (SPSS). The results indicated that both perceived usefulness and perceived ease of use had significant influence on intention to use UUM e-library. Further, this study empirically supported the influence of interface characteristics (e.g. terminology, screen design and navigation) on perceived usefulness. However, navigation was found to have insignificant influence on perceived ease of use of UUM e-library. Finally, the implications are discussed, and limitations of the study and future directions are briefly outlined.

Keywords: e-library, interface characteristics, perceived usefulness, perceived ease of use, intention.

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Universiti Utara Malaysia

LIST OF ABBREVIATIONS

AHSGS	Awang Had Salleh Graduate School of Arts and Sciences
BI	Behavioral Intention
e.g.	For example
GSGSG	Ghazali Shafie Graduate School of Government
i.e.	That is
ICT	Information and Communication Technology
IT	Information Technology
IS	Information System
OYAGSB	Othman Yeop Abdullah Graduate School of Business
PC	Personal Computer
PEU	Perceived Ease of Use
PU	Perceived Usefulness
SPSS	Statistical Package of Social Science
TAM	Technology Acceptance Model
TPB	Theory of Planned Behavior
TRA	Theory of Reasoned Action
UUM	Universiti Utara Malaysia

CHAPTER ONE
INTRODUCTION

1.0   Introduction

This chapter reflects an overview of the general aspects in this study. The chapter begins with background of the study, followed by the problem statement which describes the concerning issues of the study. The chapter also covers the research objectives, research questions, and scope and limitation of the study. Afterwards, the significance of the study along with the definition of key terms is highlighted. Finally, this chapter discusses the organization of the remaining chapters.

1.1   Background of the Study

The approach of the Internet has altered the way learning is done and how information is spread. The advanced education area is additionally encountering a phenomenal development rate. This pattern is to a great extent a consequence of new empowering advancements that have encouraged the virtual delivery of academic programs (Ramayah, 2006a). In this period of Information and Communication Technology (ICT), there is a requirement for understudies at different higher learning organizations to be more responsive and versatile to new technology. These understudies ought to have the capacity to comprehend the significance of new technology selection and misuse. Ramayah and Aafaqi (2004) detailed that when the appropriation propensity is ingrained in understudies from an early age, their responsiveness later on will be considerably more improved.

The contents of the thesis is for internal user only

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APPENDIX A
Questionnaire

APPENDIX A: QUESTIONNAIRE

UNIVERSITI UTARA MALAYSIA
OTHMAN YEOP ABDULLAH GRADUATES SCHOOL OF BUSINESS
POST GRADUATES PROGRAMME

Dear Respondent

Mr. / Mrs. / Miss,

I am a final semester student of **Master of Science (Management)**, Universiti Utara Malaysia. As one of the university's requirement, I am doing a research which the title is "**Interface Characteristics, Perceived Ease of Use, Perceived Usefulness and Intention to Use UUM e-Library**". With reference to the above matter, kindly be informed that you have been selected as a respondent for this research.

I hope that you will spend some time to answer the attached questionnaire, as objectively and as sincerely as possible, and without fear or favor. Your responses will be treated as PRIVATE and CONFIDENTIAL and used solely for academic purposes.

I am looking forward to your cooperation in participating in this study, and for that I thank you.

May Allah bless you.

Sincerely,

NIK MOHD BAIDZANI HADDAD IBRAHIM
(baidzani@uum.edu.my
Master of Science (Management)
School of Business Management
Universiti Utara Malaysia

SECTION A: Demographic Information

Please tick (√) the appropriate response.

1. Gender:

    ☐ Male   ☐   Female

2. Age: _____ years

3. Race:

    ☐ Malay   ☐ Indian
    ☐ Chinese   ☐ Others, please
    specify:_____

4. Citizenship:

    ☐ Malaysian   ☐ Non-Malaysian, please
    specify:_____

5. Program of study:

    ☐ Master   ☐ Ph.D/ DBA

6. School of study:

    ☐ Othman Yeop Abdullah Graduate School of Business
    ☐ Awang Had Salleh Graduate School of Arts & Sciences
    ☐ Ghazali Shafie Graduate School of Government

7. Experience of computer usage:

    ☐ < 3 year   ☐ 7-8 years
    ☐ 3-4 years   ☐ 9-10 years
    ☐ 5-6 years   ☐ > 10 years

8. Frequency of UUM e-library usage:

    ☐ More than once a day
    ☐ About once a day
    ☐ 2 or 3 times a week
    ☐ About once a week
    ☐ About once in two weeks
    ☐ About once a month
    ☐ Less than once a month

Note:
E-library also known as electronic or online library referred as a digital library that requires technology to link the resources of many libraries and information services. UUM e-library provides electronic resources, collections, and online services.

SECTION B: Acceptance of UUM E-Library

Based on the scale given, please circle the number that you think appropriate for each statement below.

1	2	3	4	5	
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	

	Your Perception	1 ←——→ 5				
9	I intend to continue using UUM e-library in the future.	1	2	3	4	5
10	I will continue using UUM e-library in the future.	1	2	3	4	5
11	I will regularly use UUM e-library in the future.	1	2	3	4	5
12	I intend to increase my use of UUM e-library in the future.	1	2	3	4	5
13	Learning to use UUM e-library is easy for me.	1	2	3	4	5
14	My interaction with UUM e-library is clear and understandable.	1	2	3	4	5
15	It is easy for me to become skilful at using UUM e-library.	1	2	3	4	5
16	I find that UUM e-library is very easy to use.	1	2	3	4	5
17	Using UUM e-library would improve my learning performance.	1	2	3	4	5
18	Using UUM e-library would enhance my effectiveness in my learning.	1	2	3	4	5
19	Using UUM e-library would increase my learning productivity.	1	2	3	4	5
20	I find that UUM e-library is useful in my learning.	1	2	3	4	5
21	I understand most of the terms used throughout UUM e-library.	1	2	3	4	5
22	The use of terms throughout UUM e-library is consistent.	1	2	3	4	5
23	UUM e-library provides terms that are easy to understand.	1	2	3	4	5
24	UUM e-library commands are well depicted by buttons and symbols.	1	2	3	4	5
25	The layout of UUM e-library screens is clear and consistent.	1	2	3	4	5
26	Fonts (style, color, and saturation) are easy to read on-screen.	1	2	3	4	5
27	It is easy to navigate UUM e-library site.	1	2	3	4	5
28	In UUM e-library, I can easily navigate to where I want.	1	2	3	4	5
29	UUM e-library system's directions and navigations are clear.	1	2	3	4	5

THANK YOU FOR YOUR COOPERATION

APPENDIX B
Reliability Analysis

APPENDIX B: RELIABILITY OF THE INSTRUMENTS

i) Intention to Use

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.937	.940	4

Item Statistics

	Mean	Std. Deviation	N
B9) I intend to continue using UUM e-library in the future.	4.16	.624	176
B10) I will continue using UUM e-library in the future.	4.19	.645	176
B11) I will regularly use UUM e-library in the future.	4.19	.657	176
B12) I intend to increase my use of UUM e-library in the future.	4.08	.744	176

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
B9) I intend to continue using UUM e-library in the future.	12.46	3.576	.874	.895	.912
B10) I will continue using UUM e-library in the future.	12.44	3.493	.880	.898	.910
B11) I will regularly use UUM e-library in the future.	12.43	3.515	.846	.745	.920
B12) I intend to increase my use of UUM e-library in the future.	12.55	3.266	.822	.723	.932

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
16.63	6.030	2.456	4

ii) Perceived Ease of Use

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.863	.865	4

Item Statistics

	Mean	Std. Deviation	N
B13) Learning to use UUM e-library is easy for me.	4.05	.735	176
B14) My interaction with UUM e-library is clear and understandable.	4.17	.618	176
B15) It is easy for me to become skilful at using UUM e-library.	4.10	.698	176
B16) I find that UUM e-library is very easy to use.	4.05	.670	176

