ACCEPTANCE MODEL OF SAAS CLOUD COMPUTING AT NORTHERN MALAYSIAN MAIN CAMPUS PUBLIC UNIVERSITIES

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Abstrak

Kemajuan teknologi mempunyai kesan sampingan, walaupun ia bergerak pantas bagi memudahkan kehidupan dan meningkatkan pendapatan perniagaan. Untuk mengatasi aspek negatif sambil mendapatkan teknologi berkonsep mesra, Pengkomputeran Awan sebagai Suatu Servis Perisian (SaaS) telah muncul bagi tujuan mengekalkan sumber semula jadi, menggunakan pengkomputeran dan kuasa secara efektif disamping mencapai prestasi, mengurangkan kos dan meningkatkan pendapatan. Walau bagaimanapun, terdapat kekurangan dalam kajian empirikal yang menyiasat faktor penting yang mempengaruhi penggunaan, penerimaan, atau pengaplikasian perkhidmatan SaaS dari perspektif individu khususnya dalam sektor pendidikan tinggi. Matlamat utama kajian ini adalah untuk menyiasat faktor penting dengan menggunakan model bersesuaian yang merangkumi ciri teknikal, sosial dan kawalan individu, serta kecenderungan keselamatan pengguna. Selain itu, tahap pendidikan juga telah terbukti berpengaruh dalam pengaplikasian inovasi. Oleh itu, satu lagi objektif kajian ini adalah untuk menyiasat peranan tahap pendidikan tersebut. Objektif yang terakhir adalah untuk menyiasat perbezaan di antara kumpulan pelajar dan pensyarah dalam hubungan yang dikemukakan dalam model yang digunakan. Kajian yng menggunakan soal selidik telah dilaksanakan ke atas pelajar dan pensyarah di empat universiti awam di utara Malaysia. Skop penerimaan ialah untuk menyiasat penggunaan perkhidmatan SaaS pada peringkat peribadi. Teori Menguraikan Perilaku yang Dirancang (DTPB) dan Teori Penyebaran Inovasi (DOI) telah digunakan. Keputusan menunjukkan kesesuaian model walaupun peranan Triabiliti dan Norma Subjektif didapati tidak signifikan. Penemuan ini menyumbang kepada bidang pengetahuan dan literatur dalam menonjolkan peranan faktor yang mana penyedia SaaS boleh manfaatkan dalam perancangan perkhidmatan baru dan untuk mempromosikan penggunaan SaaS kepada universiti.

Kata kunci: Decomposed Theory of Planned Behavior (DTPB), Pengkomputeran Awan SaaS, Persepsi keselamatan, Penerimaan teknologi.

Abstract

Technology advancement has side effects, although it has moved in a fast pace that facilitated life and increased business revenue. To cope with negative aspects while looking for friendly technology, Software as a Service (SaaS) Cloud Computing emerged to preserve natural resources, effectively utilize computing and power consumption, while achieving performance, decreasing cost, and increasing revenue. Yet, there are paucity in empirical studies investigating salient factors affecting the usage, acceptance, or adoption of SaaS services from the individual perspectives specifically in higher education sector. The main objective of this study is to investigate the salient factors with proper model that includes technical, social and control characteristics, as well as user security predisposition. Besides, educational level has also proven to be influential in adopting innovations. Hence, probing its role is another objective. The last objective is to investigate differences between student and lecturer groups in the relationships postulated in the model. A survey with questionnaires was conducted on students and lecturers in four public universities in Northern Malaysia. The scope of the acceptance is to investigate the personal-level use of SaaS services. Decomposed Theory of Planned Behaviour (DTPB) and Diffusion of Innovation Theory (DOI) were applied. Results revealed appropriateness of the model although the role of Trialability and Subjective Norms were not significance. The findings contribute to the body of knowledge and literature in highlighting the role of these factors that SaaS providers could benefit in planning for new services and in promoting SaaS usage to universities.

Keywords: Decomposed Theory of Planned Behavior (DTPB), SaaS Cloud Computing services, Security perception, Technology acceptance.

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List of Abbreviations

AB	Actual Behavior
ADP	Technology Adopting or Acceptance
ATT	Attitude
AUSaaS	Usage, Acceptance, or Adoption of SaaS Cloud Computing
AVE	Average Variance Extracted
BI	Behavior Intention
COM	Compatibility
CR	Composite Reliability
CRD	Credibility (Security and Privacy)
CRI	Cloud Readiness Index
DOI	Diffusion of Innovation Theory
DTPB	Decomposed Theory of Planned Behavior
DV	Dependent Variable
ED	Educational Level
f^2	Effect size for R^2
FC	Facilitating Conditions
FIMIX-PLS	Finite Mixture Partial Least Squares
HE	Higher Education
IaaS	Infrastructure as a Service
IPMA	Importance Performance Map Analysis
IT	Information Technology
MGA	Multigroup Analysis
MICOM	Measurement Invariance Composite
PaaS	Platform as a Service
PBC	Perceived Behavior Control
PBCFC	Facilitating Conditions Technology and Resources
PBCSE	Self-Efficacy
PEU	Perceived Ease of Use
PLS-SEM	Partial Least Squares- Structural Equation Modeling
PU	Perceived Usefulness
Q^2	Predictive relevance
q^2	Effect size for Q^2
R^2	Coefficient of determination
SaaS	Software as a Service
SN	Subjective Norms
SNPI	Peer Influence
SNSI	Superior Influence
TPB	Theory of Planned Behavior
TRI	Trialability
TRT	Trust
TRA	Theory of Reasoned Action
USecP	User Security Predisposition

CHAPTER ONE
INTRODUCTION

1.1 Background of Study

Since the beginning of the 21st century, the development of technology increased and the need for a more powerful hardware is becoming a must to cope with the fast pace of software development, database designs, and operating systems. In essence, the higher the demand for such high-tech hardware, the higher the cost of owning and maintaining. Moreover, the increasing demand for technology, communication, networking, led to a growing number of datacenters with huge sizes, an increasing of electricity consumption, higher demand for processing power, extremely high necessity for storage, and so on. As a result, a high cost of energy, cooling, maintenance, and increasing demand for skilled manpower have embarked. In principle, there are everyday new innovations that changed the course of our life. On the other hand, the technology has negative aspects that veil in silence (Ahmad, Bello, & Nordin, 2013).

Besides, the issues of global warming, CO_2 emission, floods and droughts, pollution, toxic materials, E-waste, and energy crisis are some negative outcomes of technology advancement and production (Ahmad et al., 2013). These emerging issues are increasing to a warning level and, consequently, act as a catalyst for the interest and awareness among ecologists, green groups, practitioners, and academia to look for solutions to cope with the increasing demand for high performance, reliable, and cost effective technology (Ahmad et al., 2013; Bose & Luo, 2011) that are less harm to environment and achieve these demands for the providers of the IT services and the

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APPENDICES

Appendix A
Questionnaire

Exploring Personal Use of Software as a Service (SaaS) Cloud Computing Applications Perception

Dear respondent,

Our planet is facing an ecological disaster as a result of toxic unrecyclable waste, which is produced by technology industry. Some of these effects are: global warming, floods and drought in different areas, CO_2 high rates, high power and air conditioning consumption, and E-waste of technological devices (e.g. monitors, computers, smart phones etc.). However, Cloud Computing technology emerged to solve these problems generated by technology advancement by reducing CO_2 effects, power consumption, electronic waste, and prolong the life of electronic devices. IT has an influence in changing the trend of using technology to safeguard environment, while meeting the demand of modern life, high speed computing, and increase revenue. Software as a ***Service Cloud Computing (SaaS CC)*** is a **practice** to eliminate the side effects of technology. Therefore, kindly spend some of your valuable time (7-10min) to fill up this questionnaire, which is voluntarily & for research purpose only. Your feedback is highly appreciated and is ultimately confidential. Thanking you in advance for your valuable time.

Yours faithfully,

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Note: ***SaaS CC services***

SaaS Cloud Computing (SaaS CC) are services accessed anytime from anywhere by connecting to the Internet (e.g., e-mail services, opening Pdf files online, storing/ sharing/ uploading/ downloading various files, using university Portal, watching YouTube, etc.).

1. Demographics

Kindly circle ⬭ the appropriate option that mostly suits you in the following:

CODE	*Statement*	*Response*	
GN	Gender	1.Male	2.Female
AG	Age	1. 18-26 3. 36-44 5. Above 53	2. 27-35 4. 45- 53
ED	Educational Level	1. Certificate 3. Bachelor 5. PhD.	2. Diploma 4. Master
ETH	Ethnicity	1. Malay	2. Indian

CODE	*Statement*	*Response*	
		3. Chinese	4. others
OC	Occupation	1. Student	2. Academic staff
UNI	University (Higher Educational Institute)	1. UUM 3. USM	2. UniMAP 4. UPSI
ST	What type of SaaS Cloud Computing Software (SaaS CC) do you use on daily bases? Select all that applies.	1. Collaborative SaaS CC applications (e.g., Google Docs, Microsoft office 365 applications, University portals). 2. Social media communication applications (e.g., Facebook, twitter, WhatsApp, telegram, Instagram, WhatsApp, Skype etc.). 3. E-mail (e.g., Google, Microsoft, or University e-mail, etc.)	4. SaaS cloud Storage (e.g., Dropbox, Google Drive, Microsoft OneDrive etc.). 5. Communication & calling services (e.g., Tango, imo, Viber, etc.) 6. Entertainment or educational videos/audios (e.g., YouTube, MP3 online streaming). 7. Other applications kindly specify in the following space_ _
AF	Which faculty/school/department you belong to _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _		

SaaS Cloud Computing

Services (SaaS CC)

Instructions: The following statements are related to constructs of the study, kindly **tick (√)** the ***appropriated option*** in the space provided according to your best evaluation of the statements.

2. Using, Accepting, or Using SaaS Cloud Computing Services

Code	*Statement*	**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
AUSaaS1	I **prefer** online SaaS Cloud Computing services (e.g., store my data on the web, watching YouTube movies, listening to online music, calling friends using Tango or imo, etc.) **than using** conventional methods (e.g., using USB drive, watching movies on DVD, or normal telephone calls).					
AUSaaS2	I frequently use online SaaS Cloud Computing services for my work/academic studies (e.g., uploading my data/accessing e-mail, sharing files on Facebook, opening Pdf files online, watching YouTube, etc.).					

AUSaaS3	I believe that I could tell others the advantage of using SaaS Cloud Computing services in my academic study/work.					
AUSaaS4	I would have no difficulty explaining why SaaS Cloud Computing services may or may not be beneficial.					

3. **Behavior Intention to Use SaaS CC Services:** Your future plans that you may take to use SaaS applications

Code	*Statement*	**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
BI1	Intend to continue using SaaS Cloud Computing online services in my work /academic studies.					
BI2	I will strongly recommend online services from SaaS Cloud Computing providers to others.					
BI3	I plan to continue using SaaS Cloud Computing services frequently this term and onward.					
BI4	Assuming that I have access to Internet, I intend to continue using SaaS Cloud Computing services.					

4. **Attitude:** Your positive belief towards the use of SaaS services

Code	*Statement*	**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
ATT1	Using SaaS CC services is a good idea.					
ATT2	Using SaaS CC services is a wise idea.					
ATT3	I like the idea of using SaaS CC services.					
ATT4	Using SaaS CC online services is beneficial to my academic studies/work.					

1. **Compatibility:** The sense of positive feeling that you get while or after using SaaS services and applications**.**

Code	*Statement*	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
COM1	Using SaaS CC services will fit well with the way I work and my lifestyle.					
COM2	Using SaaS CC services fits well with my academic needs and values.					
COM3	SaaS CC services and applications are compatible with my preferred work practices.					
COM4	SaaS CC services are compatible with our culture and values in protecting nature, decrease power consumption, and reduce CO_2.					

2. **Perceived Ease of Use:** The positive feeling that you have while using SaaS services

Code	*Statement*	Strongly Disagre	Disagre	Neutral	Agree	Strongly Agree
PEU1	It would be easy for me to become skilled at using online SaaS CC services (e.g., access webmail, share files in WhatsApp or Facebook, open Pdf file online on web browser, etc.).					
PEU2	Learning to use online SaaS CC services is easy for me.					
PEU3	I would find the online SaaS CC services easy to use.					
PEU4	Using SaaS CC online services is clear & understandable.					

3. **Perceived Usefulness:** The positive feeling that you have towards using SaaS services

Code	*Statement*	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
PU1	Using online SaaS CC services would facilitate in achieving my duties in work/academic studies.					
PU2	Using online SaaS CC services would provide access to useful academic information.					
PU3	Using online SaaS CC services would save my time when working with electronic information (e.g., reading online, downloading articles).					
PU4	Using SaaS CC online services increases productivity by accessing my data anytime and anywhere.					

4. **Trialability:** Time given to try the services before you believe it is beneficial, essential, or practical for you to use.

Code	*Statement*	**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
TRI1	Before deciding on whether or not to accept the various SaaS CC applications, I would need to use it on a trial basis.					
TRI2	Before deciding on whether or not to use or adopt any SaaS CC applications (e.g., Dropbox), I would need to properly try it out.					
TRI3	SaaS CC online services were adequately available to me to test or try various applications.					
TRI4	There are enough people in my university to help me try the various uses of SaaS CC services (e.g. Google Drive)					

5. **User Security Predisposition**

1. **Trust:** The positive feeling towards your SaaS services providers**.**

Code	*Statement*	**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
TRT1	I would trust SaaS CC provider to offer secure transaction to access my data (e.g., access my e-mail, my files on Microsoft OneDrive).					
TRT2	I would trust SaaS CC provider to provide me online services to help in conducting my work/academic studies on the web.					
TRT3	I would trust my SaaS CC provider to provide secure data connections using strong security codes to conduct my transactions over the Internet.					
TRT4	I feel confident that legal & technological aspects of SaaS CC provider are adequate to protect my data.					

SaaS Cloud Save Energy Save Green

2. **Credibility:** The positive feeling that you have towards the SaaS providers in terms of security of the transactions, providers security measures, privacy feeling that your personal information are not exposed.

Code	*Statement*	**Strongly**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
CRD1	Using SaaS CC applications & services would not expose my personal information.					
CRD2	I would find SaaS CC services secure in conducting my transactions & working with online applications provided from SaaS CC providers.					
CRD3	I trust in the ability of SaaS CC services provider (e.g., Google) to protect my privacy.					
CRD4	SaaS CC services are really secure to use in my work/academic research.					

6. Subjective Norms: The social environment that has influence on you.

Code	*Statement*	**Strongly**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
SN1	People who influence my behavior would think that I should use SaaS CC services.					
SN2	People who are important to me would think that I should use SaaS CC services.					
SN3	People who are important to me would recommend using SaaS CC online services.					
SN4	People who are important to me would find using SaaS CC online services beneficial & practical.					

1. **Peer Influence:** Your colleagues and friends around you who advise you to do certain things that they feel its beneficial to you**.**

Code	*Statement*	**Strongly**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
SNPI1	My friends would think that I should use the SaaS CC services.					
SNPI2	I want to do what my classmates/colleagues think I should do.					
SNPI3	My classmates/colleagues recommend that I should use SaaS CC services.					
SNPI4	Colleagues/Classmates who are important to me would think that I should use SaaS CC services in my academic studies/work.					

2. **Superior Influence:** Your colleague, friend in a higher level of education, or your supervisor that urges, requests, or recommends you do certain thing that (s)he believe it is a requirement or important to facilitate your work.

Code	*Statement*	**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
SNSI1	I will have to use SaaS CC services and applications because my professors/supervisors require it.					
SNSI2	I want to do what my professors/supervisors think I should do.					
SNSI3	My professors/supervisors would think that I should use SaaS CC services & applications.					
SNSI4	I will have to use SaaS CC services and applications because my professors/supervisors require it.					

7. **Perceived Behavior Control:** Your personal capabilities, the resources such as internet, time, and money, which can facilitate your use of SaaS technology

Code.	*Statement*	**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
PBC1	I would be able to use SaaS CC services & applications.					
PBC2	Using SaaS CC services (e.g., storing files on the web) is entirely within my control and capability.					
PBC3	I have the resources and the ability to make use of SaaS CC facilities and services.					
PBC4	I have the knowledge to use SaaS CC services.					

1. **Self-efficacy:** Your skills, capabilities, knowledge, and feeling of comfort that you believe you possess to use SaaS applications and services.