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
B13) Learning to use UUM e-library is easy for me.	12.32	2.824	.773	.625	.799
B14) My interaction with UUM e-library is clear and understandable.	12.20	3.246	.739	.580	.818
B15) It is easy for me to become skilful at using UUM e-library.	12.27	3.137	.667	.445	.844
B16) I find that UUM e-library is very easy to use.	12.32	3.201	.678	.463	.839

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
16.37	5.274	2.297	4

iii) Perceived Usefulness

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.868	.870	4

Item Statistics

	Mean	Std. Deviation	N
B17) Using UUM e-library would improve my learning performance.	3.99	.637	176
B18) Using UUM e-library would enhance my effectiveness in my learning.	4.34	.572	176
B19) Using UUM e-library would increase my learning productivity.	4.19	.542	176
B20) I find that UUM e-library is useful in my learning.	4.02	.637	176

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
B17) Using UUM e-library would improve my learning performance.	12.55	2.249	.757	.589	.816
B18) Using UUM e-library would enhance my effectiveness in my learning.	12.20	2.426	.757	.609	.817
B19) Using UUM e-library would increase my learning productivity.	12.35	2.605	.687	.532	.845
B20) I find that UUM e-library is useful in my learning.	12.52	2.354	.687	.508	.846

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
16.54	4.101	2.025	4

iv) Terminology

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.855	.857	3

Item Statistics

	Mean	Std. Deviation	N
B21) I understand most of the terms used throughout UUM e-library.	4.05	.731	176
B22) The use of terms throughout UUM e-library is consistent.	4.09	.631	176
B23) UUM e-library provides terms that are easy to understand	4.07	.685	176

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
B21) I understand most of the terms used throughout UUM e-library.	8.16	1.495	.688	.525	.840
B22) The use of terms throughout UUM e-library is consistent.	8.12	1.729	.683	.528	.838
B23) UUM e-library provides terms that are easy to understand.	8.13	1.440	.823	.676	.703

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
12.20	3.261	1.806	3

v) Screen Design

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.838	.839	3

Item Statistics

	Mean	Std. Deviation	N
B24) UUM e-library commands are well depicted by buttons and symbols.	3.99	.605	176
B25) The layout of UUM e-library screens is clear and consistent.	4.15	.556	176
B26) Fonts (style, color, and saturation) are easy to read on-screen.	4.11	.600	176

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
B24) UUM e-library commands are well depicted by buttons and symbols.	8.26	1.071	.726	.527	.751
B25) The layout of UUM e-library screens is clear and consistent.	8.10	1.196	.690	.479	.787
B26) Fonts (style, color, and saturation) are easy to read on-screen.	8.14	1.113	.690	.478	.787

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
12.24	2.346	1.532	3

vi) Navigation

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.832	.837	3

Item Statistics

	Mean	Std. Deviation	N
B27) It is easy to navigate UUM e-library site.	3.98	.637	176
B28) In UUM e-library, I can easily navigate to where I want.	4.07	.629	176
B29) UUM e-library system's directions and navigations are clear.	4.02	.523	176

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
B27) It is easy to navigate UUM e-library site.	8.09	1.077	.703	.506	.758
B28) In UUM e-library, I can easily navigate to where I want.	8.01	1.126	.668	.448	.793
B29) UUM e-library system's directions and navigations are clear.	8.05	1.283	.721	.523	.752

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
12.07	2.412	1.553	3

APPENDIX C
Normality Test

APPENDIX C: NORMALITY OF THE DATA

i) Intention to Use

Descriptives

			Statistic	Std. Error
Ave_BI	Mean		4.16	.046
	95% Confidence Interval for Mean	Lower Bound	4.06	
		Upper Bound	4.25	
	5% Trimmed Mean		4.17	
	Median		4.00	
	Variance		.377	
	Std. Deviation		.614	
	Minimum		3	
	Maximum		5	
	Range		2	
	Interquartile Range		1	
	Skewness		.003	.183
	Kurtosis		-.922	.364

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Ave_BI	.220	176	.000	.892	176	.000

a. Lilliefors Significance Correction

Normal Q-Q Plot of Ave_BI

Detrended Normal Q-Q Plot of Ave_BI
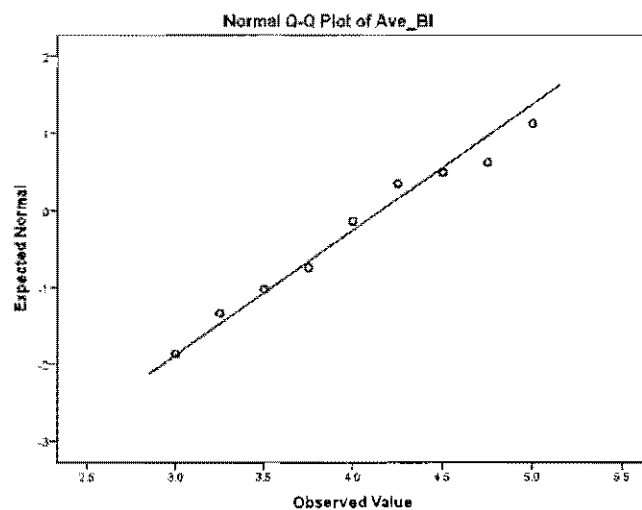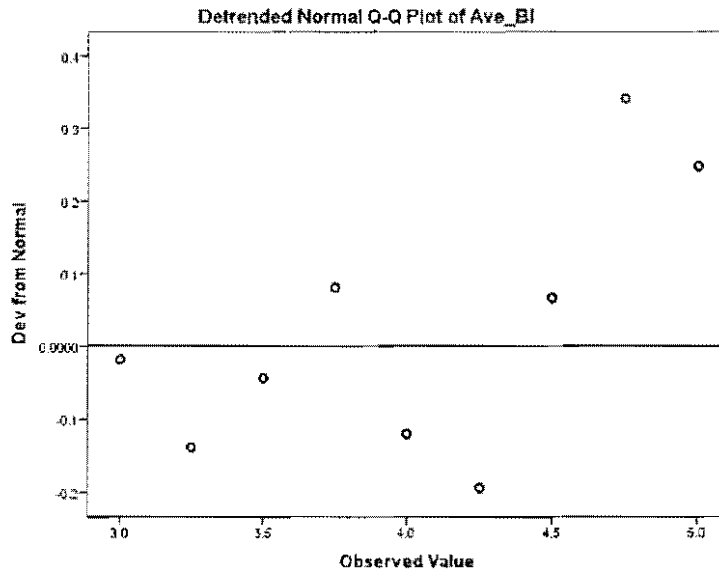
ii) **Perceived Ease of Use**

Descriptives

			Statistic	Std. Error
Ave_PEU	Mean		4.09	.043
	95% Confidence Interval for Mean	Lower Bound	4.01	
		Upper Bound	4.18	
	5% Trimmed Mean		4.10	
	Median		4.00	
	Variance		.330	
	Std. Deviation		.574	
	Minimum		3	
	Maximum		5	
	Range		2	
	Interquartile Range		1	
	Skewness		-.115	.183
	Kurtosis		-.898	.364