Code	*Statement*	**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
PBC-SE1	I would feel comfortable using SaaS CC services.					
PBC-SE2	I could easily use SaaS CC services on my own.					
PBC-SE3	I know enough to use SaaS CC services.					
PBC-SE4	It is important to me to use SaaS CC services, even if there is no one around to show me how to use it.					

2. **Facilitating Conditions:** Resources such as internet equipment, Smart devices, money, time, or availability of internet connectivity to use SaaS services

Code	*Statement*	**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
PBC-FC1	I have the Internet equipment (modems, ADSL, Wi-Fi accessibility etc.) required to use online SaaS CC services.					
PBC-FC2	I have the time to use online SaaS CC services.					
PBC-FC3	I have enough money to buy the hardware (e.g., Tablet, Smartphone, Laptop) to access and use online SaaS CC applications & services.					
PBC-FC4	It is important for me to be able to use SaaS CC services when I need it.					

Appendix B
Discriminant Validity Results

Table B. 1

Discrimanant Validity With Cross-Loadings Criteria for The Latent Variables

	ATT	**AUSaaS**	**BI**	**COM**	**PBC**	**PBCFC**	**PBCSE**	**PEU**	**PU**	**SN**	**SNPI**	**SNSI**	**USecP**	**TRI**
ATT1	**0.88**	0.55	0.67	0.66	0.52	0.54	0.52	0.59	0.67	0.42	0.39	0.29	0.43	0.44
ATT2	**0.77**	0.35	0.54	0.54	0.39	0.4	0.38	0.45	0.51	0.27	0.25	0.21	0.31	0.34
ATT3	**0.90**	0.52	0.69	0.68	0.53	0.54	0.54	0.6	0.67	0.42	0.4	0.33	0.44	0.46
ATT4	**0.85**	0.51	0.69	0.7	0.54	0.52	0.52	0.6	0.69	0.41	0.41	0.31	0.4	0.47
AUSaaS1	0.42	**0.71**	0.43	0.41	0.35	0.41	0.41	0.44	0.36	0.29	0.28	0.1	0.35	0.31
AUSaaS2	0.42	**0.77**	0.51	0.46	0.44	0.36	0.38	0.45	0.46	0.26	0.29	0.19	0.28	0.31
AUSaaS3	0.51	**0.81**	0.56	0.53	0.45	0.4	0.49	0.5	0.5	0.4	0.37	0.21	0.4	0.37
AUSaaS4	0.35	**0.70**	0.41	0.38	0.39	0.4	0.42	0.4	0.37	0.32	0.28	0.16	0.32	0.31
BI1	0.66	0.59	**0.87**	0.63	0.54	0.5	0.5	0.55	0.65	0.37	0.38	0.26	0.38	0.4
BI2	0.67	0.58	**0.88**	0.63	0.54	0.49	0.53	0.57	0.59	0.43	0.41	0.29	0.42	0.42
BI3	0.72	0.59	**0.94**	0.68	0.56	0.55	0.53	0.64	0.66	0.4	0.39	0.27	0.41	0.43
BI4	0.72	0.56	**0.9**	0.66	0.54	0.55	0.53	0.6	0.67	0.39	0.39	0.3	0.37	0.44
COM1	0.69	0.53	0.63	**0.9**	0.59	0.55	0.57	0.63	0.67	0.47	0.41	0.27	0.47	0.47
COM2	0.7	0.56	0.69	**0.9**	0.58	0.59	0.59	0.62	0.7	0.49	0.47	0.34	0.49	0.51
COM3	0.69	0.54	0.65	**0.92**	0.56	0.54	0.58	0.66	0.72	0.47	0.42	0.31	0.48	0.47
PBC1	0.52	0.47	0.53	0.56	**0.82**	0.58	0.6	0.58	0.59	0.45	0.45	0.39	0.45	0.45
PBC2	0.51	0.46	0.51	0.52	**0.85**	0.59	0.64	0.56	0.55	0.46	0.46	0.34	0.5	0.42
PBC3	0.51	0.49	0.55	0.56	**0.89**	0.64	0.72	0.6	0.59	0.49	0.42	0.32	0.48	0.43
PBC4	0.44	0.44	0.44	0.51	**0.81**	0.61	0.75	0.56	0.48	0.41	0.39	0.33	0.42	0.44
PBCFC1	0.5	0.46	0.49	0.51	0.59	**0.85**	0.6	0.5	0.54	0.39	0.42	0.29	0.4	0.35
PBCFC2	0.48	0.43	0.45	0.5	0.58	**0.86**	0.62	0.57	0.54	0.42	0.45	0.32	0.42	0.37
PBCFC3	0.37	0.32	0.37	0.41	0.46	**0.7**	0.49	0.4	0.37	0.35	0.34	0.22	0.33	0.32
PBCFC4	0.57	0.49	0.59	0.59	0.69	**0.87**	0.7	0.61	0.62	0.46	0.46	0.35	0.46	0.45
PBCSE1	0.53	0.54	0.56	0.58	0.74	0.65	**0.86**	0.63	0.59	0.49	0.46	0.33	0.54	0.44
PBCSE2	0.54	0.54	0.55	0.59	0.73	0.67	**0.91**	0.65	0.59	0.46	0.42	0.33	0.48	0.44

Table B.1 continued

PBCSE3	0.46	0.44	0.42	0.51	0.64	0.6	**0.84**	0.56	0.49	0.41	0.37	0.3	0.41	0.36
PBCSE4	0.48	0.45	0.47	0.53	0.67	0.64	**0.86**	0.55	0.53	0.45	0.4	0.31	0.45	0.36
PEU1	0.6	0.5	0.57	0.59	0.55	0.51	0.53	**0.81**	0.62	0.37	0.34	0.29	0.39	0.45
PEU2	0.56	0.53	0.58	0.61	0.6	0.55	0.63	**0.89**	0.61	0.39	0.35	0.25	0.41	0.43
PEU3	0.59	0.53	0.59	0.62	0.62	0.59	0.63	**0.92**	0.64	0.41	0.39	0.3	0.43	0.49
PEU4	0.57	0.54	0.56	0.64	0.63	0.57	0.63	**0.87**	0.65	0.45	0.43	0.29	0.52	0.46
PU1	0.65	0.5	0.62	0.69	0.62	0.58	0.58	0.64	**0.86**	0.45	0.44	0.36	0.44	0.47
PU2	0.67	0.49	0.61	0.67	0.55	0.54	0.55	0.62	**0.87**	0.44	0.46	0.33	0.41	0.46
PU3	0.65	0.49	0.62	0.64	0.57	0.55	0.55	0.61	**0.87**	0.44	0.4	0.35	0.41	0.43
PU4	0.64	0.5	0.62	0.66	0.53	0.54	0.52	0.62	**0.86**	0.39	0.4	0.29	0.39	0.45
SN1	0.39	0.41	0.39	0.45	0.48	0.41	0.45	0.43	0.42	**0.86**	0.61	0.46	0.55	0.44
SN2	0.41	0.37	0.37	0.46	0.46	0.42	0.46	0.38	0.43	**0.91**	0.64	0.45	0.5	0.42
SN3	0.39	0.35	0.38	0.47	0.48	0.45	0.46	0.38	0.44	**0.91**	0.65	0.46	0.51	0.38
SN4	0.44	0.4	0.43	0.49	0.51	0.48	0.5	0.47	0.49	**0.89**	0.69	0.48	0.54	0.47
SNPI1	0.4	0.39	0.42	0.45	0.47	0.48	0.47	0.42	0.47	0.7	**0.9**	0.51	0.45	0.4
SNPI2	0.3	0.28	0.27	0.32	0.32	0.31	0.29	0.28	0.33	0.55	**0.8**	0.47	0.37	0.31
SNPI3	0.41	0.38	0.42	0.45	0.49	0.49	0.44	0.4	0.46	0.66	**0.92**	0.54	0.46	0.37
SNPI4	0.41	0.39	0.42	0.46	0.5	0.5	0.47	0.41	0.47	0.67	**0.92**	0.55	0.48	0.41
SNSI1	0.29	0.21	0.29	0.29	0.34	0.32	0.3	0.28	0.34	0.44	0.53	**0.89**	0.29	0.31
SNSI2	0.31	0.21	0.27	0.3	0.36	0.31	0.33	0.29	0.33	0.46	0.51	**0.86**	0.3	0.34
SNSI3	0.33	0.21	0.29	0.33	0.41	0.38	0.37	0.3	0.38	0.52	0.56	**0.91**	0.35	0.35
SNSI4	0.27	0.17	0.27	0.28	0.33	0.29	0.29	0.27	0.3	0.42	0.49	**0.9**	0.27	0.35
TRT1	0.44	0.44	0.41	0.49	0.5	0.46	0.51	0.43	0.43	0.43	0.41	0.29	**0.82**	0.43
TRT2	0.45	0.41	0.44	0.52	0.51	0.46	0.5	0.46	0.5	0.45	0.39	0.32	**0.78**	0.46
TRT3	0.45	0.4	0.41	0.49	0.49	0.46	0.49	0.41	0.45	0.48	0.42	0.3	**0.85**	0.42
TRT4	0.39	0.39	0.37	0.43	0.45	0.39	0.43	0.41	0.39	0.49	0.43	0.29	**0.88**	0.44
CDR1	0.33	0.3	0.28	0.35	0.4	0.36	0.4	0.38	0.3	0.49	0.41	0.27	**0.81**	0.4
CDR2	0.37	0.37	0.34	0.41	0.48	0.4	0.47	0.44	0.38	0.53	0.42	0.29	**0.85**	0.43
CDR3	0.29	0.3	0.27	0.35	0.39	0.35	0.39	0.34	0.29	0.49	0.42	0.24	**0.81**	0.34
CDR4	0.38	0.37	0.37	0.43	0.42	0.38	0.41	0.45	0.41	0.52	0.41	0.29	**0.81**	0.45

Table B.1 continued

TRI1	0.37	0.26	0.31	0.35	0.33	0.28	0.26	0.36	0.35	0.32	0.28	0.27	0.37	
TRI2	0.35	0.3	0.32	0.34	0.34	0.31	0.3	0.38	0.37	0.32	0.28	0.28	0.35	**0.83**
TRI3	0.44	0.4	0.41	0.51	0.48	0.43	0.46	0.45	0.47	0.44	0.33	0.31	0.45	**0.82**
TRI4	0.44	0.42	0.45	0.48	0.47	0.42	0.43	0.48	0.48	0.43	0.44	0.35	0.45	**0.75**

Table B. 2

Discrimanant Validity With Fornell and Larker Criterion for The Latent Variables

	ATT	**AUSaaS**	**BI**	**COM**	**PBC**	**PBCFC**	**PBCSE**	**PEU**	**PU**	**SN**	**SNPI**	**SNSI**	**USecP**	**TRI**
ATT	0.85													
AUSaaS	0.57	**0.75**												
BI	0.77	0.65	**0.9**											
COM	0.77	0.6	0.72	**0.91**										
PBC	0.59	0.55	0.61	0.64	**0.84**									
PBCFC	0.59	0.52	0.58	0.62	0.72	**0.82**								
PBCSE	0.58	0.57	0.58	0.64	0.81	0.74	**0.87**							
PEU	0.66	0.6	0.66	0.7	0.69	0.64	0.69	**0.87**						
PU	0.75	0.57	0.71	0.77	0.66	0.64	0.64	0.72	**0.87**					
SN	0.45	0.43	0.44	0.53	0.54	0.49	0.52	0.46	0.5	**0.89**				
SNPI	0.43	0.41	0.44	0.48	0.51	0.51	0.48	0.43	0.49	0.73	**0.89**			
SNSI	0.34	0.23	0.31	0.34	0.41	0.37	0.37	0.32	0.38	0.52	0.59	**0.89**		
USecP	0.47	0.45	0.44	0.53	0.55	0.49	0.54	0.5	0.48	0.59	0.5	0.34	**0.83**	
TRI	0.51	0.44	0.47	0.53	0.51	0.46	0.46	0.52	0.52	0.48	0.42	0.38	0.51	**0.8**

Table B. 3

Discrminant Validity HTMT Inference Ratio With 95% Confidence Interval for All Latent Variable

	Original Sample (O)	Sample Mean (M)	T Statistics (|O/STDEV|)	P Values	2.5%	97.5%	Significant? Yes/No
AUSaaS -> ATT	0.7	0.7	14.81	0	0.59	0.78	Yes
BI -> ATT	0.86	0.86	37.12	0	0.81	0.9	Yes
BI -> AUSaaS	0.78	0.78	21.13	0	0.69	0.84	Yes
COM -> ATT	0.86	0.86	36.06	0	0.81	0.9	Yes
COM -> AUSaaS	0.73	0.73	16.18	0	0.63	0.81	Yes
COM -> BI	0.8	0.79	27.54	0	0.74	0.85	Yes
PBC -> ATT	0.67	0.67	15.84	0	0.58	0.75	Yes
PBC -> AUSaaS	0.69	0.69	15.01	0	0.59	0.77	Yes
PBC -> BI	0.68	0.68	18.04	0	0.6	0.75	Yes
PBC -> COM	0.73	0.73	17.96	0	0.64	0.8	Yes
PBCFC -> ATT	0.68	0.68	15.84	0	0.59	0.76	Yes
PBCFC -> AUSaaS	0.66	0.66	13.71	0	0.56	0.75	Yes
PBCFC -> BI	0.65	0.65	15.6	0	0.57	0.73	Yes
PBCFC -> PBC	0.83	0.83	25.79	0	0.75	0.88	Yes
PBCSE -> ATT	0.66	0.65	16.17	0	0.57	0.73	Yes
PBCSE -> AUSaaS	0.7	0.7	16.48	0	0.6	0.77	Yes
PBCSE -> BI	0.64	0.64	16.22	0	0.56	0.71	Yes
PBCSE -> COM	0.71	0.71	18.8	0	0.63	0.78	Yes
PBCSE -> PBC	0.91	0.91	40.7	0	0.87	0.96	Yes
PBCSE -> PBCFC	0.85	0.85	32.14	0	0.79	0.9	Yes
PEU -> ATT	0.75	0.75	21.14	0	0.67	0.81	Yes
PEU -> AUSaaS	0.73	0.73	19.33	0	0.66	0.8	Yes
PEU -> BI	0.73	0.72	20.88	0	0.66	0.8	Yes
PEU -> COM	0.79	0.79	22.46	0	0.71	0.85	Yes
PEU -> PBC	0.78	0.78	27.64	0	0.72	0.83	Yes
PEU -> PBCFC	0.73	0.73	21.04	0	0.66	0.79	Yes

Table B.3 continued

PEU -> PBCSE	0.77	0.77	27.32	0	0.71	0.82	Yes
PU -> ATT	0.85	0.85	32.7	0	0.8	0.9	Yes
PU -> AUSaaS	0.7	0.7	14.57	0	0.59	0.78	Yes
PU -> BI	0.79	0.79	26.29	0	0.73	0.84	Yes
PU -> COM	0.86	0.86	37.53	0	0.82	0.91	Yes
PU -> PBC	0.75	0.75	23.68	0	0.69	0.81	Yes
PU -> PBCFC	0.73	0.73	19.98	0	0.66	0.8	Yes
PU -> PBCSE	0.71	0.71	21.44	0	0.65	0.77	Yes
PU -> PEU	0.81	0.81	25.66	0	0.74	0.86	Yes
SN -> ATT	0.5	0.5	10.18	0	0.4	0.59	Yes
SN -> AUSaaS	0.52	0.52	8.91	0	0.4	0.62	Yes
SN -> BI	0.48	0.48	9.91	0	0.39	0.57	Yes
SN -> COM	0.58	0.58	13.06	0	0.49	0.66	Yes
SN -> PBC	0.61	0.6	12.68	0	0.51	0.7	Yes
SN -> PBCFC	0.56	0.56	11.51	0	0.46	0.65	Yes
SN -> PBCSE	0.58	0.57	12.5	0	0.48	0.67	Yes
SN -> PEU	0.51	0.51	11.27	0	0.42	0.6	Yes
SN -> PU	0.55	0.55	12.83	0	0.46	0.63	Yes
SNPI -> ATT	0.48	0.48	9.61	0	0.38	0.57	Yes
SNPI -> AUSaaS	0.49	0.49	8.73	0	0.37	0.6	Yes
SNPI -> BI	0.47	0.47	9.98	0	0.38	0.56	Yes
SNPI -> COM	0.53	0.53	11.11	0	0.43	0.62	Yes
SNPI -> PBC	0.57	0.57	11.74	0	0.47	0.66	Yes
SNPI -> PBCFC	0.58	0.57	12	0	0.47	0.66	Yes
SNPI -> PBCSE	0.52	0.52	10.42	0	0.42	0.62	Yes
SNPI -> PEU	0.48	0.48	9.79	0	0.38	0.57	Yes
SNPI -> PU	0.54	0.54	12.87	0	0.46	0.63	Yes
SNPI -> SN	0.79	0.79	28.09	0	0.74	0.85	Yes
SNSI -> ATT	0.38	0.37	6.48	0	0.26	0.49	Yes
SNSI -> AUSaaS	0.27	0.27	3.82	0	0.14	0.41	Yes

Table B.3 continued

SNSI -> BI	0.34	0.34	5.96	0	0.23	0.45	Yes
SNSI -> COM	0.37	0.37	6.05	0	0.25	0.5	Yes
SNSI -> PBC	0.46	0.46	7.01	0	0.33	0.59	Yes
SNSI -> PBCSE	0.4	0.4	6.56	0	0.28	0.52	Yes
SNSI -> PEU	0.35	0.35	5.87	0	0.24	0.48	Yes
SNSI -> PU	0.42	0.42	7.59	0	0.32	0.53	Yes
SNSI -> SN	0.56	0.56	9.94	0	0.44	0.66	Yes
SNSI -> SNPI	0.64	0.64	13.08	0	0.53	0.73	Yes
USecP -> ATT	0.52	0.51	11.2	0	0.43	0.61	Yes
USecP -> AUSaaS	0.54	0.54	11.78	0	0.45	0.63	Yes
USecP -> BI	0.47	0.47	10.57	0	0.38	0.56	Yes
USecP -> COM	0.58	0.57	14.27	0	0.5	0.66	Yes
USecP -> PBC	0.61	0.61	14.74	0	0.53	0.69	Yes
USecP -> PBCFC	0.55	0.55	11.38	0	0.46	0.65	Yes
USecP -> PBCSE	0.59	0.59	14.42	0	0.51	0.67	Yes
USecP -> PEU	0.55	0.55	13.38	0	0.47	0.63	Yes
USecP -> PU	0.52	0.52	11.58	0	0.43	0.61	Yes
USecP -> SN	0.64	0.63	15.96	0	0.55	0.71	Yes
USecP -> SNPI	0.54	0.54	12.61	0	0.46	0.62	Yes
USecP -> SNSI	0.37	0.37	6.19	0	0.24	0.48	Yes
TRI -> ATT	0.59	0.58	12.56	0	0.49	0.67	Yes
TRI -> AUSaaS	0.55	0.55	9.98	0	0.44	0.66	Yes
TRI -> BI	0.54	0.53	10.74	0	0.44	0.63	Yes
TRI -> COM	0.61	0.61	12.89	0	0.51	0.69	Yes
TRI -> PBC	0.6	0.6	11.88	0	0.5	0.7	Yes
TRI -> PBCFC	0.53	0.53	9.54	0	0.42	0.64	Yes
TRI -> PBCSE	0.53	0.52	10.03	0	0.43	0.63	Yes
TRI -> PEU	0.6	0.6	12.66	0	0.51	0.7	Yes
TRI -> SN	0.54	0.54	11.16	0	0.45	0.64	Yes
TRI -> SNPI	0.48	0.48	9.21	0	0.38	0.58	Yes

Table B.3 continued

TRI -> SNSI	0.44	0.43	6.92	0	0.31	0.55	Yes
TRI -> USecP	0.58	0.57	12.45	0	0.48	0.66	Yes