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Ave_PEU	.142	176	.000	.948	176	.000

a. Lilliefors Significance Correction

Normal Q-Q Plot of Ave_PEU

Detrended Normal Q-Q Plot of Ave_PEU
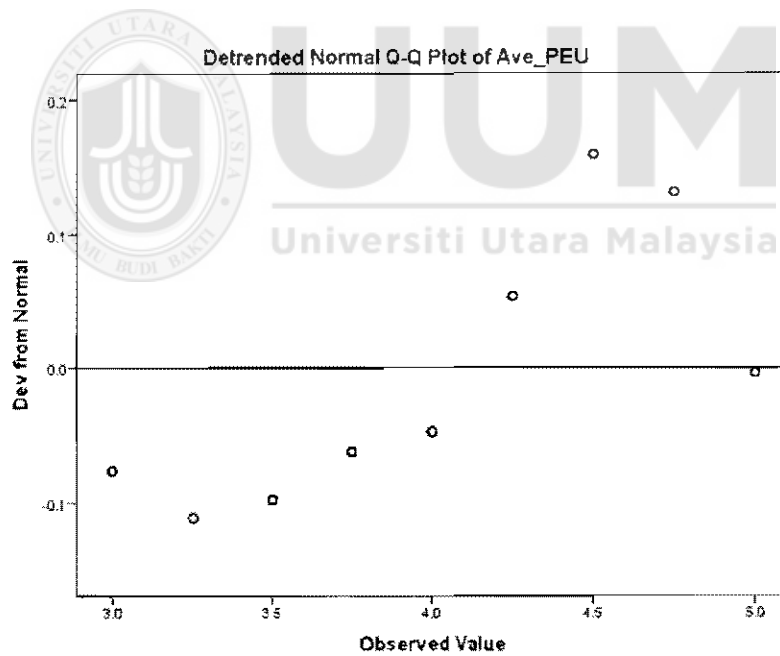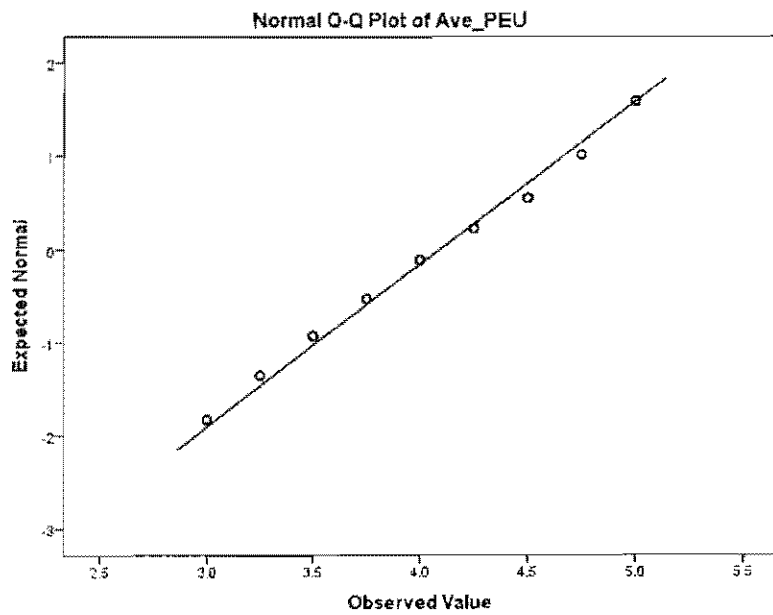
iii) Perceived Usefulness

Descriptives

			Statistic	Std. Error
Ave_PU	Mean		4.13	.038
	95% Confidence Interval for Mean	Lower Bound	4.06	
		Upper Bound	4.21	
	5% Trimmed Mean		4.14	
	Median		4.00	
	Variance		.256	
	Std. Deviation		.506	
	Minimum		3	
	Maximum		5	
	Range		2	
	Interquartile Range		1	
	Skewness		.073	.183
	Kurtosis		-.498	.364

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Ave_PU	.196	176	.000	.939	176	.000

a. Lilliefors Significance Correction

Normal Q-Q Plot of Ave_PU

Detrended Normal Q-Q Plot of Ave_PU
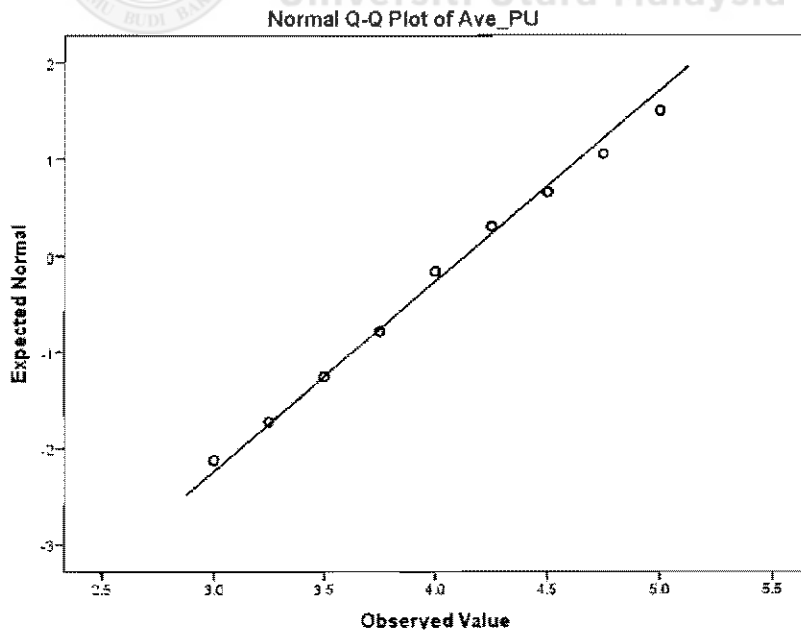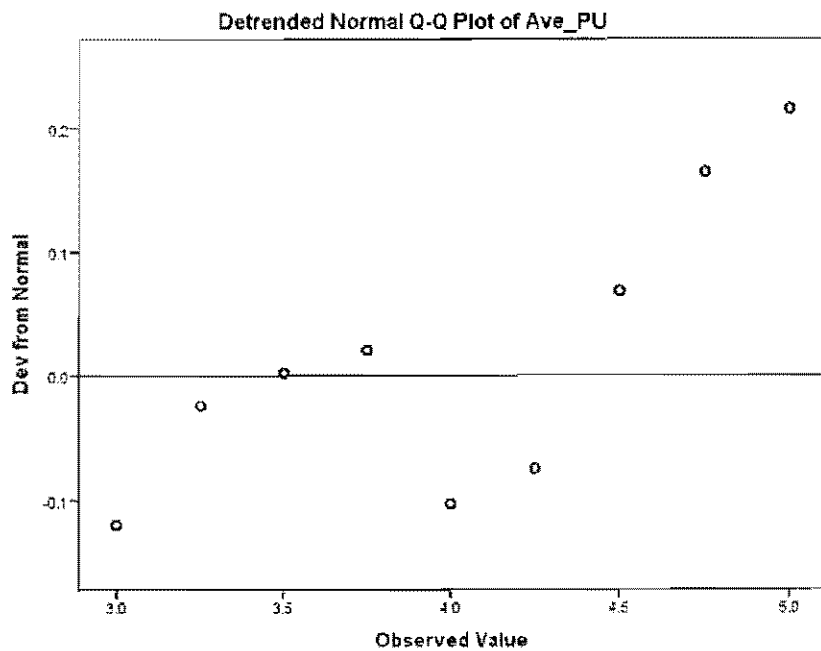
iv) Terminology

Descriptives

			Statistic	Std. Error
Ave_TER	Mean		4.07	.045
	95% Confidence Interval for Mean	Lower Bound	3.98	
		Upper Bound	4.15	
	5% Trimmed Mean		4.07	
	Median		4.00	
	Variance		.354	
	Std. Deviation		.595	
	Minimum		3	
	Maximum		5	
	Range		2	
	Interquartile Range		1	
	Skewness		.104	.183
	Kurtosis		-.845	.364