Appendix C
Normality Tests, Measurement & Structural Model Diagrams

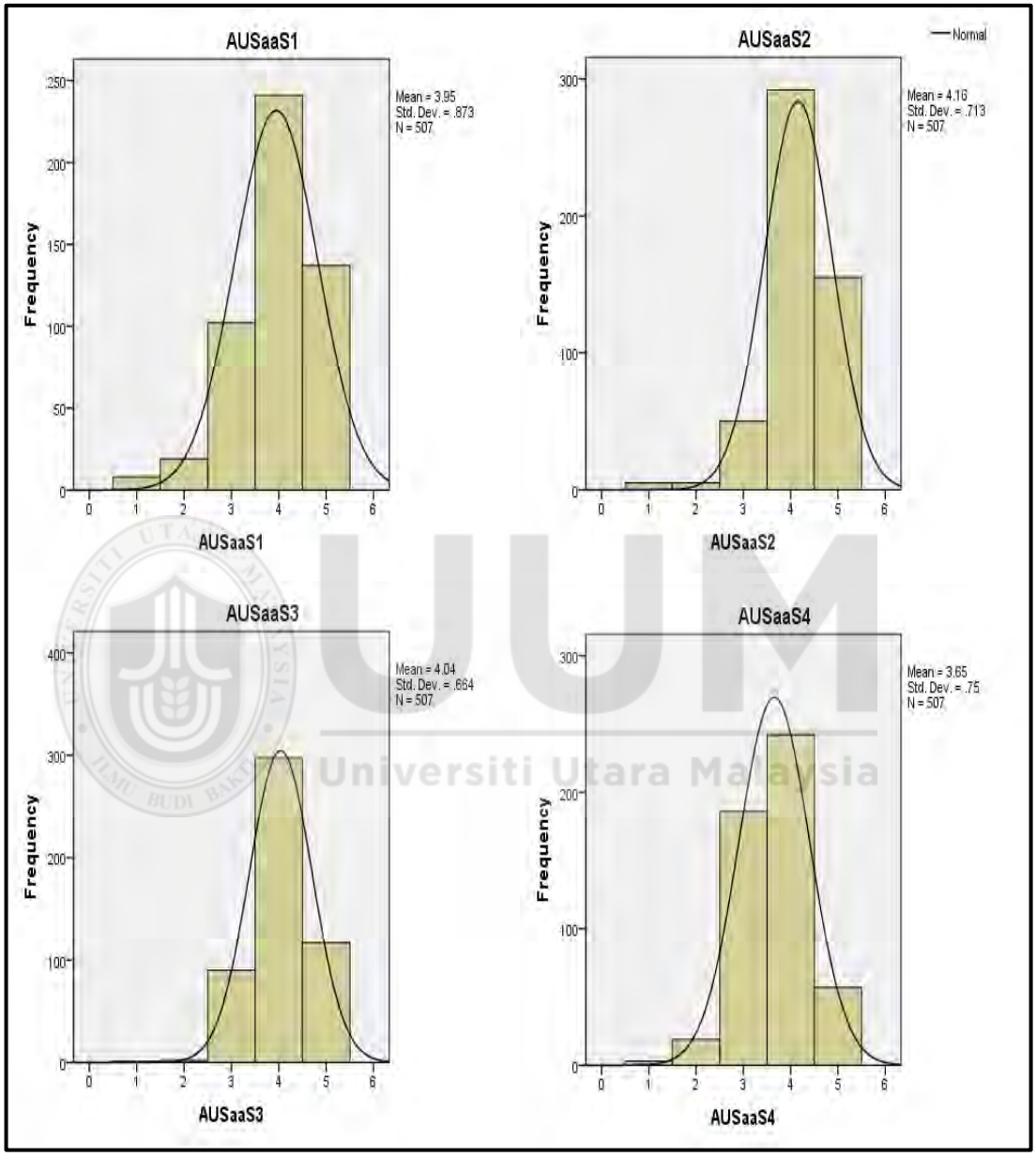

Figure C. 1. Normality histogram for AUSaaS

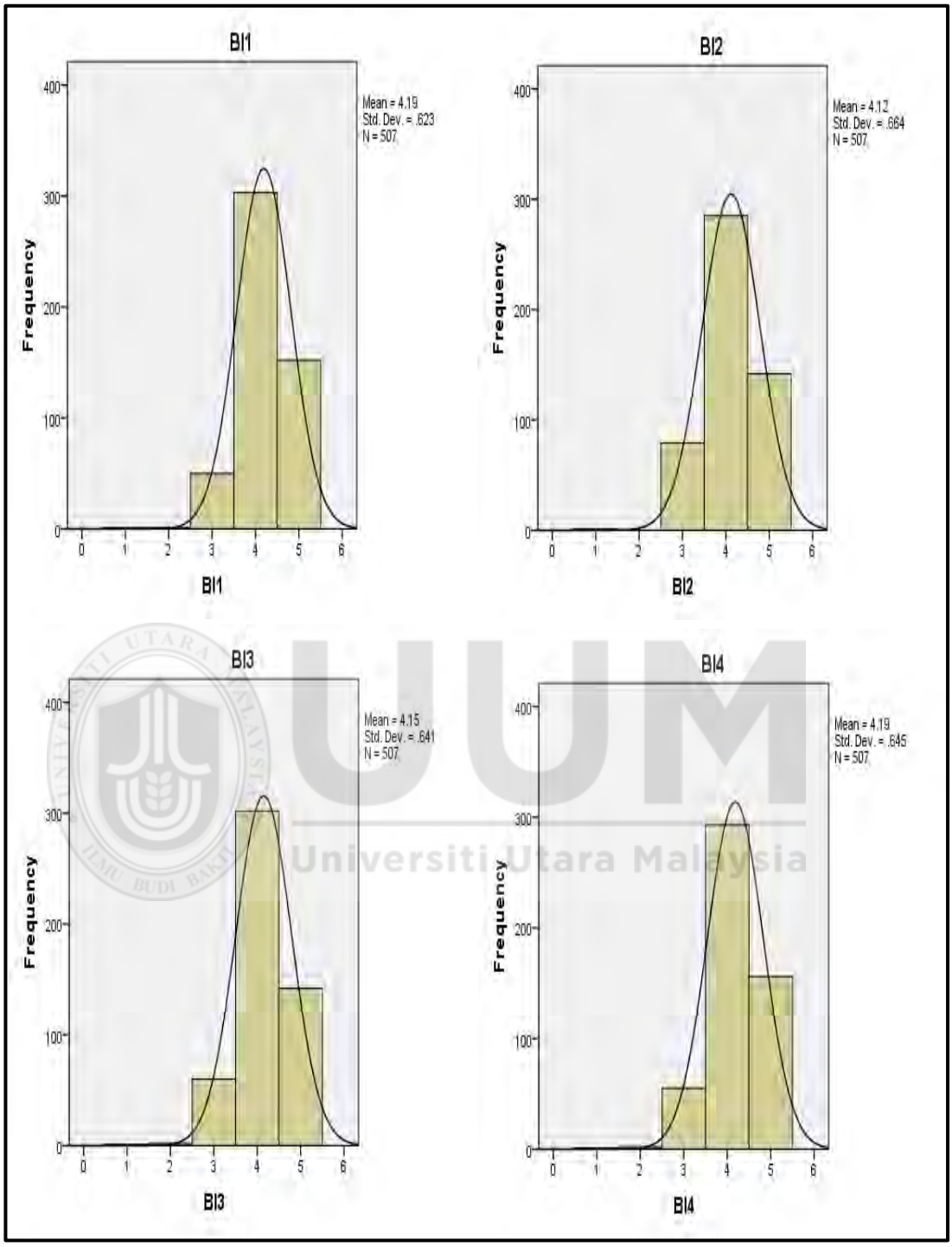

Figure C. 2. Normality histogram for BI

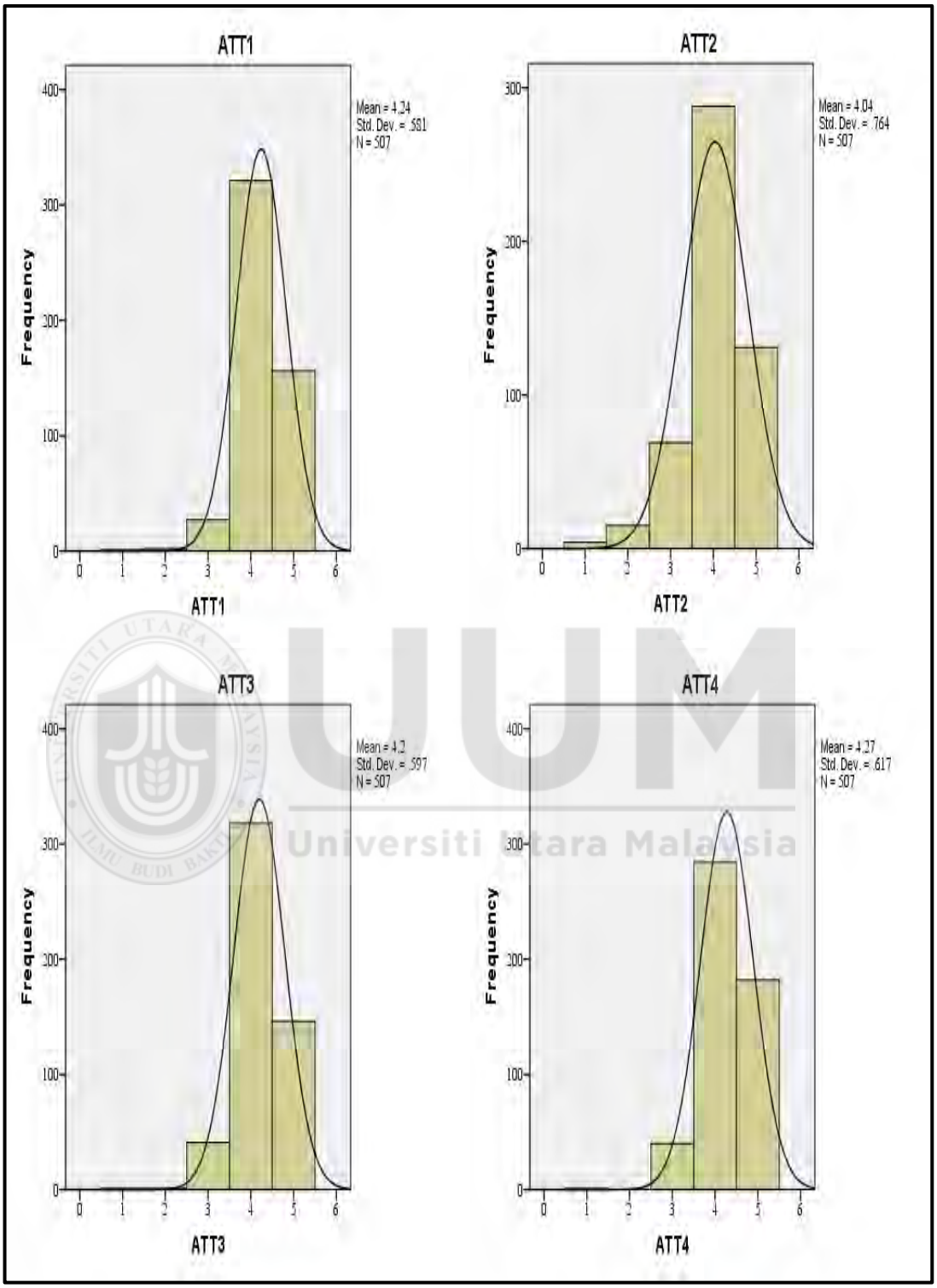

Figure C. 3. Normality histogram for AUSaaS

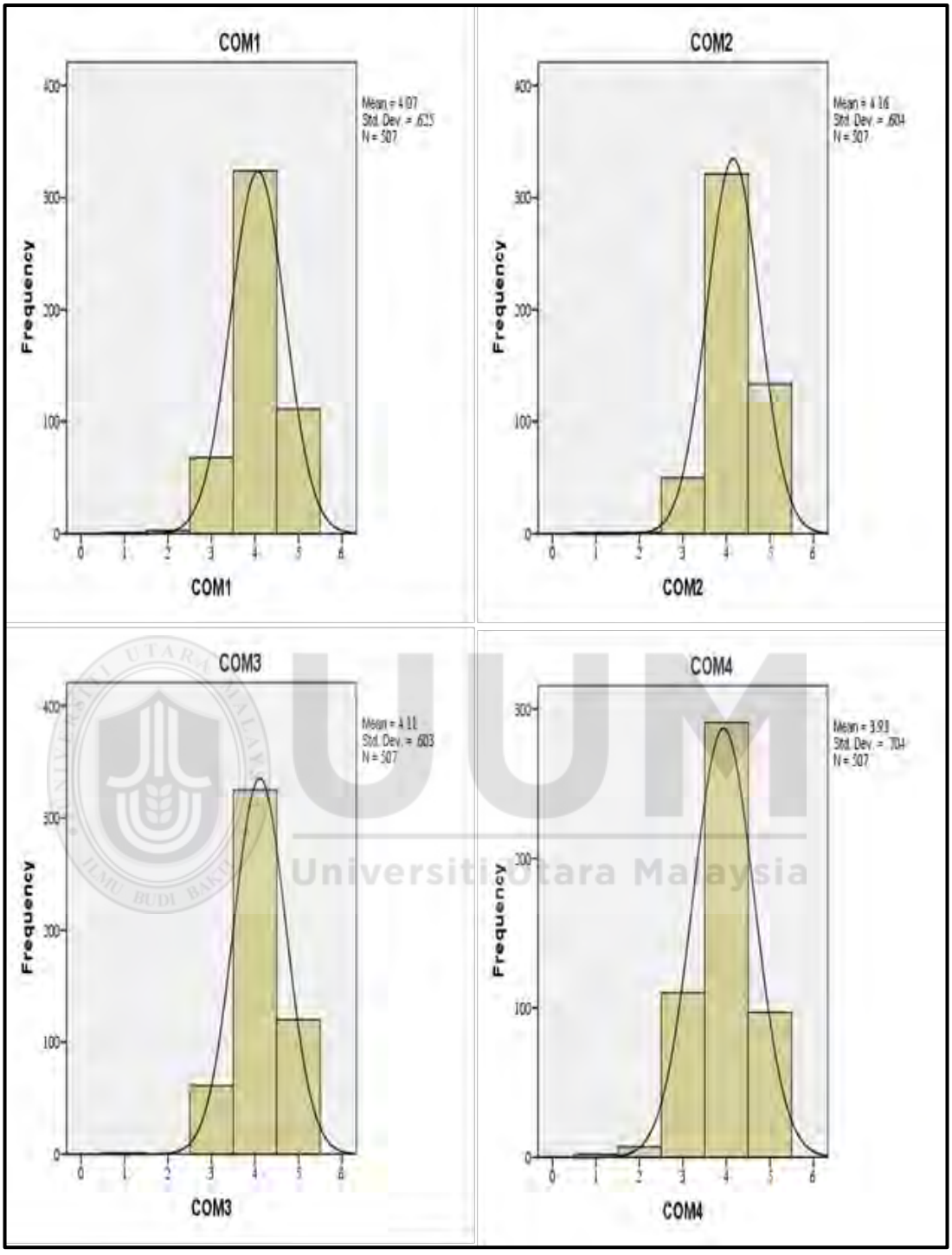

Figure C. 4. Normality histogram for COM

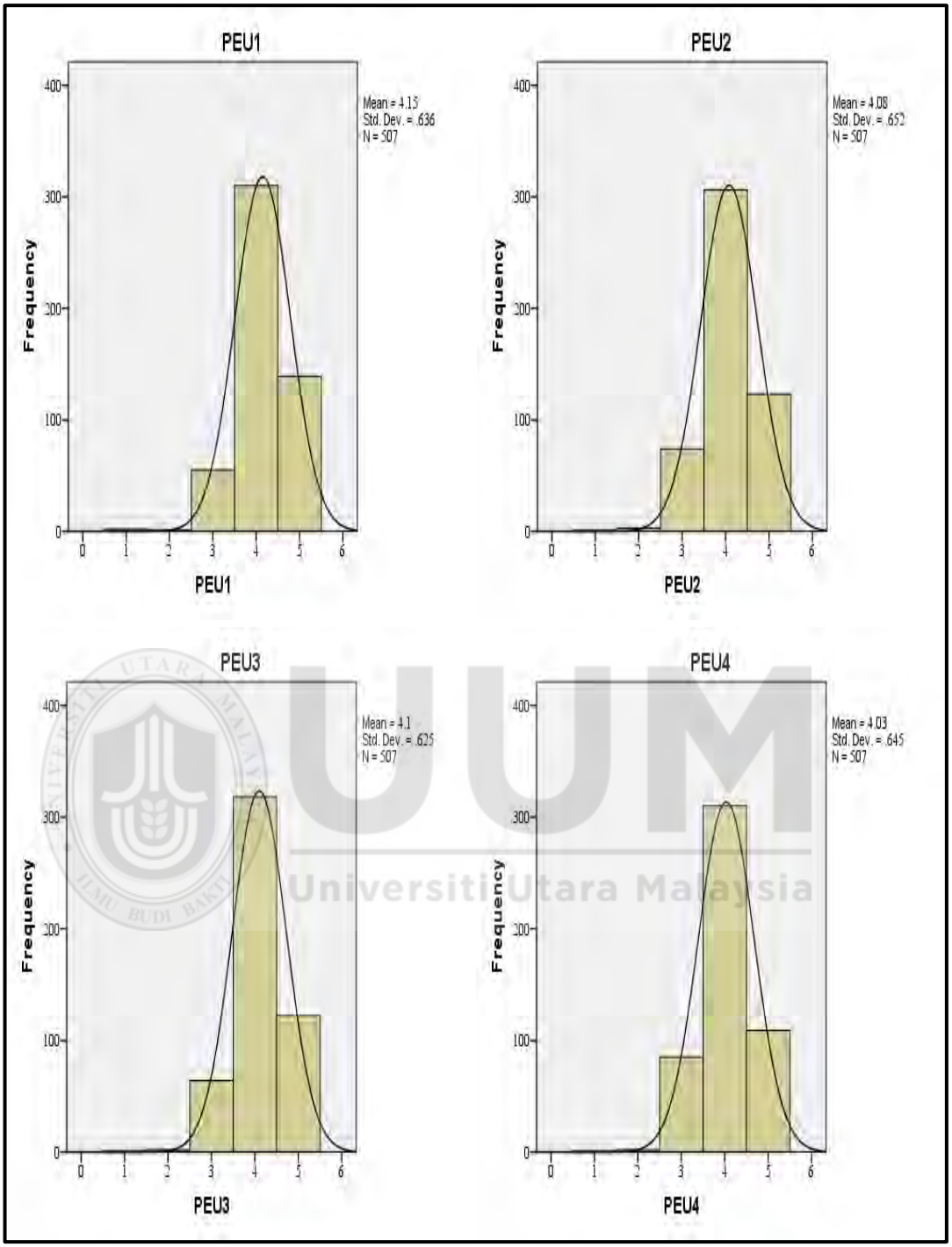