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Ave_TER	.203	176	.000	.915	176	.000

a. Lilliefors Significance Correction

Normal Q-Q Plot of Ave_TER

Detrended Normal Q-Q Plot of Ave_TER
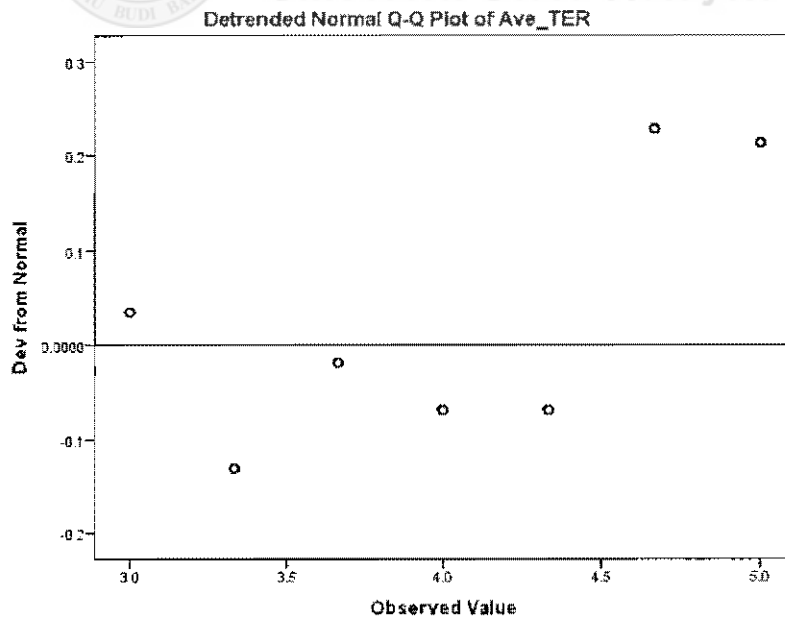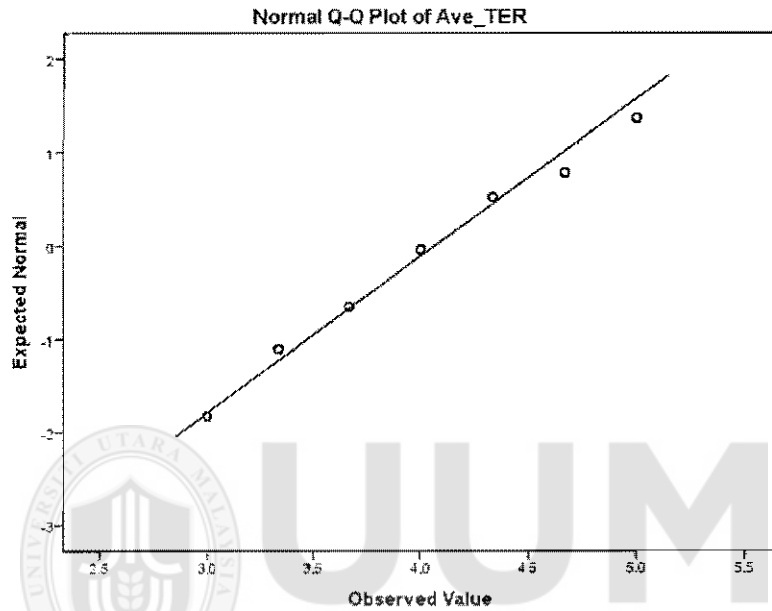
v)   Screen Design

Descriptives

			Statistic	Std. Error
Ave_SD	Mean		4.10	.041
	95% Confidence Interval for Mean	Lower Bound	4.02	
		Upper Bound	4.18	
	5% Trimmed Mean		4.10	
	Median		4.00	
	Variance		.292	
	Std. Deviation		.540	
	Minimum		3	
	Maximum		5	
	Range		2	
	Interquartile Range		1	
	Skewness		.560	.183
	Kurtosis		-.717	.364

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Ave_SD	.319	176	.000	.826	176	.000

a. Lilliefors Significance Correction

Normal Q-Q Plot of Ave_SD

Detrended Normal Q-Q Plot of Ave_SD
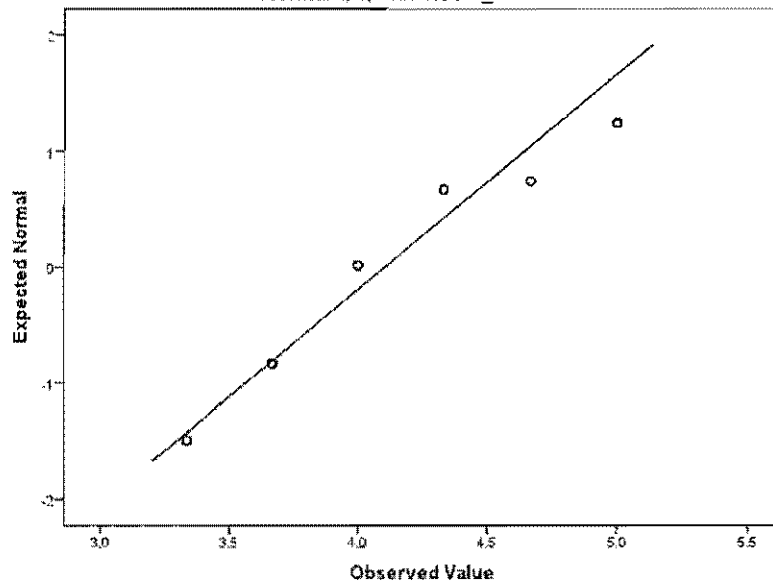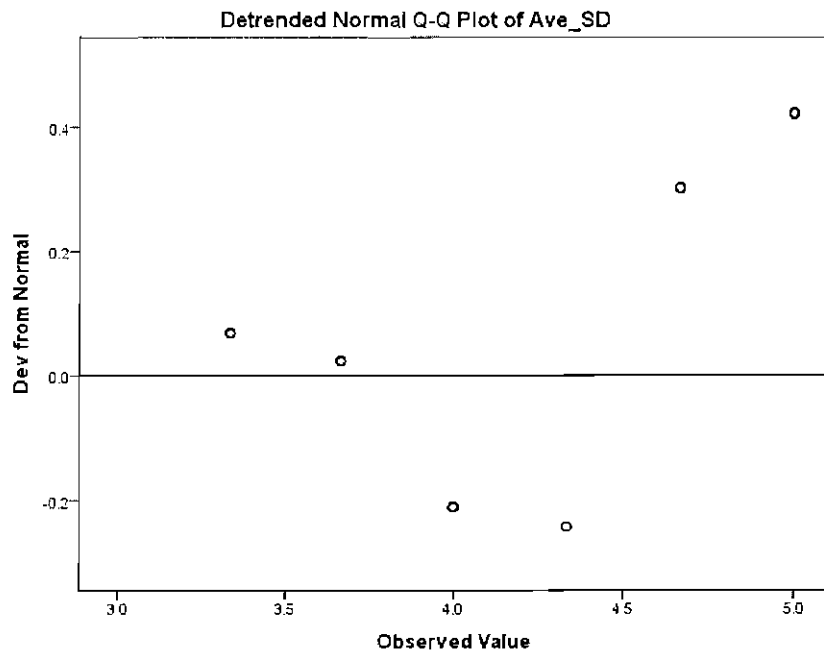
vi) Navigation

Descriptives

			Statistic	Std. Error
Ave_NAV	Mean		4.03	.039
	95% Confidence Interval for Mean	Lower Bound	3.95	
		Upper Bound	4.10	
	5% Trimmed Mean		4.03	
	Median		4.00	
	Variance		.265	
	Std. Deviation		.514	
	Minimum		3	
	Maximum		5	
	Range		2	
	Interquartile Range		1	
	Skewness		.101	.183
	Kurtosis		-.191	.364

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Ave_NAV	.236	176	.000	.912	176	.000

a. Lilliefors Significance Correction

Normal Q-Q Plot of Ave_NAV

Detrended Normal Q-Q Plot of Ave_NAV
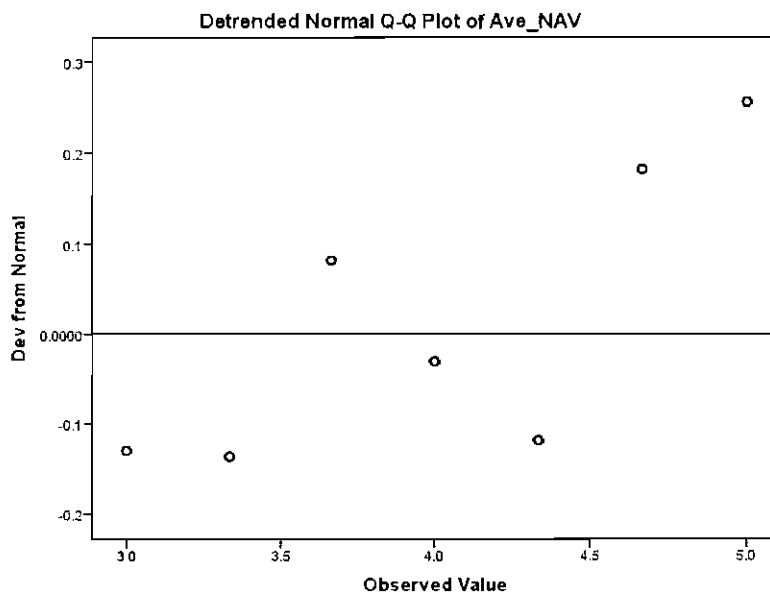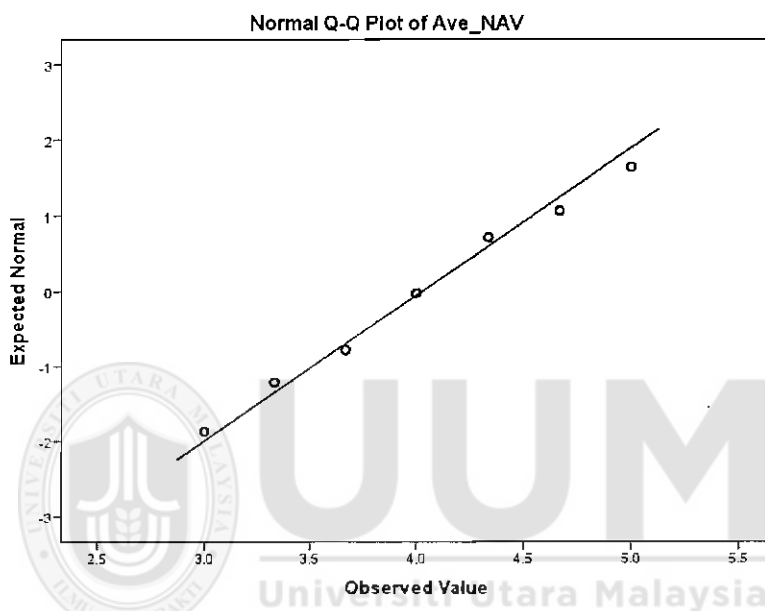
APPENDIX D
Descriptive Statistics

(i) Profile of the Respondents
(ii) Level of the Variables
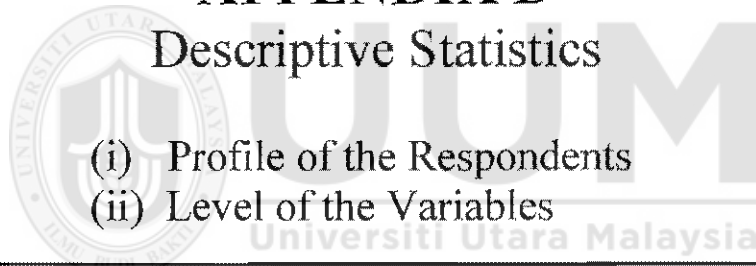
APPENDIX D: DESCRIPTIVE STATISTICS
(i) PROFILE OF THE RESPONDENTS

Statistics

		Gender	Age	Race	Citizenship	Program of study	School of study	Experience of computer usage	Frequency of UUM e-library usage
N	Valid	176	176	176	176	176	176	176	176
	Missing	0	0	0	0	0	0	0	0
Mean		1.56	3.09	2.00	1.28	1.48	1.63	5.56	3.10
Median		2.00	3.00	1.00	1.00	1.00	1.00	6.00	3.00
Sum		275	544	352	225	261	286	979	545

Frequency Table

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	77	43.8	43.8	43.8
	Female	99	56.3	56.3	100.0
	Total	176	100.0	100.0	

Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	21-25 years old	6	3.4	3.4	3.4
	26-30 years old	56	31.8	31.8	35.2
	31-35 years old	59	33.5	33.5	68.8
	36-40 years old	26	14.8	14.8	83.5
	41 years old and above	29	16.5	16.5	100.0
	Total	176	100.0	100.0	

Race

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Malay	106	60.2	60.2	60.2
	Chinese	13	7.4	7.4	67.6
	Indian	8	4.5	4.5	72.2
	Others	49	27.8	27.8	100.0
	Total	176	100.0	100.0	

Citizenship

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Malaysian	127	72.2	72.2	72.2
	Non-Malaysian	49	27.8	27.8	100.0
	Total	176	100.0	100.0	

Program of study

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Master	91	51.7	51.7	51.7
	Ph.D/ DBA	85	48.3	48.3	100.0
	Total	176	100.0	100.0	

School of study

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	OYAGSB	99	56.3	56.3	56.3
	AHSGSAS	44	25.0	25.0	81.3
	GSGSG	33	18.8	18.8	100.0
	Total	176	100.0	100.0	

Experience of computer usage

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2-4 years	2	1.1	1.1	1.1
	5-6 years	3	1.7	1.7	2.8
	7-8 years	13	7.4	7.4	10.2
	9-10 years	34	19.3	19.3	29.5
	10 years	124	70.5	70.5	100.0
	Total	176	100.0	100.0	

Frequency of UUM e-library usage

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	More than once a day	19	10.8	10.8	10.8
	About once a day	30	17.0	17.0	27.8
	2 or 3 times a week	59	33.5	33.5	61.4
	About once a week	52	29.5	29.5	90.9
	About once in two weeks	15	8.5	8.5	99.4
	About once a month	1	.6	.6	100.0
	Total	176	100.0	100.0	

APPENDIX D: DESCRIPTIVE STATISTICS
(ii) MEAN OF THE VARIABLES

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean	Std. Deviation	Variance
Ave_BI	176	2	3	5	4.16	.614	.377
Ave_PEU	176	2	3	5	4.09	.574	.330
Ave_PU	176	2	3	5	4.13	.506	.256
Ave_TER	176	2	3	5	4.07	.595	.354
Ave_NAV	176	2	3	5	4.03	.514	.265
Ave_SD	176	2	3	5	4.10	.540	.292
Valid N (listwise)	176						

APPENDIX E
Inferential Analysis

(i)   Independent Samples T-Test
(ii) One-way ANOVA
(iii) Multiple Linear Regression

APPENDIX E: INFERENTIAL ANALYSIS
(i)   INDEPENDENT SAMPLES T-TEST

(a) Gender towards Intention to Use

Group Statistics

	Gender	N	Mean	Std. Deviation	Std. Error Mean
Ave_BI	Male	77	3.86	.567	.065
	Female	99	4.38	.551	.055

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means							
										95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Ave_BI	Equal variances assumed	1.853	.175	-6.132	174	.000	-.520	.085	-.688	-.353
	Equal variances not assumed			-6.111	161.235	.000	-.520	.085	-.688	-.352