Figure C. 5. Normality histogram for PEU

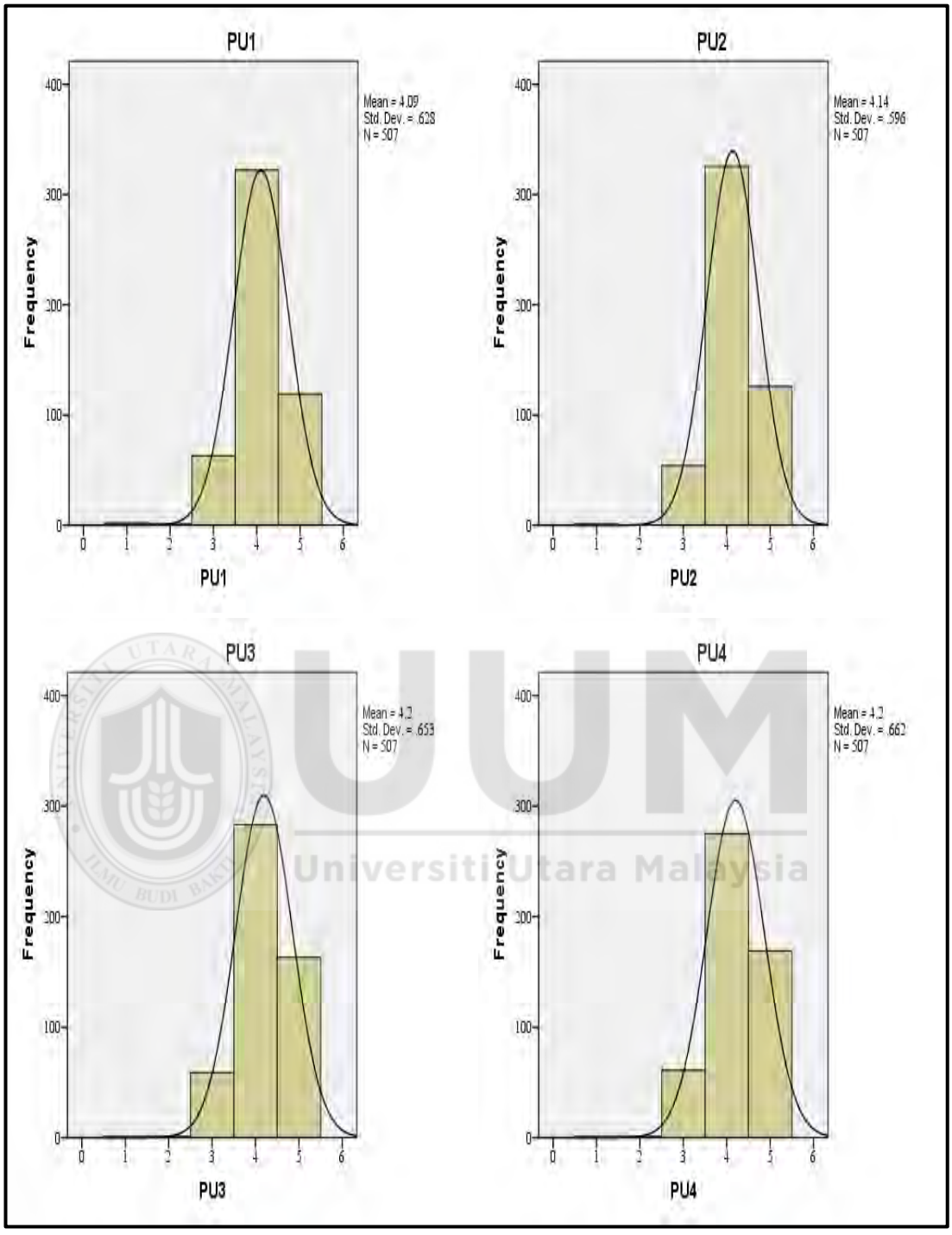

Figure C. 6. Normality histogram for PU

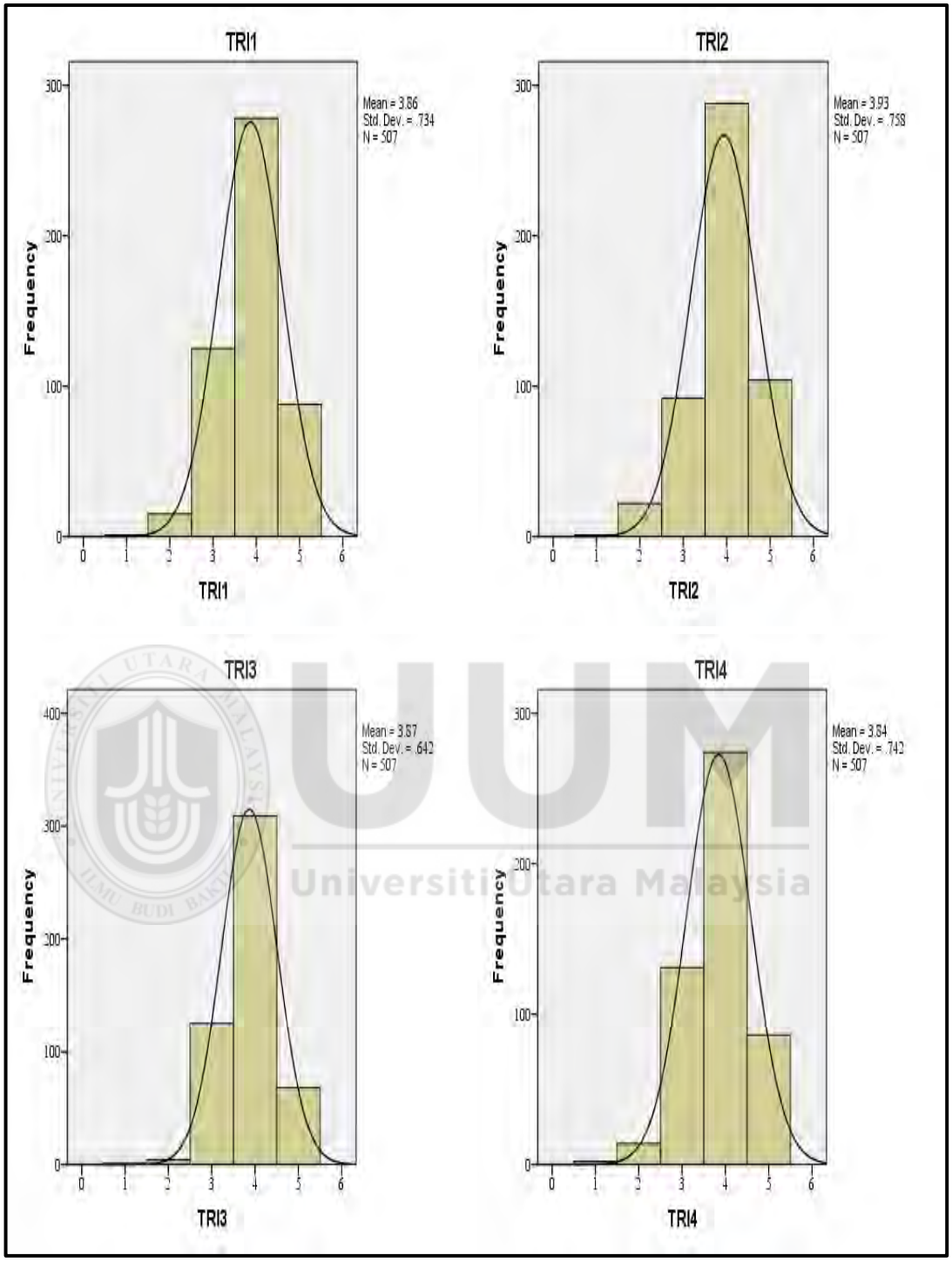

Figure C. 7. Normality histogram for TRI

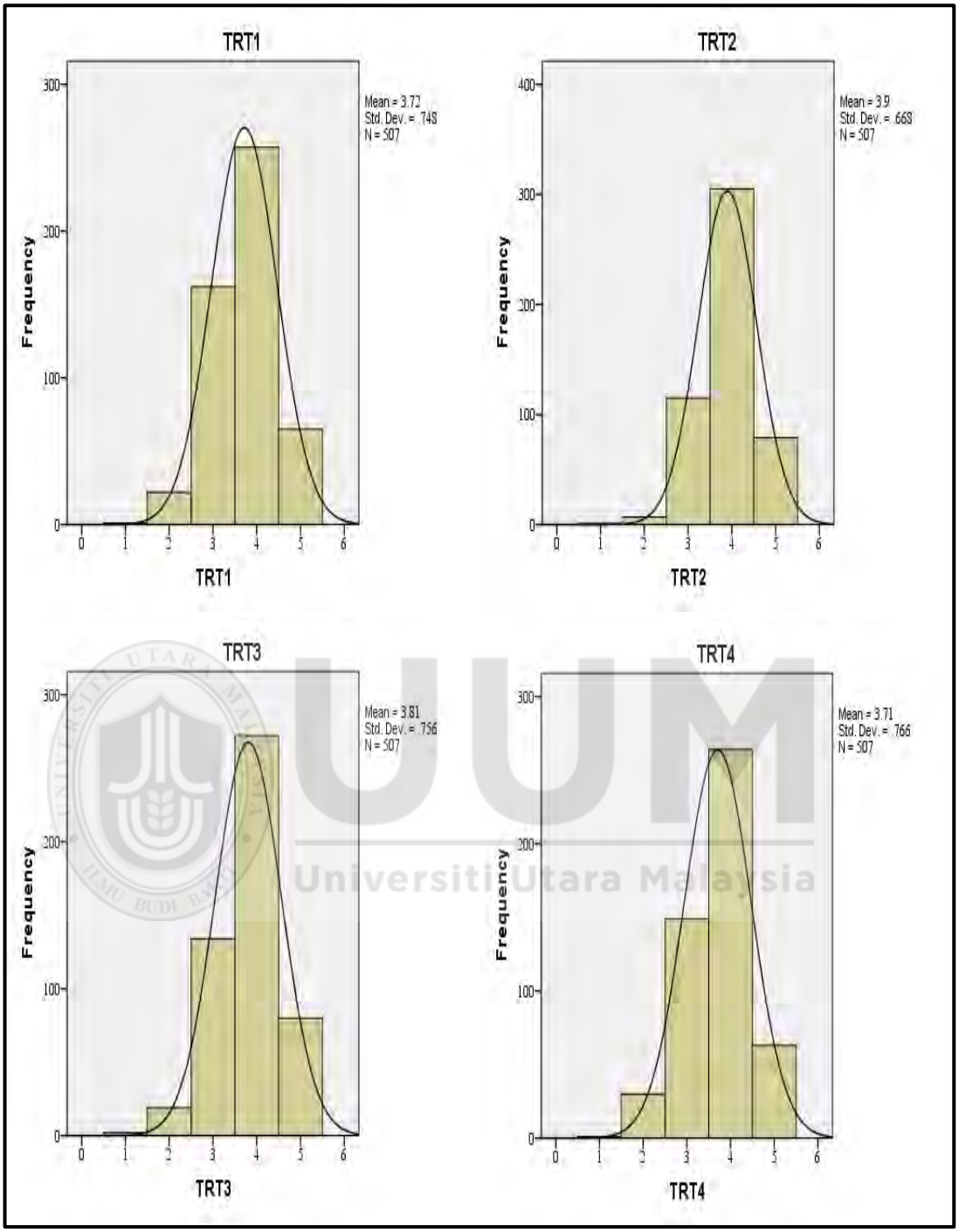

Figure C. 8. Normality histogram for TRT

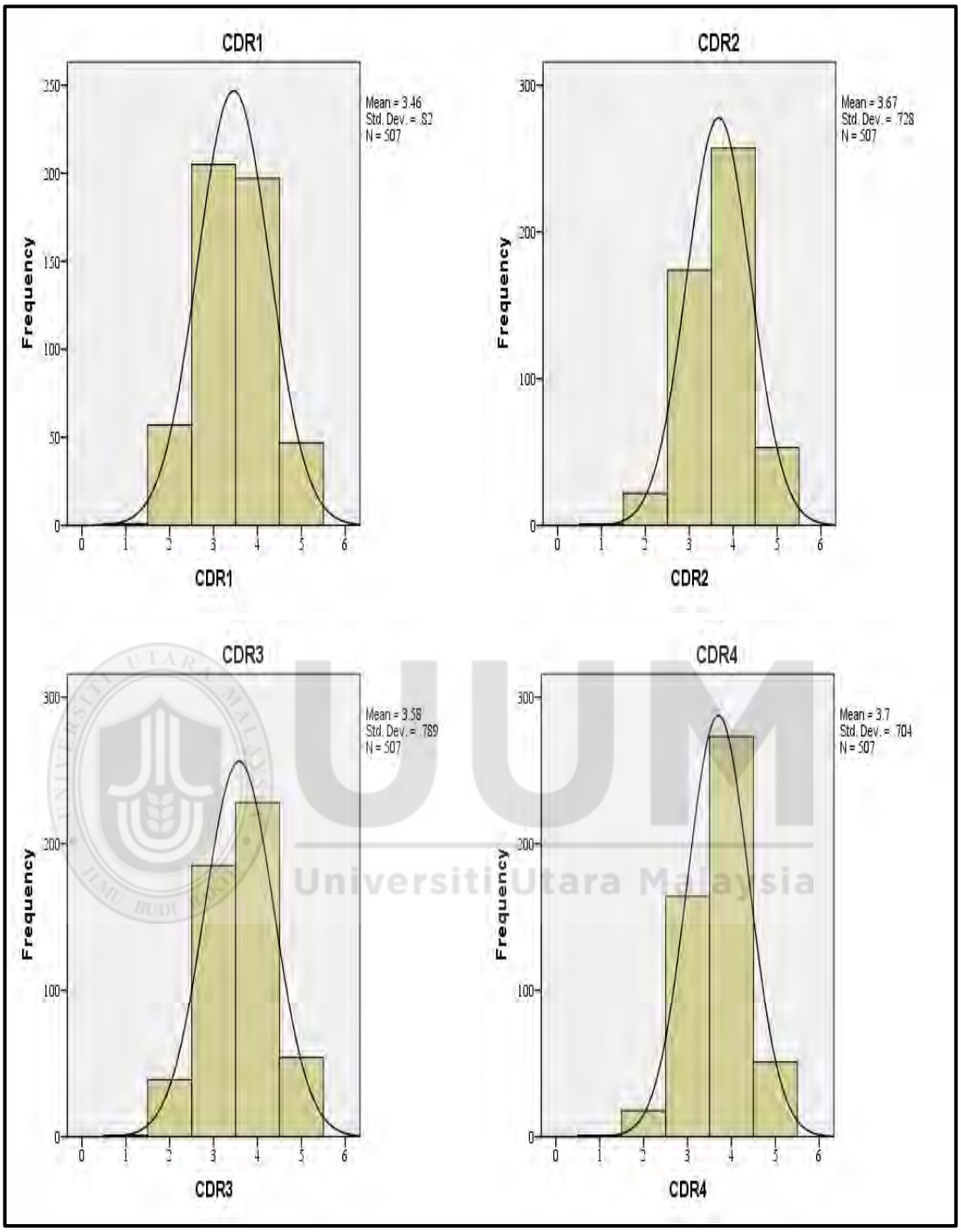

Figure C. 9. Normality histogram for CRD

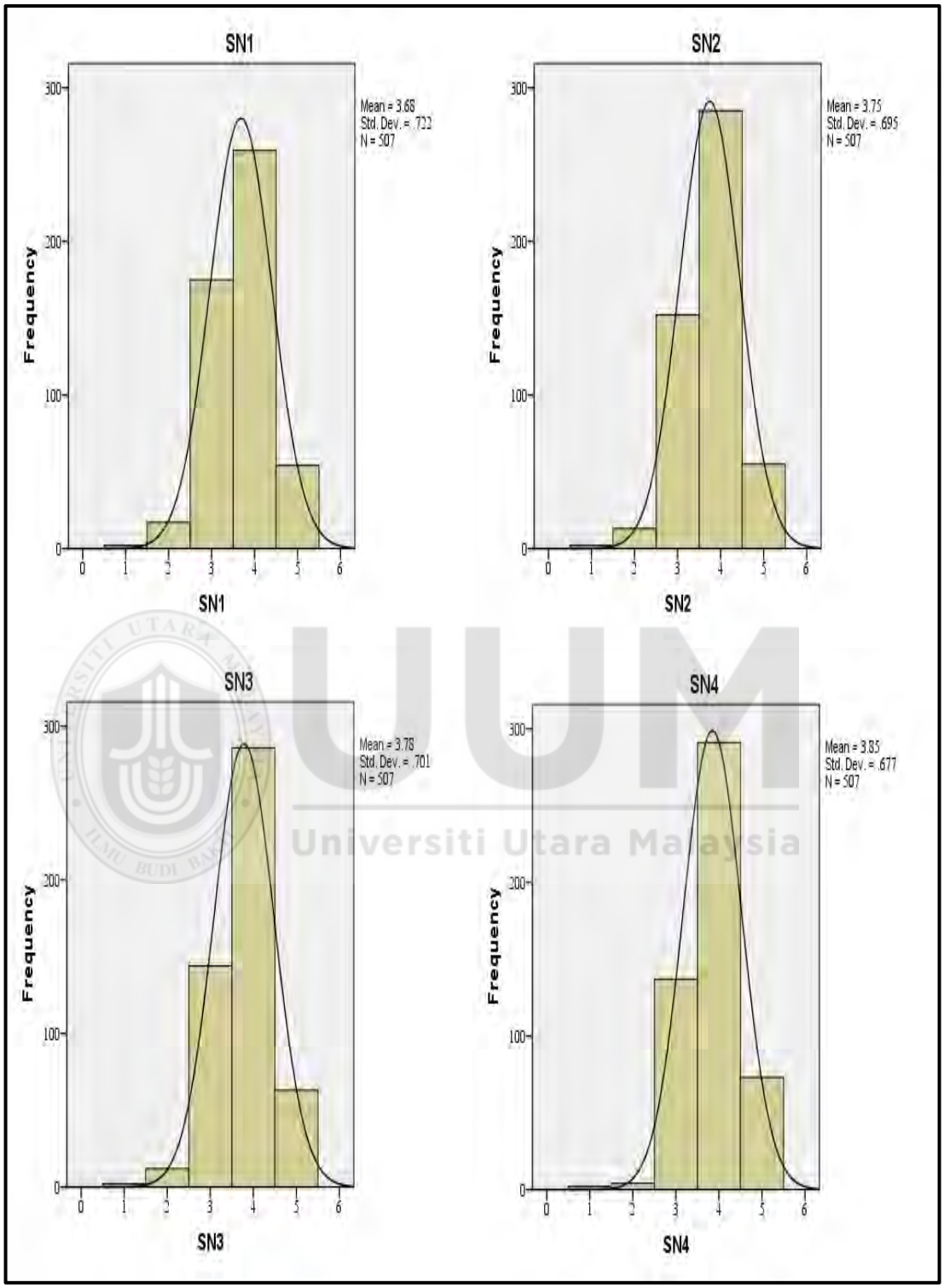

Figure C. 10. Normality histogram for SN

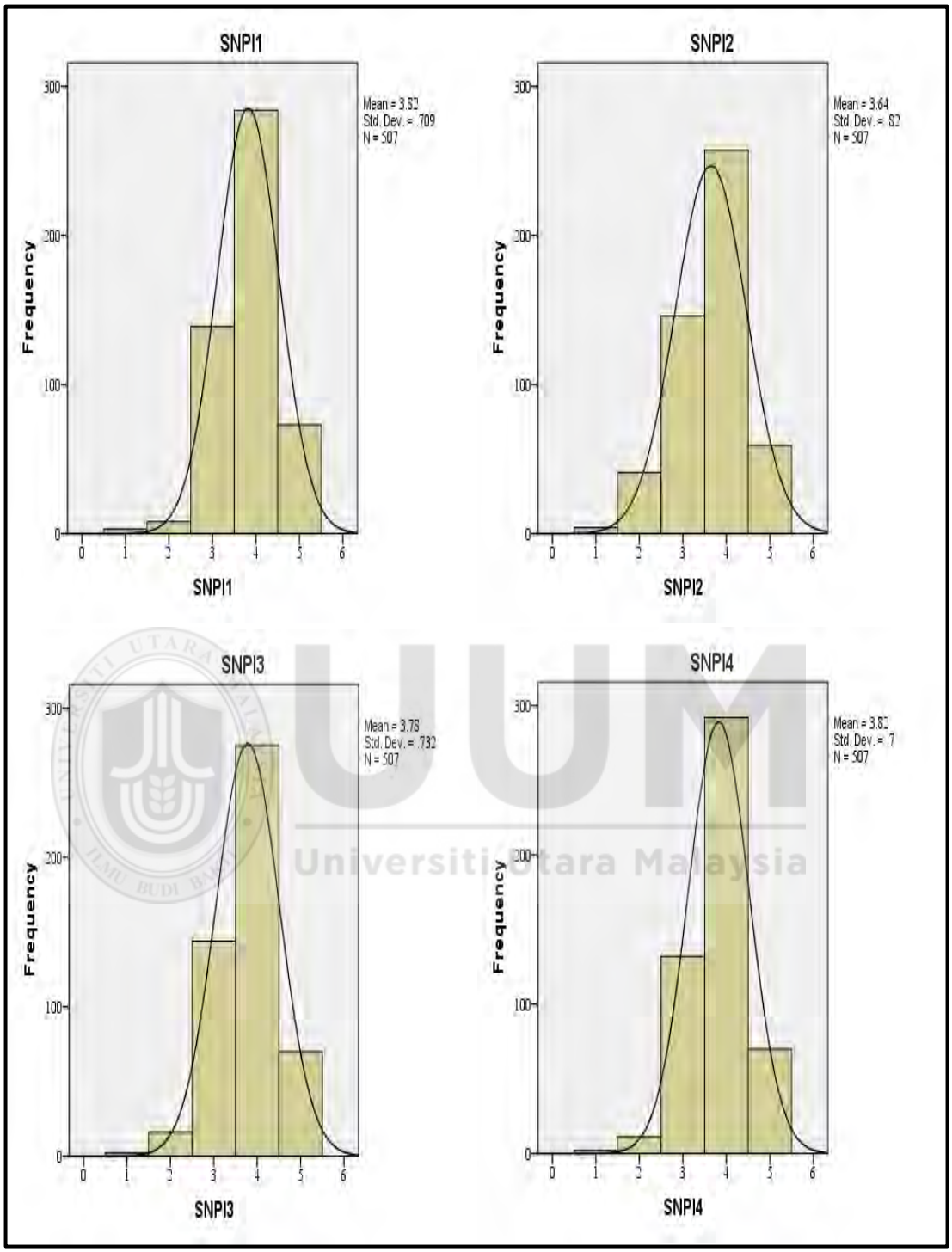

Figure C. 11. Normality histogram for SNSI

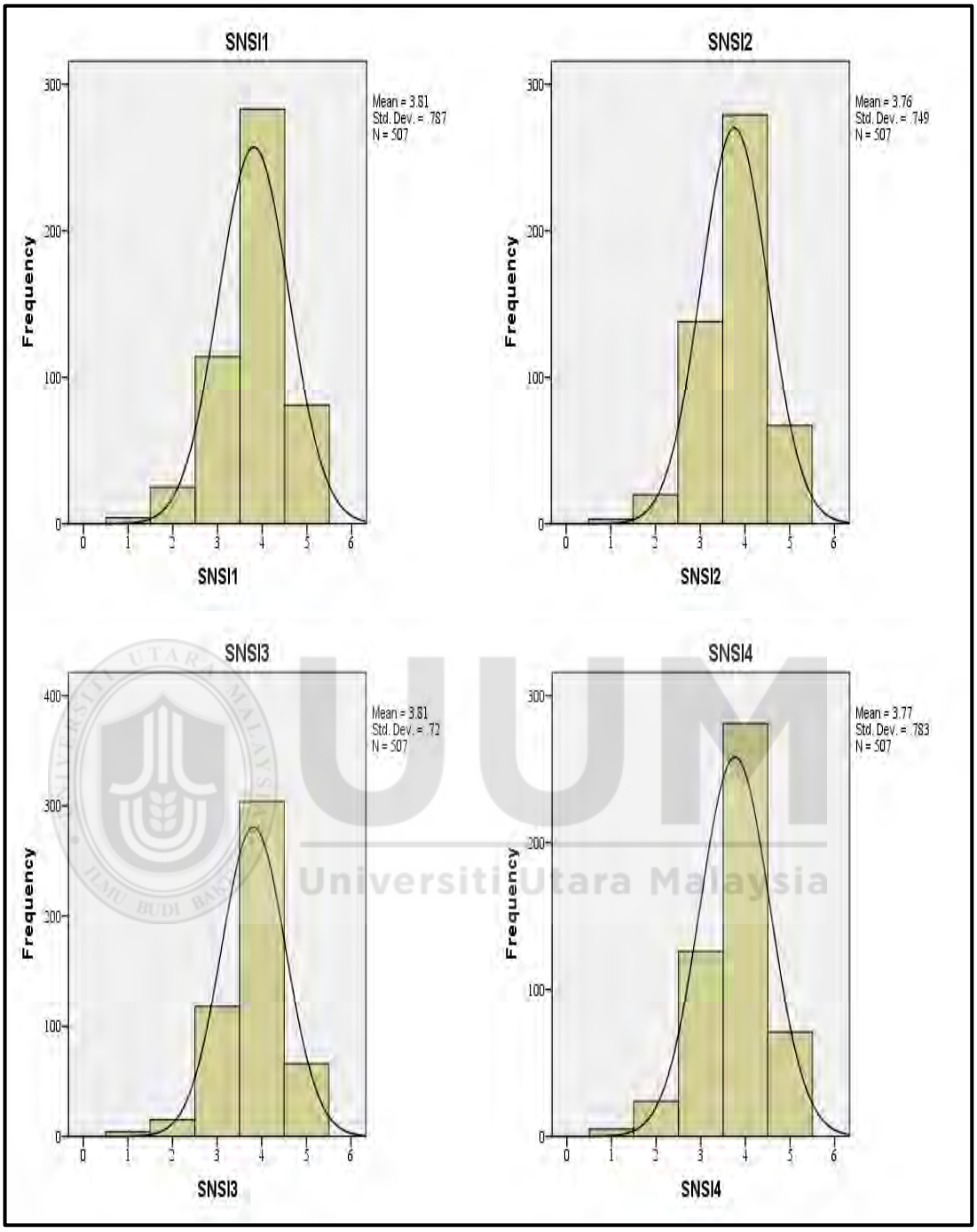

Figure C. 12. Normality histogram for SNSI

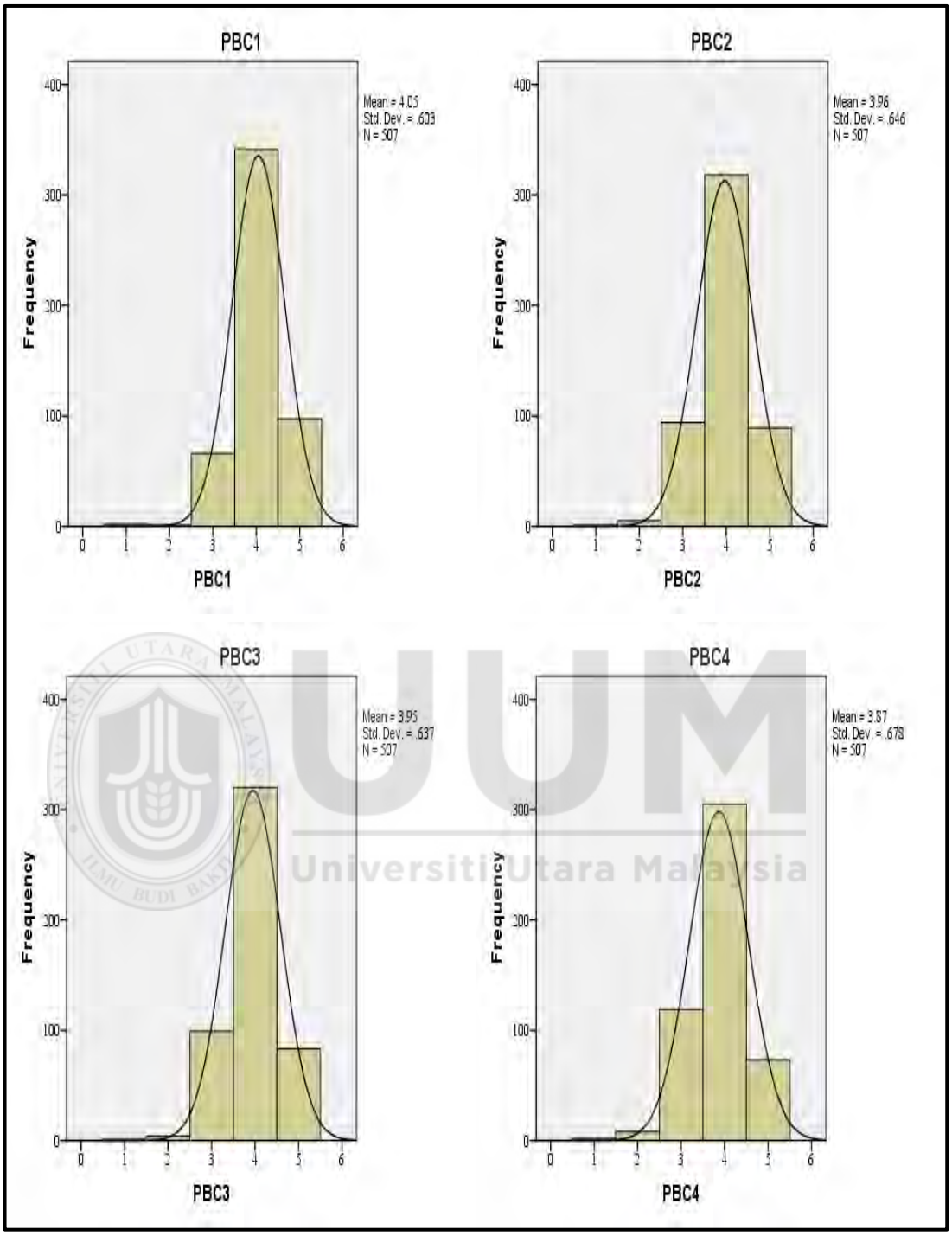

Figure C. 13. Normality histogram for PBC

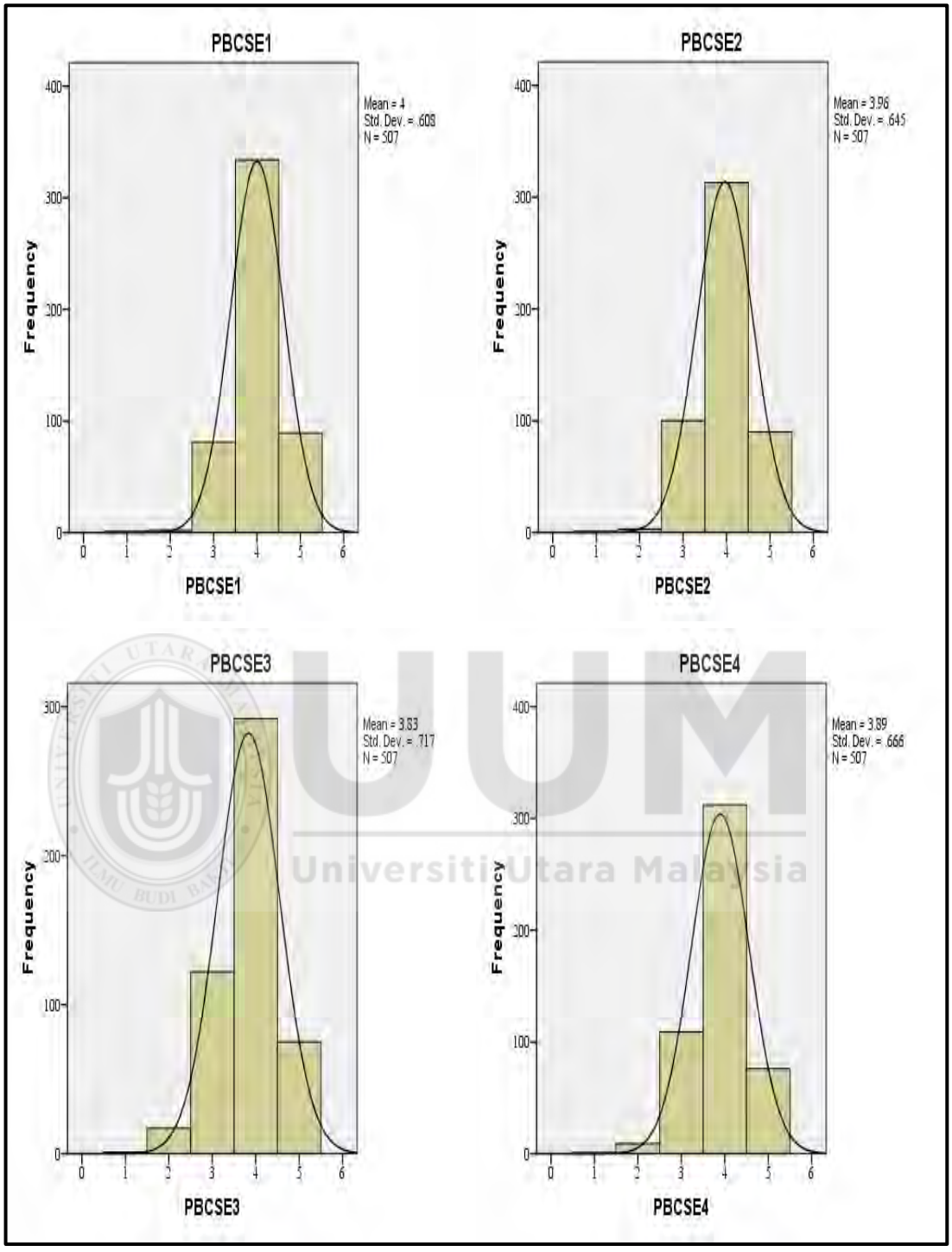

Figure C. 14. Normality histogram for PBCSE

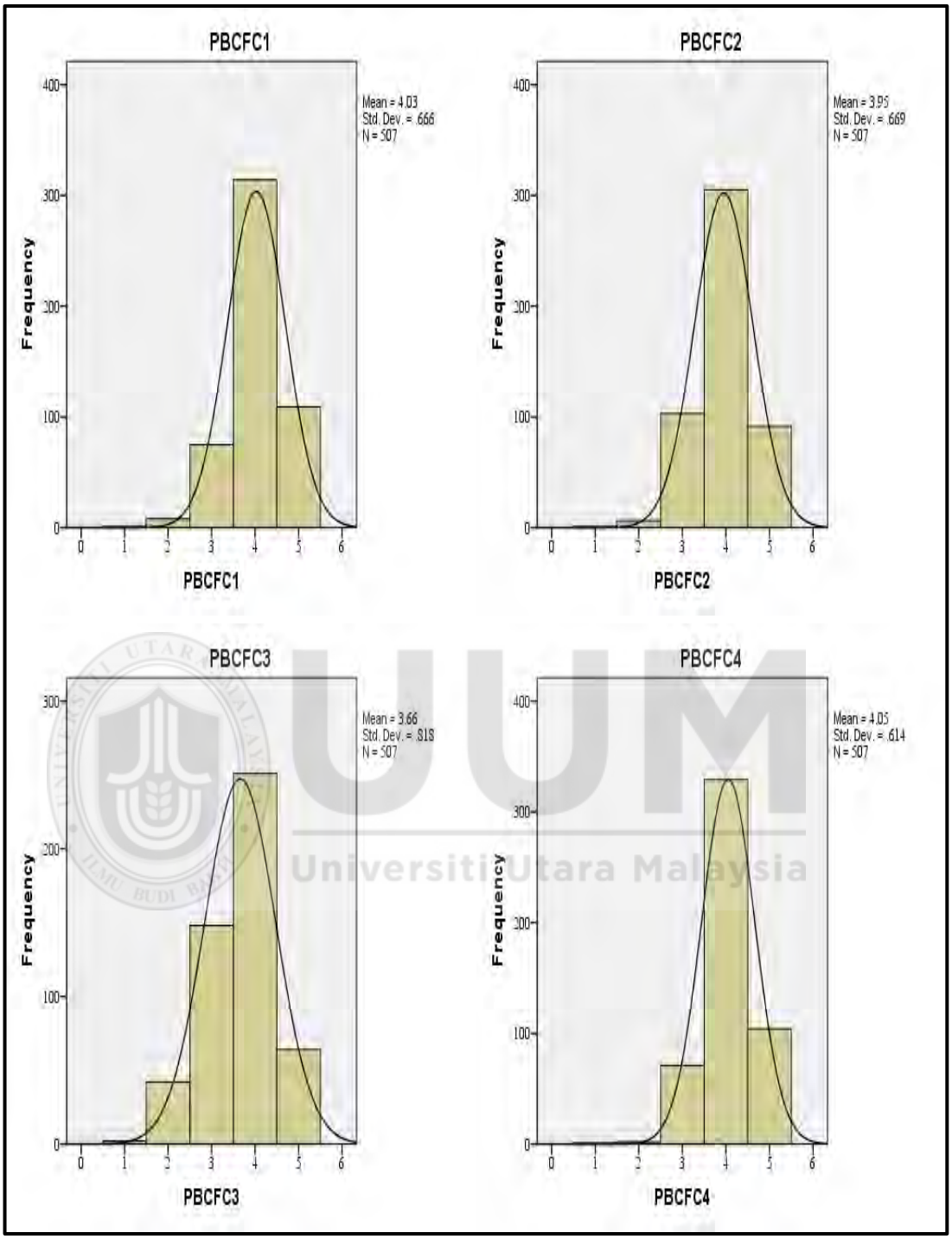

Figure C. 15. Normality histogram for PBCFC