(b) Citizenship towards Intention to Use

Group Statistics

	Citizenship	N	Mean	Std. Deviation	Std. Error Mean
Ave_BI	Malaysian	127	4.16	.661	.059
	Non-Malaysian	49	4.15	.478	.068

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means							
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Ave_BI	Equal variances assumed	9.421	.002	.043	174	.966	.004	.104	-.200	.209
	Equal variances not assumed			.049	119.922	.961	.004	.090	-.174	.183

(c) Program of Study towards Intention to Use

Group Statistics

	Program of study	N	Mean	Std. Deviation	Std. Error Mean
Ave_BI	Master	91	4.07	.647	.068
	Ph.D/ DBA	85	4.25	.566	.061

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means							
										95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Diff,	Std. Error Diff.		Lower	Upper
Ave_BI	Equal variances assumed	.037	.847	-1.974	174	.050	-.181	.092		-.363	.000
	Equal variances not assumed			-1.983	173.269	.049	-.181	.091		-.362	-.001

APPENDIX E: INFERENTIAL ANALYSIS
(ii) ONE-WAY ANOVA

(d) Age towards Intention to Use

Descriptives

Ave_BI

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
21-25 years old	6	4.89	.008	.002	4.00	5.00	4	5
26-30 years old	56	4.12	.603	.081	3.95	4.28	3	5
31-35 years old	59	4.00	.627	.082	3.83	4.16	3	5
36-40 years old	26	4.00	.469	.092	3.81	4.19	3	5
41 years old and above	29	4.53	.506	.094	4.33	4.72	3	5
Total	176	4.16	.614	.046	4.06	4.25	3	5

Test of Homogeneity of Variances

Ave_BI

Levene Statistic	df1	df2	Sig.
3.156	4	171	.016

ANOVA

Ave_BI

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	10.478	4	2.620	8.075	.000
Within Groups	55.475	171	.324		
Total	65.953	175			

Multiple Comparisons

Dependent Variable: Ave_BI
Tukey HSD

(I) Age	(J) Age	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
21-25 years old	26-30 years old	.884*	.245	.004	.21	1.56
	31-35 years old	1.004*	.244	.001	.33	1.68
	36-40 years old	1.000*	.258	.001	.29	1.71
	41 years old and above	.474	.255	.345	-.23	1.18
26-30 years old	21-25 years old	-.884*	.245	.004	-1.56	-.21
	31-35 years old	.120	.106	.789	-.17	.41
	36-40 years old	.116	.135	.911	-.26	.49
	41 years old and above	-.410*	.130	.017	-.77	-.05
31-35 years old	21-25 years old	-1.004*	.244	.001	-1.68	-.33
	26-30 years old	-.120	.106	.789	-.41	.17
	36-40 years old	-.004	.134	1.000	-.37	.37
	41 years old and above	-.530*	.129	.001	-.89	-.17
36-40 years old	21-25 years old	-1.000*	.258	.001	-1.71	-.29
	26-30 years old	-.116	.135	.911	-.49	.26
	31-35 years old	.004	.134	1.000	-.37	.37
	41 years old and above	-.526*	.154	.007	-.95	-.10
41 years old and above	21-25 years old	-.474	.255	.345	-1.18	.23
	26-30 years old	.410*	.130	.017	.05	.77
	31-35 years old	.530*	.129	.001	.17	.89
	36-40 years old	.526*	.154	.007	.10	.95

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

(e) Race towards Intention to Use

Descriptives

Ave_BI

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean Lower Bound	95% Confidence Interval for Mean Upper Bound	Minimum	Maximum
Malay	106	4.15	.624	.061	4.03	4.27	3	5
Chinese	13	4.79	.336	.093	4.59	4.99	4	5
Indian	8	3.19	.116	.041	3.09	3.28	3	3
Others	49	4.15	.478	.068	4.02	4.29	4	5
Total	176	4.16	.614	.046	4.06	4.25	3	5

Test of Homogeneity of Variances

Ave_BI

Levene Statistic	df1	df2	Sig.
6.847	3	172	.000

ANOVA

Ave_BI

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	12.705	3	4.235	13.680	.000
Within Groups	53.248	172	.310		
Total	65.953	175			

Multiple Comparisons

Dependent Variable: Ave_BI
Tukey HSD

(I) Race	(J) Race	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Malay	Chinese	-.635*	.164	.001	-1.06	-.21
	Indian	.966*	.204	.000	.44	1.50
	Others	.000	.096	1.000	-.25	.25
Chinese	Malay	.635*	.164	.001	.21	1.06
	Indian	1.601*	.250	.000	.95	2.25
	Others	.635*	.174	.002	.19	1.09
Indian	Malay	-.966*	.204	.000	-1.50	-.44
	Chinese	-1.601*	.250	.000	-2.25	-.95
	Others	-.966*	.212	.000	-1.52	-.42
Others	Malay	.000	.096	1.000	-.25	.25
	Chinese	-.635*	.174	.002	-1.09	-.19
	Indian	.966*	.212	.000	.42	1.52

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

(f) School of Study towards Intention to Use

Descriptives

Ave_BI

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
OYAGSB	99	4.44	.560	.056	4.33	4.55	3	5
AHSGSAS	44	3.79	.269	.041	3.71	3.87	3	4
GSGSG	33	3.80	.660	.115	3.56	4.03	3	5
Total	176	4.16	.614	.046	4.06	4.25	3	5

Test of Homogeneity of Variances

Ave_BI

Levene Statistic	df1	df2	Sig.
23.807	2	173	.000

ANOVA

Ave_BI

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	18.142	2	9.071	32.823	.000
Within Groups	47.811	173	.276		
Total	65.953	175			

Multiple Comparisons

Dependent Variable: Ave_BI
Tukey HSD

(I) School of study	(J) School of study	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
OYAGSB	AHSGSAS	.650*	.095	.000	.42	.87
	GSGSG	.644*	.106	.000	.39	.89
AHSGSAS	OYAGSB	-.650*	.095	.000	-.87	-.42
	GSGSG	-.006	.121	.999	-.29	.28
GSGSG	OYAGSB	-.644*	.106	.000	-.89	-.39
	AHSGSAS	.006	.121	.999	-.28	.29

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

(g) Experience of Computer Usage towards Intention to Use

Descriptives

Ave_BI

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean Lower Bound	95% Confidence Interval for Mean Upper Bound	Minimum	Maximum
3-4 years	2	5.00	.000	.000	5.00	5.00	5	5
5-6 years	3	3.58	.577	.333	2.15	5.02	3	4
7-8 years	13	3.90	.650	.180	3.51	4.30	3	5
9-10 years	34	4.16	.651	.112	3.93	4.39	3	5
> 10 years	124	4.18	.591	.053	4.08	4.29	3	5
Total	176	4.16	.614	.046	4.06	4.25	3	5

Test of Homogeneity of Variances

Ave_BI

Levene Statistic	df1	df2	Sig.
1.580	4	171	.182

ANOVA

Ave_BI

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3.317	4	.829	2.264	.064
Within Groups	62.637	171	.366		
Total	65.953	175			