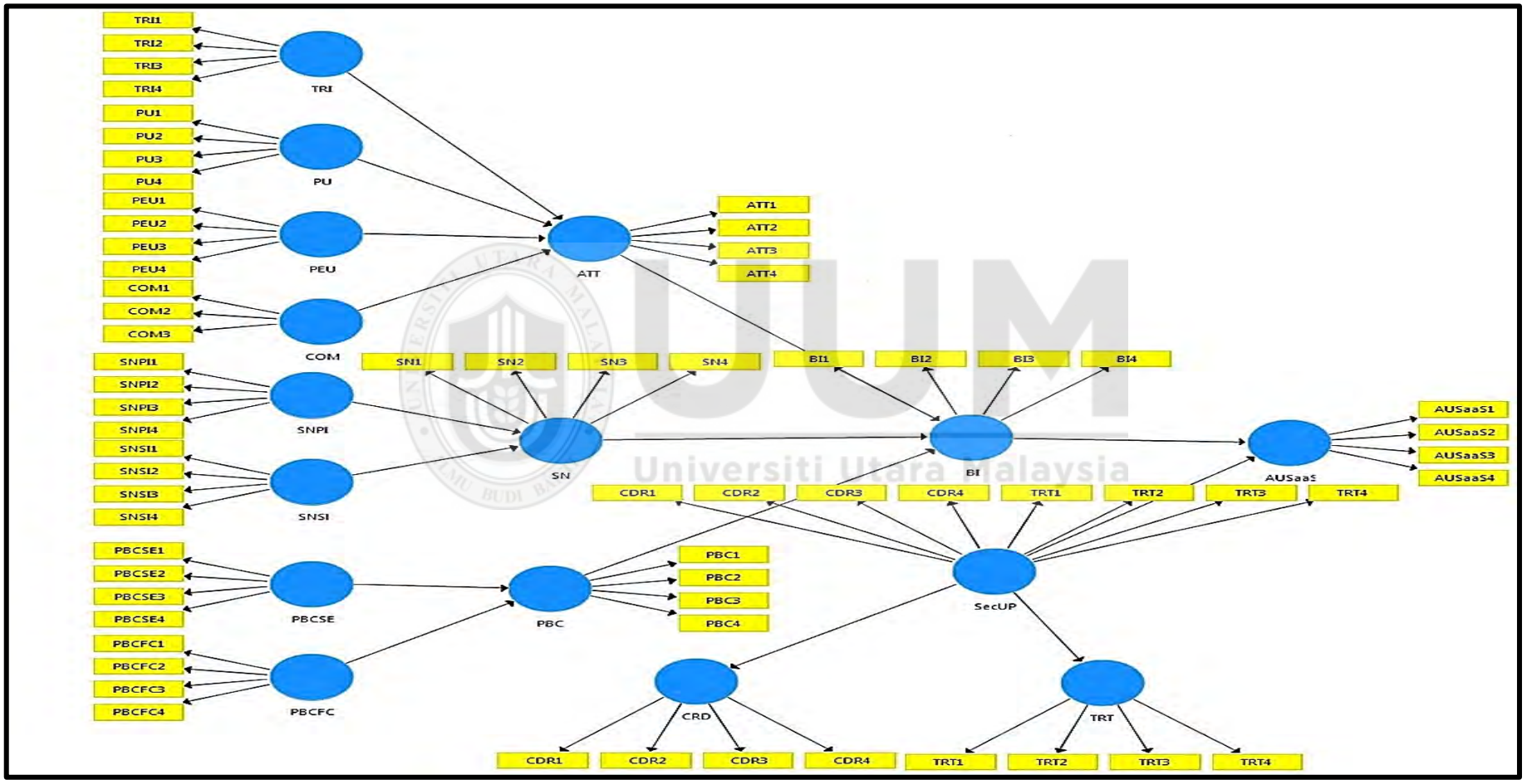

Figure C. 16. Model of the study

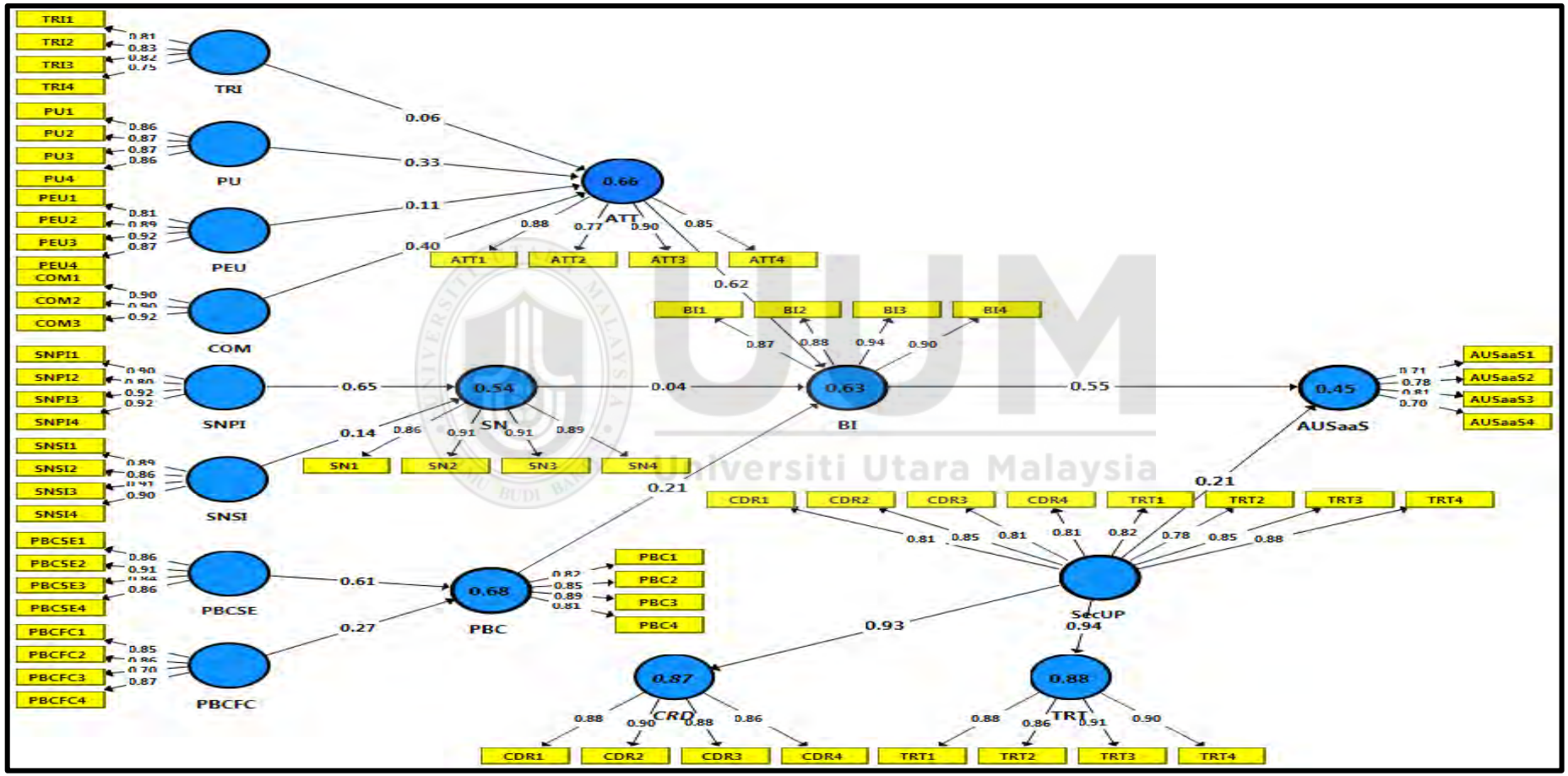

Figure C. 17. Measurement model estimation

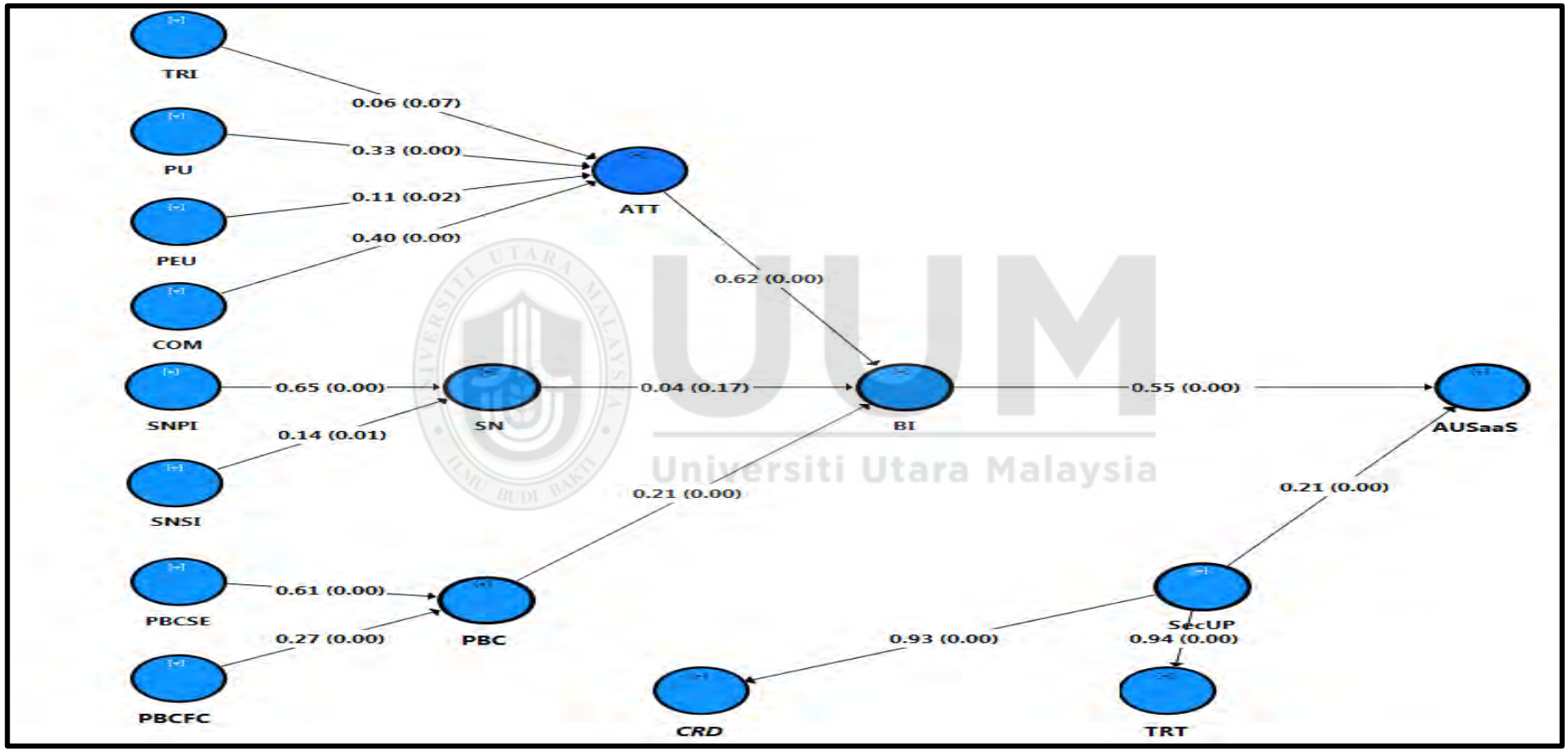

Figure C. 18. Structural modeling analysis

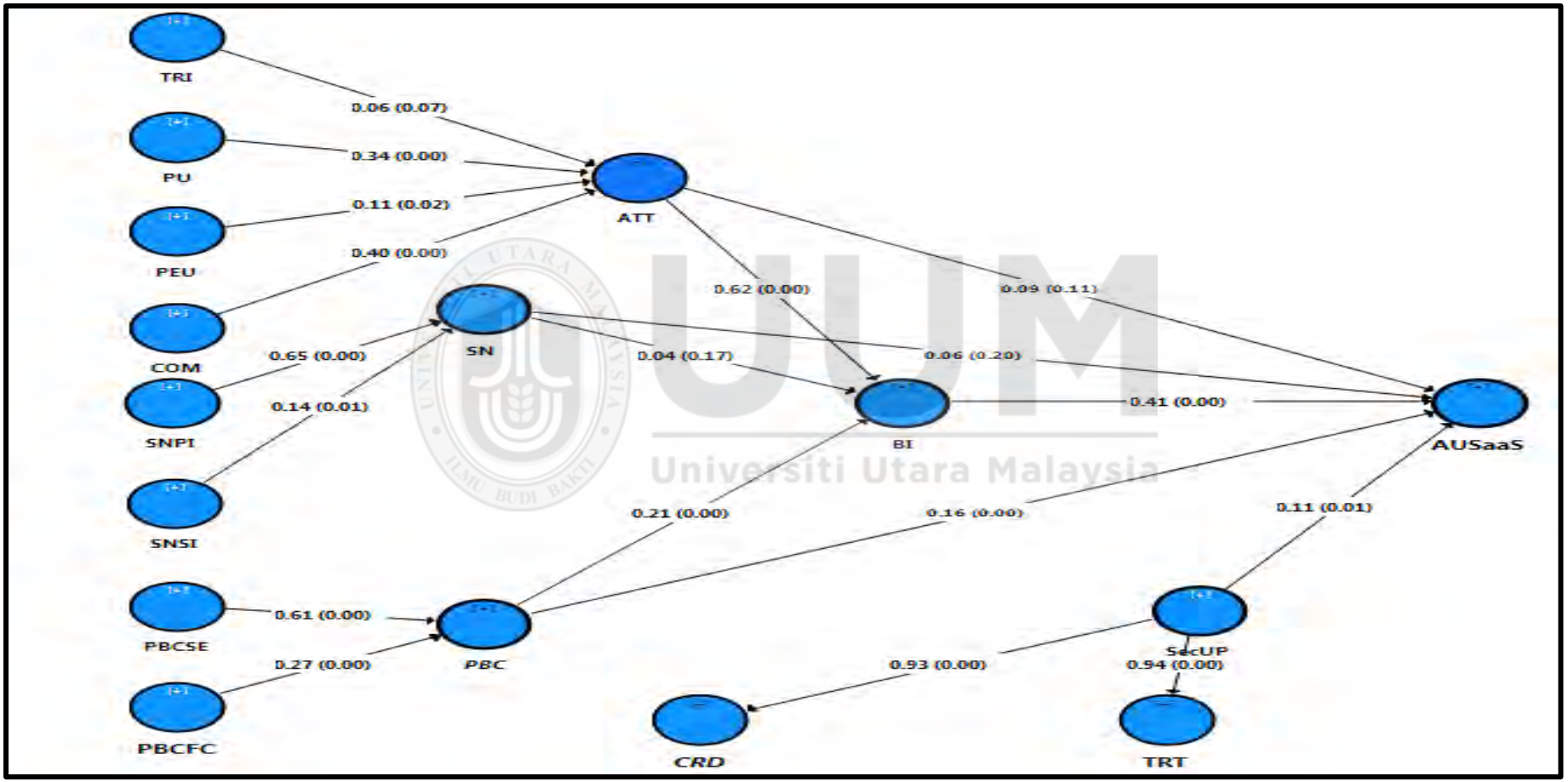

Figure C. 19. Mediating effect analysis

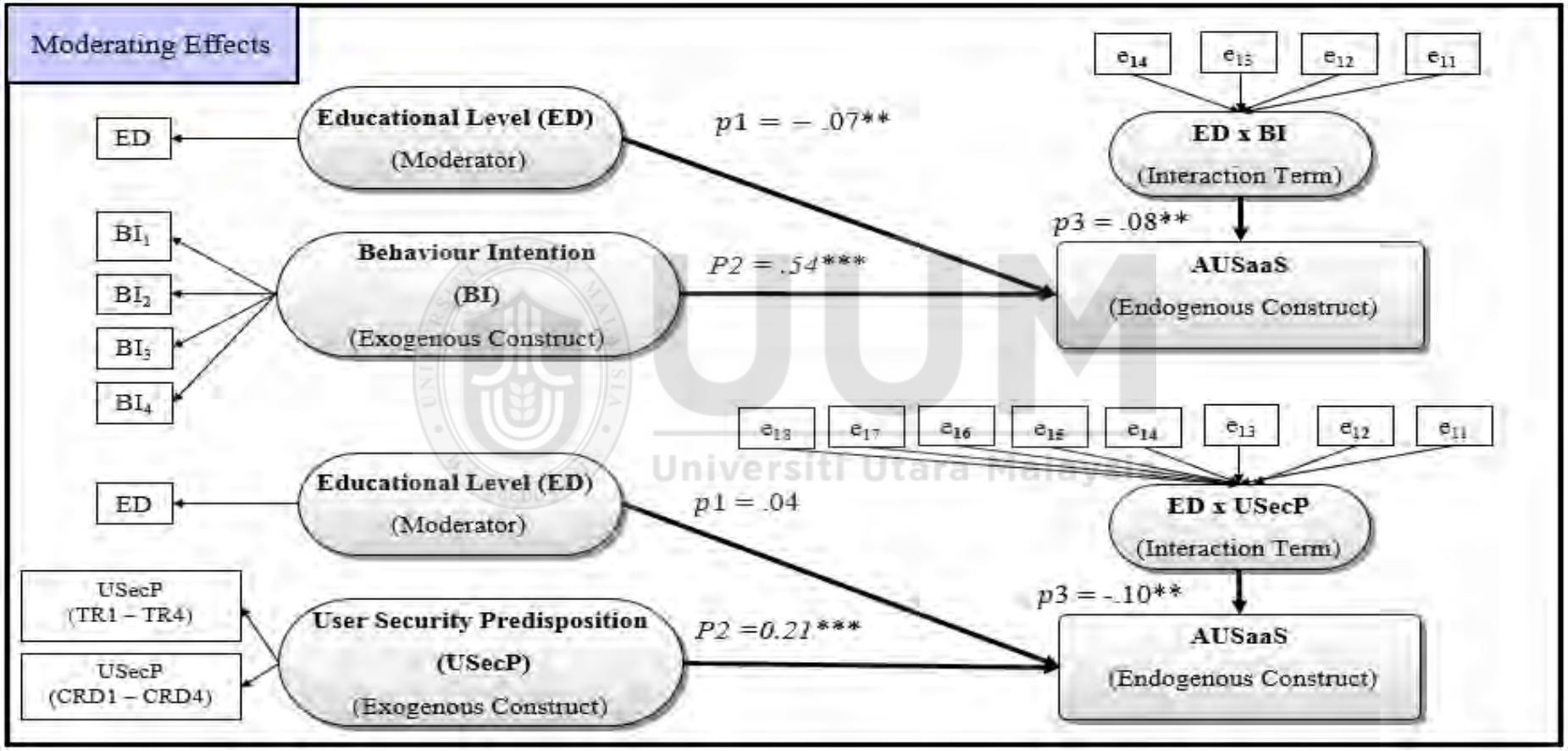

Figure C. 20. Moderating effect analysis ED x BI -> AUSaaS and ED x USecP -> AUSaaS