Multiple Comparisons

Dependent Variable: Ave_BI
Tukey HSD

(I) Experience of computer usage	(J) Experience of computer usage	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
2-4 years	5-6 years	1.417	.552	.082	-.11	2.94
	7-8 years	1.096	.460	.125	-.17	2.36
	9-10 years	.838	.440	.319	-.38	2.05
	10 years	.819	.431	.323	-.37	2.01
5-6 years	2-4 years	-1.417	.552	.082	-2.94	.11
	7-8 years	-.321	.388	.922	-1.39	.75
	9-10 years	-.578	.365	.508	-1.58	.43
	10 years	-.598	.354	.442	-1.57	.38
7-8 years	2-4 years	-1.096	.460	.125	-2.36	.17
	5-6 years	.321	.388	.922	-.75	1.39
	9-10 years	-.258	.197	.687	-.80	.29
	10 years	-.278	.176	.516	-.76	.21
9-10 years	2-4 years	-.838	.440	.319	-2.05	.38
	5-6 years	.578	.365	.508	-.43	1.58
	7-8 years	.258	.197	.687	-.29	.80
	10 years	-.020	.117	1.000	-.34	.30
10 years	2-4 years	-.819	.431	.323	-2.01	.37
	5-6 years	.598	.354	.442	-.38	1.57
	7-8 years	.278	.176	.516	-.21	.76
	9-10 years	.020	.117	1.000	-.30	.34

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

(h) Frequency of UUM e-Library Usage towards Intention to Use

Descriptives

Ave_BI

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Min	Max
					Lower Bound	Upper Bound		
More than once a day	19	4.79	.303	.070	4.64	4.94	4	5
About once a day	30	4.22	.579	.106	4.00	4.43	4	5
2 or 3 times a week	59	4.29	.603	.079	4.13	4.45	3	5
About once a week	52	3.95	.488	.068	3.82	4.09	3	5
About once in two weeks	16	3.47	.437	.109	3.24	3.70	3	4
Total	176	4.16	.614	.046	4.06	4.25	3	5

Test of Homogeneity of Variances

Ave_BI

Levene Statistic	df1	df2	Sig.
1.580	4	171	.182

ANOVA

Ave_BI

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	18.488	4	4.622	16.651	.000
Within Groups	47.465	171	.278		
Total	65.953	175			

Post Hoc Tests

Multiple Comparisons

Dependent Variable: Ave_BI

Tukey HSD

(I) Frequency of UUM e-library usage	(J) Frequency of UUM e-library usage	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
More than once a day	About once a day	.573*	.154	.003	.15	1.00
	2 or 3 times a week	.501*	.139	.004	.12	.88
	About once a week	.838*	.141	.000	.45	1.23
	About once in two weeks	1.321*	.179	.000	.83	1.81
About once a day	More than once a day	-.573*	.154	.003	-1.00	-.15
	2 or 3 times a week	-.071	.118	.974	-.40	.25
	About once a week	.265	.121	.188	-.07	.60
	About once in two weeks	.748*	.163	.000	.30	1.20
2 or 3 times a week	More than once a day	-.501*	.139	.004	-.88	-.12
	About once a day	.071	.118	.974	-.25	.40
	About once a week	.336*	.100	.009	.06	.61
	About once in two weeks	.819*	.149	.000	.41	1.23
About once a week	More than once a day	-.838*	.141	.000	-1.23	-.45
	About once a day	-.265	.121	.188	-.60	.07
	2 or 3 times a week	-.336*	.100	.009	-.61	-.06
	About once in two weeks	.483*	.151	.014	.07	.90
About once in two weeks	More than once a day	-1.321*	.179	.000	-1.81	-.83
	About once a day	-.748*	.163	.000	-1.20	-.30
	2 or 3 times a week	-.819*	.149	.000	-1.23	-.41
	About once a week	-.483*	.151	.014	-.90	-.07

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

APPENDIX E: INFERENTIAL ANALYSIS

(iii) MULTIPLE LINEAR REGRESSION

(a) Factors Influence of Perceived Usefulness and Perceived Ease of Use towards Intention to Use UUM e-Library.

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Ave_PEU, Ave_PU[b]	.	Enter

a. Dependent Variable: Ave_BI

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.739[a]	.546	.541	.416

a. Predictors: (Constant), Ave_PEU, Ave_PU

b. Dependent Variable: Ave_BI

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	36.009	2	18.005	104.021	.000[b]
	Residual	29.944	173	.173		
	Total	65.953	175			

a. Dependent Variable: Ave_BI

b. Predictors: (Constant), Ave_PEU, Ave_PU

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.339	.268		1.262	.209		
	Ave_PU	.764	.083	.630	9.182	.000	.557	1.796
	Ave_PEU	.160	.073	.150	2.186	.030	.557	1.796

a. Dependent Variable: Ave_BI

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	3.11	4.96	4.16	.454	176
Std. Predicted Value	-2.299	1.779	.000	1.000	176
Standard Error of Predicted Value	.032	.108	.052	.015	176
Adjusted Predicted Value	3.10	4.96	4.16	.454	176
Residual	-1.442	.962	.000	.414	176
Std. Residual	-3.266	2.312	.000	.994	176
Stud. Residual	-3.491	2.319	.001	1.002	176
Deleted Residual	-1.463	.979	.001	.420	176
Stud. Deleted Residual	-3.610	2.349	-.001	1.010	176
Mahal. Distance	.072	10.717	1.989	1.888	176
Cook's Distance	.000	.091	.005	.011	176
Centered Leverage Value	.000	.061	.011	.011	176

a. Dependent Variable: Ave_BI

Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Ave_BI

Scatterplot
Dependent Variable: Ave_BI
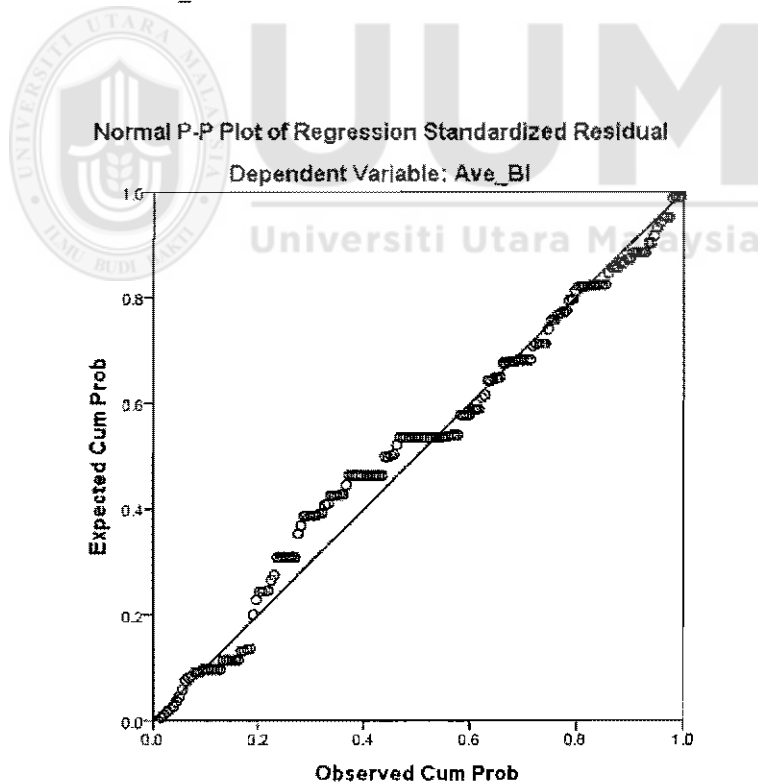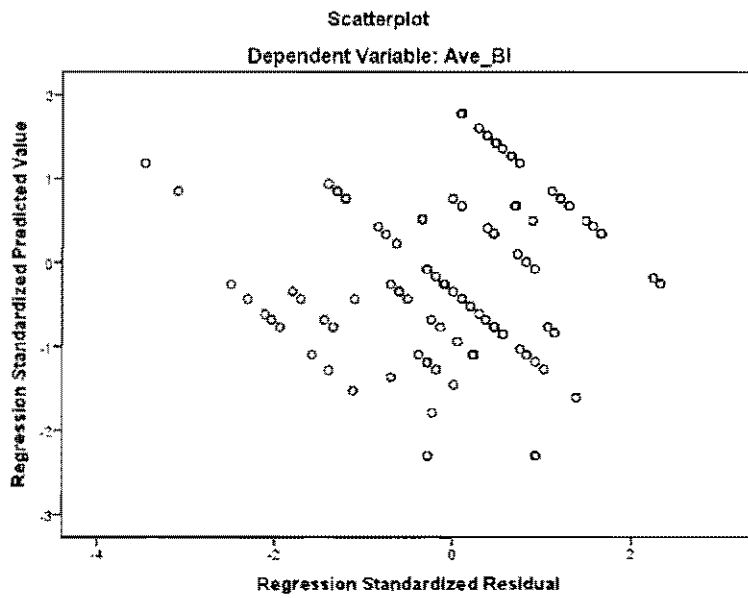
(b) **Factors Influence of Interface Characteristics (Terminology, Screen Design and Navigation) on Perceived Usefulness of UUM e-Library.**

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Ave_NAV, Ave_SD, Ave_TER[b]	.	Enter

a. Dependent Variable: Ave_PU

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.654[a]	.427	.417	.386

a. Predictors: (Constant), Ave_NAV, Ave_SD, Ave_TER

b. Dependent Variable: Ave_PU

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	19.168	3	6.389	42.777	.000[b]
	Residual	25.690	172	.149		
	Total	44.858	175			

a. Dependent Variable: Ave_PU

b. Predictors: (Constant), Ave_NAV, Ave_SD, Ave_TER

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	1.228	.268		4.586	.000		
	Ave_TER	.184	.068	.216	2.685	.008	.515	1.941
	Ave_SD	.371	.067	.396	5.509	.000	.644	1.552
	Ave_NAV	.158	.072	.161	2.212	.028	.630	1.588

a. Dependent Variable: Ave_PU

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	3.49	4.79	4.13	.331	176
Std. Predicted Value	-1.945	1.991	.000	1.000	176
Standard Error of Predicted Value	.030	.098	.056	.016	176
Adjusted Predicted Value	3.47	4.79	4.13	.331	176
Residual	-.957	1.334	.000	.383	176
Std. Residual	-2.476	3.251	.000	.991	176
Stud. Residual	-2.489	3.492	.001	1.003	176
Deleted Residual	-.967	1.365	.001	.392	176
Stud. Deleted Residual	-2.528	3.612	.002	1.013	176
Mahal. Distance	.038	10.340	2.983	2.017	176
Cook's Distance	.000	.073	.006	.011	176
Centered Leverage Value	.000	.059	.017	.012	176

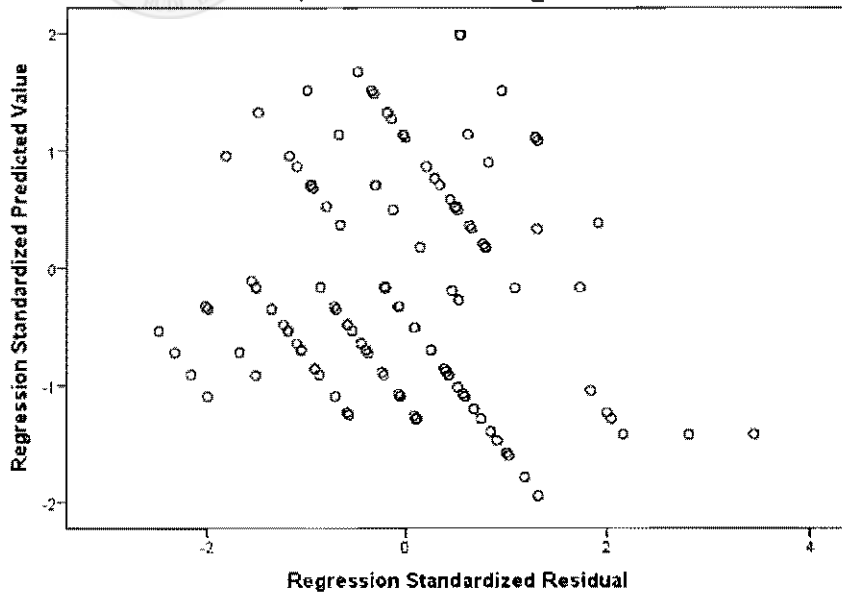a. Dependent Variable: Ave_PU

Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Ave_PU
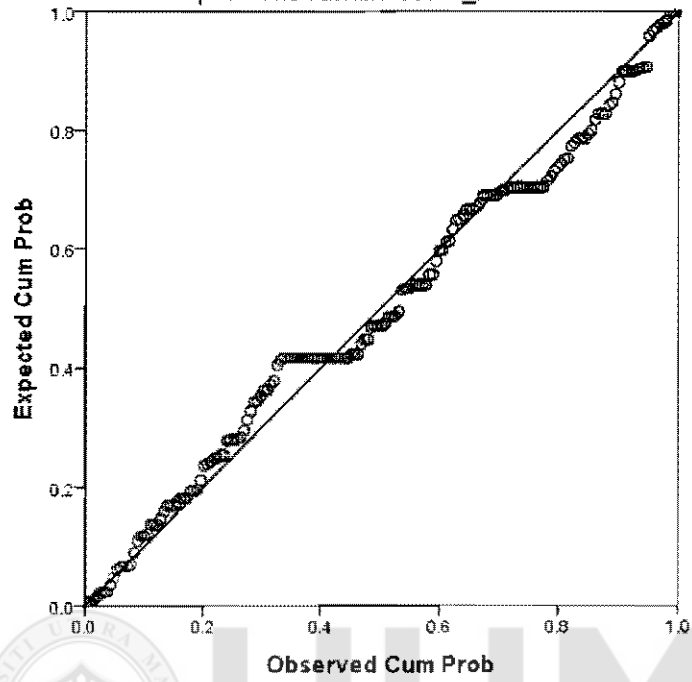
Scatterplot

Dependent Variable: Ave_PU

(c)   **Factors Influence of Interface Characteristics (Terminology, Screen Design and Navigation) on Perceived Ease of Use of UUM e-Library.**

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Ave_NAV, Ave_SD, Ave_TER[b]	.	Enter

a. Dependent Variable: Ave_PEU

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.671[a]	.450	.440	.430

a. Predictors: (Constant), Ave_NAV, Ave_SD, Ave_TER

b. Dependent Variable: Ave_PEU

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	25.942	3	8.647	46.851	.000[b]
	Residual	31.746	172	.185		
	Total	57.687	175			

a. Dependent Variable: Ave_PEU

b. Predictors: (Constant), Ave_NAV, Ave_SD, Ave_TER

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.979	.298		3.291	.001		
	Ave_TER	.455	.076	**.472**	**5.991**	**.000**	.515	1.941
	Ave_SD	.241	.075	**.227**	**3.219**	**.002**	.644	1.552
	Ave_NAV	.068	.080	**.061**	**.849**	**.397**	.630	1.588

a. Dependent Variable: Ave_PEU

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	3.35	4.80	4.09	.385	176
Std. Predicted Value	-1.923	1.837	.000	1.000	176
Standard Error of Predicted Value	.033	.109	.062	.018	176
Adjusted Predicted Value	3.34	4.79	4.09	.385	176
Residual	-1.277	1.126	.000	.426	176
Std. Residual	-2.972	2.620	.000	.991	176
Stud. Residual	-3.021	2.654	.001	1.004	176
Deleted Residual	-1.319	1.155	.001	.437	176
Stud. Deleted Residual	-3.095	2.702	.000	1.011	176
Mahal. Distance	.038	10.340	2.983	2.017	176
Cook's Distance	.000	.076	.006	.012	176
Centered Leverage Value	.000	.059	.017	.012	176

a. Dependent Variable: Ave_PEU

Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Ave_PEU

Scatterplot

Dependent Variable: Ave_PEU