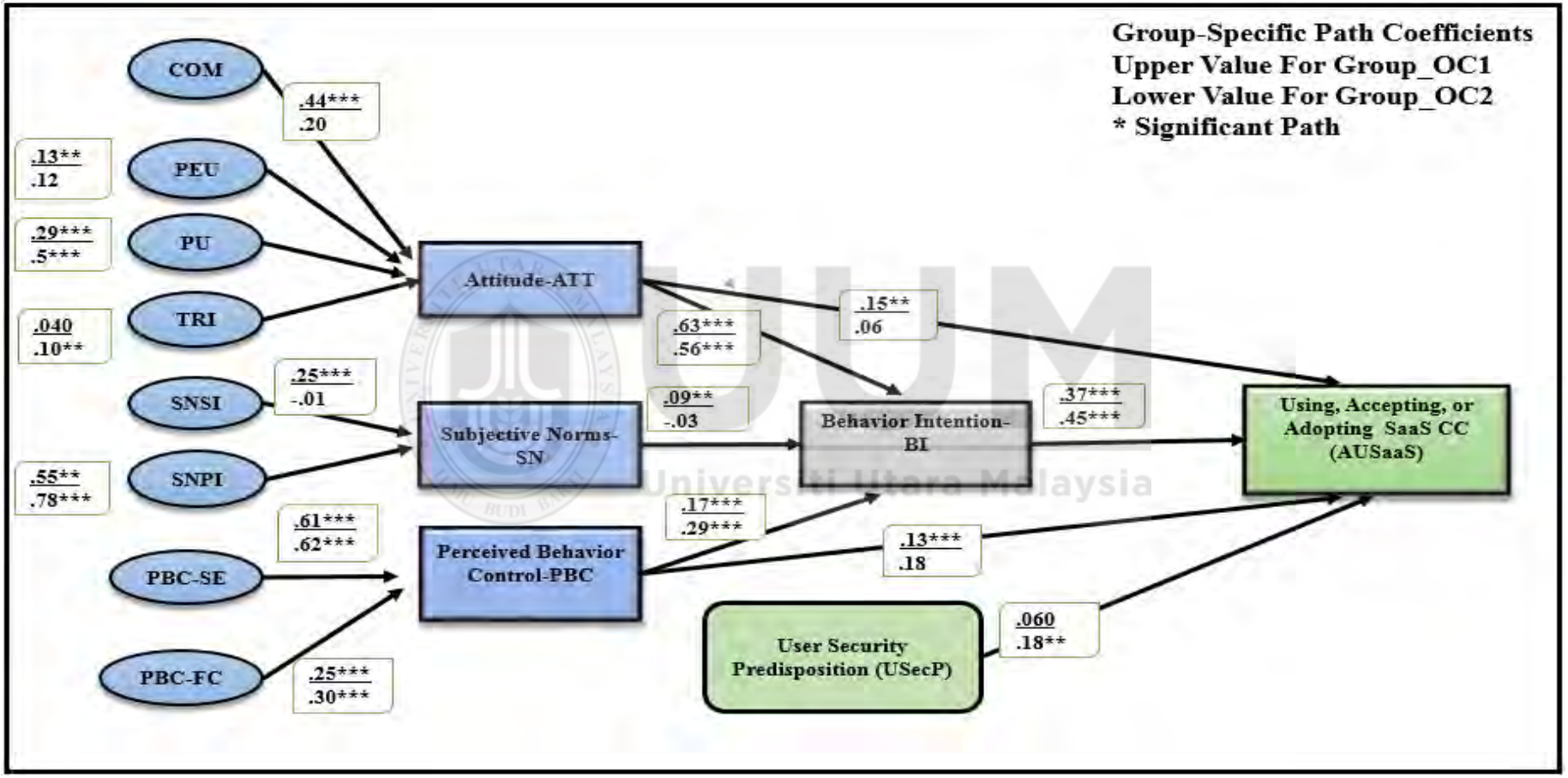

Figure C. 21. Group specific path coefficients of student group OC1 (upper value) and academic staff group OC2 (lower value)

Appendix D
Pilot Study Results

Table D. 1

Convergent Validity & Internal Consistency and Reliability Assessment-Pilot Study

Latent Variable	**Loadings**	**AVE >=0.5**	**Composite Reliability >=0.7**	**Cronbach's Alpha >=0.7**
ATT		0.67	0.89	0.83
ATT1	0.85			
ATT2	0.76			
ATT3	0.85			
ATT4	0.80			
AUSaaS		0.61	0.86	0.79
AUSaaS1	0.80			
AUSaaS2	0.81			
AUSaaS3	0.81			
AUSaaS4	0.71			
BI		0.677	0.89	0.84
BI1	0.82			
BI2	0.84			
BI3	0.84			
BI4	0.78			
COM		0.66	0.88	0.82
COM1	0.81			

Table D.1 continued

COM2	0.86			
COM3	0.83			
COM4	0.73			
CRD		0.70	0.90	0.86
CRD1	0.84			
CRD2	0.85			
CRD3	0.84			
CRD4	0.81			
PBCFC		0.65	0.88	0.82
PBCFC1	0.83			
PBCFC2	0.84			
PBCFC3	0.71			
PBCFC4	0.84			
PBC		0.66	0.89	0.83
PBC1	0.82			
PBC2	0.82			
PBC3	0.84			
PBC4	0.78			
PEU		0.64	0.88	0.82
PEU1	0.76			
PEU2	0.80			
PEU3	0.83			
PEU4	0.82			
PU		0.68	0.89	0.84

Table D.1 continued

PU1	0.801			
PU2	0.846			
PU3	0.82			
PU4	0.821			
PBCSE		0.682	0.896	0.845
SE1	0.825			
SE2	0.844			
SE3	0.816			
SE4	0.819			
SN		0.716	0.91	0.867
SN1	0.84			
SN2	0.899			
SN3	0.806			
SN4	0.837			
SNPI		0.689	0.899	0.849
SNPI1	0.834			
SNPI2	0.811			
SNPI3	0.85			
SNPI4	0.824			
SNSI		0.685	0.897	0.847
SNSI1	0.79			
SNSI2	0.851			
SNSI3	0.853			
SNSI4	0.815			

Table D.1 continued

TRI		0.556	0.831		0.73
TRI1	0.802				
TRI2	0.797				
TRI3	0.788				
TRI4	0.568				
TRT		0.68	0.895		0.843
TRT1	0.817				
TRT2	0.834				
TRT3	0.809				
TRT4	0.838				

Table D. 2

Discriminant Validity Assessment_ Fornell-Larker Criterion -Pilot Study

	ATT	**AUSaaS**	**BI**	**COM**	**CRD**	**PBCFC**	**PBC**	**PEU**	**PU**	**PBCSE**	**SN**	**SNPI**	**SNSI**	**TRI**	**TRT**
ATT	0.82														
AUSaaS	0.543	0.78													
BI	0.68	0.65	0.82												
COM	0.69	0.54	0.69	0.81											
CRD	0.45	0.39	0.49	0.54	0.84										
PBCFC	0.50	0.46	0.53	0.55	0.53	0.804									
PBC	0.55	0.45	0.54	0.50	0.52	0.665	0.814								
PEU	0.69	0.55	0.63	0.65	0.47	0.526	0.553	0.80							
PU	0.67	0.52	0.66	0.69	0.53	0.55	0.566	0.69	0.82						
PBCSE	0.46	0.47	0.48	0.51	0.51	0.679	0.775	0.48	0.51	0.83					
SN	0.49	0.43	0.58	0.52	0.57	0.537	0.588	0.50	0.51	0.59	0.846				
SNPI	0.56	0.42	0.55	0.55	0.61	0.456	0.544	0.51	0.52	0.49	0.675	0.830			
SNSI	0.45	0.37	0.49	0.47	0.54	0.484	0.467	0.48	0.53	0.43	0.61	0.605	0.83		
TRI	0.55	0.39	0.51	0.61	0.48	0.475	0.445	0.54	0.65	0.43	0.388	0.343	0.45	0.75	
TRT	0.51	0.40	0.53	0.56	0.69	0.535	0.561	0.56	0.54	0.49	0.566	0.555	0.53	0.46	0.83

Table D. 3

Discriminant Validity Assessment-Cross-Loadings -Pilot Study

	ATT	AUSaaS	BI	COM	CRD	PBCFC	PBC	PEU	PU	PBCSE	SN	SNPI	SNSI	TRI	TRT
ATT1	0.85	0.459	0.56	0.601	0.342	0.394	0.422	0.6	0.583	0.383	0.402	0.442	0.396	0.535	0.411
ATT2	0.761	0.344	0.477	0.468	0.292	0.351	0.441	0.459	0.474	0.34	0.342	0.372	0.298	0.383	0.406
ATT3	0.854	0.49	0.568	0.545	0.429	0.479	0.509	0.639	0.558	0.384	0.407	0.528	0.438	0.461	0.474
ATT4	0.798	0.464	0.617	0.611	0.406	0.41	0.436	0.545	0.564	0.397	0.449	0.47	0.332	0.395	0.386
AUSaaS1	0.427	0.795	0.479	0.445	0.3	0.319	0.33	0.438	0.382	0.383	0.349	0.364	0.224	0.265	0.36
AUSaaS2	0.361	0.807	0.54	0.437	0.286	0.326	0.324	0.371	0.394	0.34	0.3	0.27	0.242	0.256	0.265
AUSaaS3	0.539	0.813	0.592	0.449	0.335	0.407	0.422	0.487	0.501	0.401	0.392	0.405	0.391	0.397	0.37
AUSaaS4	0.347	0.705	0.406	0.327	0.304	0.368	0.3	0.425	0.324	0.352	0.309	0.292	0.273	0.295	0.229
BI1	0.605	0.57	0.821	0.637	0.404	0.418	0.415	0.556	0.551	0.394	0.415	0.429	0.391	0.476	0.438
BI2	0.544	0.544	0.84	0.504	0.412	0.41	0.461	0.517	0.525	0.382	0.493	0.495	0.407	0.39	0.408
BI3	0.553	0.546	0.844	0.576	0.467	0.43	0.43	0.512	0.541	0.408	0.507	0.49	0.417	0.441	0.475
BI4	0.546	0.485	0.783	0.544	0.339	0.482	0.461	0.498	0.539	0.388	0.489	0.398	0.381	0.356	0.43
COM1	0.545	0.485	0.582	0.81	0.502	0.474	0.416	0.502	0.595	0.44	0.481	0.481	0.402	0.517	0.491
COM2	0.612	0.459	0.565	0.861	0.374	0.451	0.438	0.533	0.59	0.378	0.409	0.454	0.351	0.475	0.447
COM3	0.582	0.454	0.606	0.833	0.479	0.425	0.389	0.562	0.535	0.418	0.442	0.499	0.38	0.538	0.455
COM4	0.47	0.32	0.471	0.729	0.416	0.42	0.383	0.497	0.517	0.416	0.346	0.346	0.408	0.446	0.437
CRD1	0.348	0.271	0.409	0.44	0.839	0.417	0.364	0.396	0.411	0.342	0.45	0.433	0.406	0.419	0.597
CRD2	0.399	0.413	0.46	0.485	0.851	0.502	0.46	0.399	0.47	0.489	0.497	0.526	0.482	0.405	0.586

Table D.3 continued

CRD3	0.319	0.268	0.354	0.446	0.839	0.412	0.43	0.376	0.425	0.422	0.464	0.514	0.436	0.385	0.536
CRD4	0.448	0.355	0.426	0.445	0.812	0.436	0.497	0.408	0.457	0.465	0.509	0.57	0.486	0.4	0.584
PBCFC1	0.407	0.379	0.414	0.466	0.413	0.83	0.523	0.384	0.411	0.554	0.414	0.364	0.343	0.432	0.386
PBCFC2	0.408	0.344	0.417	0.398	0.379	0.835	0.552	0.448	0.442	0.524	0.379	0.304	0.336	0.351	0.404
PBCFC3	0.305	0.371	0.387	0.406	0.423	0.705	0.39	0.401	0.373	0.477	0.404	0.342	0.372	0.31	0.414
PBCFC4	0.47	0.381	0.476	0.483	0.49	0.84	0.634	0.459	0.523	0.618	0.522	0.45	0.495	0.423	0.513
PBC1	0.428	0.449	0.486	0.444	0.443	0.524	0.82	0.472	0.52	0.596	0.458	0.425	0.398	0.425	0.467
PBC2	0.531	0.354	0.472	0.462	0.483	0.532	0.817	0.496	0.478	0.609	0.506	0.517	0.39	0.35	0.446
PBC3	0.5	0.376	0.489	0.453	0.391	0.554	0.839	0.503	0.503	0.632	0.455	0.434	0.35	0.409	0.498
PBC4	0.331	0.265	0.289	0.265	0.388	0.556	0.777	0.322	0.332	0.691	0.497	0.394	0.384	0.258	0.414
PEU1	0.567	0.448	0.458	0.511	0.353	0.373	0.412	0.76	0.567	0.373	0.318	0.375	0.418	0.476	0.44
PEU2	0.473	0.415	0.491	0.484	0.351	0.431	0.484	0.801	0.524	0.445	0.389	0.341	0.369	0.405	0.414
PEU3	0.59	0.444	0.528	0.555	0.398	0.473	0.42	0.825	0.557	0.334	0.416	0.422	0.375	0.435	0.467
PEU4	0.572	0.454	0.553	0.515	0.408	0.41	0.467	0.822	0.545	0.414	0.464	0.479	0.361	0.407	0.467
PU1	0.54	0.398	0.507	0.567	0.396	0.421	0.425	0.559	0.801	0.395	0.356	0.373	0.376	0.503	0.393
PU2	0.598	0.451	0.553	0.581	0.448	0.435	0.468	0.58	0.846	0.389	0.443	0.518	0.451	0.567	0.424
PU3	0.512	0.383	0.537	0.528	0.441	0.459	0.435	0.579	0.82	0.401	0.403	0.39	0.481	0.527	0.47
PU4	0.549	0.473	0.559	0.591	0.449	0.496	0.531	0.535	0.821	0.501	0.474	0.418	0.438	0.526	0.496
PBCSE1	0.457	0.374	0.413	0.45	0.452	0.58	0.688	0.465	0.492	0.825	0.482	0.447	0.392	0.446	0.441
PBCSE2	0.335	0.426	0.352	0.421	0.414	0.554	0.622	0.419	0.37	0.844	0.476	0.369	0.364	0.325	0.35
PBCSE3	0.352	0.33	0.374	0.37	0.389	0.486	0.608	0.33	0.383	0.816	0.461	0.359	0.274	0.295	0.342
PBCSE4	0.373	0.429	0.437	0.428	0.439	0.619	0.638	0.379	0.436	0.819	0.522	0.427	0.379	0.337	0.476

Table D.3 continued

SN1	0.392	0.415	0.506	0.469	0.48	0.446	0.451	0.424	0.426	0.479	0.84	0.56	0.479	0.349	0.486
SN2	0.421	0.349	0.51	0.429	0.516	0.478	0.497	0.408	0.46	0.485	0.899	0.56	0.588	0.35	0.514
SN3	0.38	0.348	0.429	0.376	0.45	0.428	0.484	0.397	0.414	0.486	0.806	0.506	0.461	0.273	0.426
SN4	0.467	0.358	0.505	0.476	0.493	0.463	0.554	0.445	0.428	0.537	0.837	0.649	0.529	0.334	0.484
SNPI1	0.539	0.371	0.469	0.453	0.525	0.45	0.536	0.509	0.498	0.456	0.557	0.834	0.542	0.328	0.518
SNPI2	0.377	0.302	0.402	0.433	0.466	0.315	0.334	0.334	0.34	0.309	0.551	0.811	0.479	0.247	0.367
SNPI3	0.507	0.368	0.476	0.5	0.529	0.393	0.454	0.43	0.483	0.459	0.542	0.85	0.482	0.307	0.466
SNPI4	0.431	0.38	0.482	0.45	0.508	0.358	0.479	0.412	0.406	0.392	0.588	0.824	0.504	0.257	0.489
SNSI1	0.448	0.334	0.431	0.41	0.375	0.378	0.38	0.475	0.466	0.328	0.461	0.51	0.79	0.42	0.43
SNSI2	0.337	0.316	0.393	0.309	0.453	0.406	0.395	0.38	0.46	0.361	0.499	0.476	0.851	0.312	0.44
SNSI3	0.403	0.355	0.424	0.429	0.512	0.409	0.431	0.418	0.453	0.422	0.561	0.572	0.853	0.382	0.444
SNSI4	0.31	0.206	0.36	0.411	0.441	0.408	0.335	0.306	0.38	0.298	0.493	0.438	0.815	0.381	0.429
TRI1	0.484	0.347	0.406	0.472	0.301	0.29	0.274	0.436	0.486	0.231	0.213	0.27	0.283	0.802	0.32
TRI2	0.343	0.197	0.321	0.359	0.311	0.342	0.31	0.353	0.506	0.272	0.189	0.151	0.344	0.797	0.294
TRI3	0.464	0.346	0.477	0.566	0.464	0.443	0.426	0.47	0.533	0.431	0.447	0.314	0.435	0.788	0.419
TRI4	0.284	0.247	0.262	0.39	0.37	0.358	0.326	0.314	0.395	0.365	0.301	0.28	0.275	0.568	0.35
TRT1	0.398	0.343	0.455	0.498	0.579	0.42	0.44	0.411	0.422	0.416	0.533	0.453	0.45	0.45	0.817
TRT2	0.384	0.358	0.457	0.449	0.528	0.503	0.462	0.451	0.467	0.426	0.407	0.396	0.425	0.373	0.834
TRT3	0.437	0.305	0.423	0.469	0.548	0.4	0.443	0.485	0.442	0.348	0.454	0.48	0.439	0.354	0.809
TRT4	0.469	0.301	0.421	0.441	0.618	0.443	0.504	0.496	0.454	0.423	0.471	0.499	0.422	0.348	0.838