



Theme:

"Multidisciplinary Research As Agent of Change for Industrial Revolution 4.0"

21 – 22 August 2019

Universiti Sains Malaysia (USM), Pulau Pinang
Malaysia

Jointly Organised By:



School of Distance Education
Universiti Sains Malaysia



Universitas Islam
Sumatera Utara

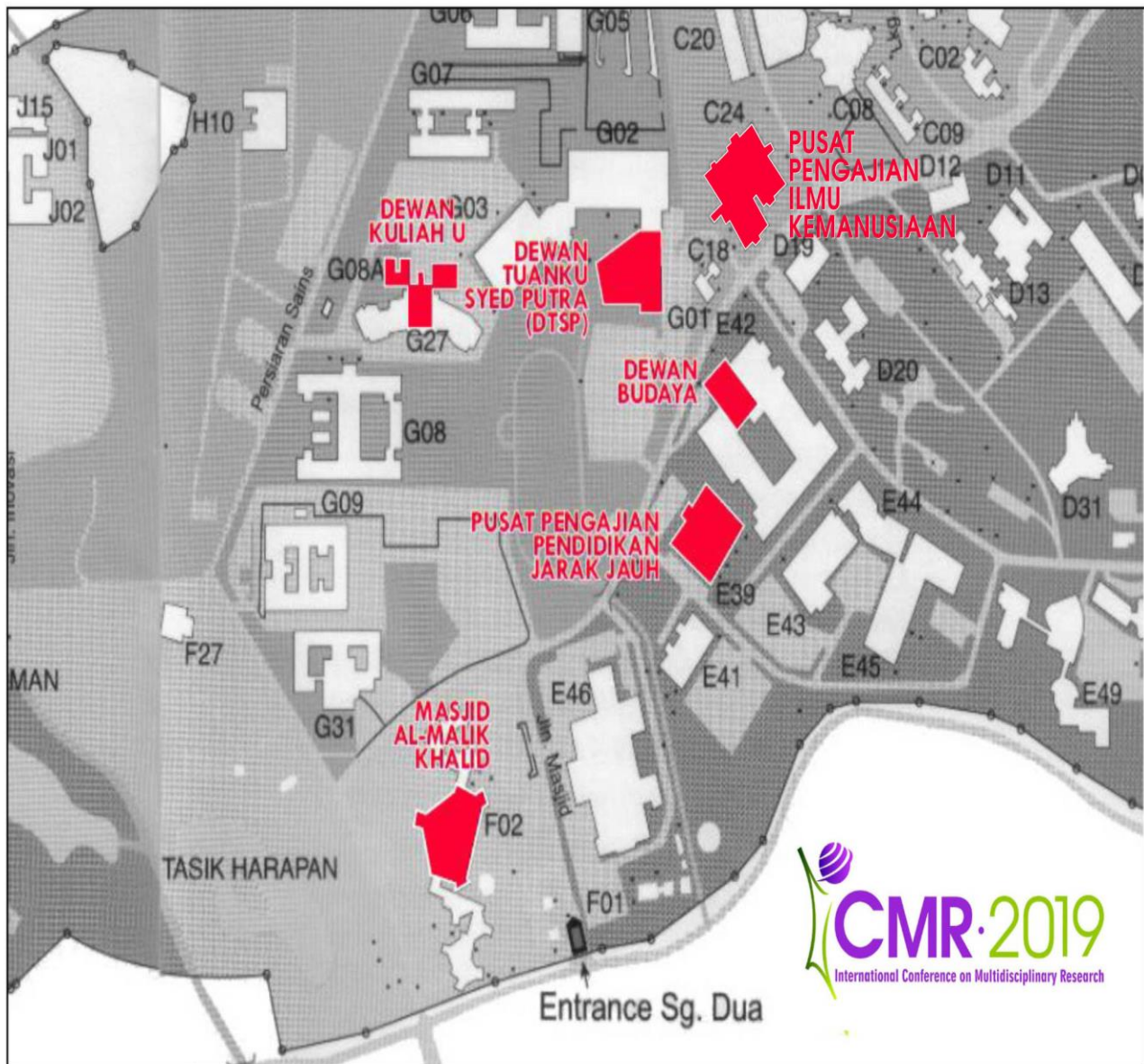


Universitas Syiah
Kuala



Universitas
Hasanuddin

CONFERENCE LOCATION (MAP)



ABOUT THE CONFERENCE

International Conference on Multidisciplinary Research is an annual event which has been jointly organised by the School of Distance Education, Universiti Sains Malaysia (USM), Pulau Pinang with Universitas Islam Sumatera Utara (UISU), Medan, Indonesia and Universitas Syiah Kuala (UNSYIAH), Banda Aceh, Indonesia since 2012. Starting from 2015, Universitas Hasanuddin (UNHAS), Makassar, Indonesia has become a new member of the iCMR family.

The main objective of this conference is to provide a platform for researchers to share research results in various fields. By doing so, it aims to improve the culture of research and collaboration among scholars and researchers both regionally and internationally. International Conference on Multidisciplinary Research (iCMR) will be a platform for academicians to share their findings and provide insights to explore current discoveries and technologies. Sharing of research findings can be channelled into discoveries for improving the quality of life.

The dynamic research ecosystem at USM has enabled it to be crowned as a "Research University" together with four other universities in Malaysia and conferred the prestigious APEX (Accelerated Programme for Excellence) status. The culture and research ecosystem that has been built by USM have successfully developed and created groups and clusters of research. Therefore, in order to perpetuate this culture and research ecosystem, this conference would become the platform for intellects to share their research output in various disciplines of knowledge as well as to generate and summarize various ideas which would then be applied accordingly to increase the quality of human life.

Among the main areas/disciplines of the conference, including but not limited to:

1. Biological & Natural Sciences
2. Humanities & Social Sciences
3. Medical & Health Sciences
4. Management & Economics
5. Education & Information Communication and Technology (ICT)

The theme of the conference, 'Multidisciplinary Research as Agent of Change for Industrial Revolution 4.0', illustrates the importance of multidisciplinary research to face the global wave of the Fourth Industrial Revolution that far more challenging than many decades before. The conference will be a platform for academicians to share their findings and provide insights to explore current discoveries and technologies. The primary objectives of iCMR 2019 are, first, to assemble a team of multidisciplinary field experts to deliberate IR 4.0 that is expected to impact the world in an unparalleled way and, second, through an ongoing dialogue between the disciplines, iCMR intends to be the platform for effective change.

Finally, it is hoped that the bond between these four institutions (USM - UISU - UNSYIAH -UNHAS) will create an everlasting relationship through the organisation of this prestigious event.

FOREWORD BY THE VICE-CHANCELLOR OF USM



Assalamualaikum Warahmatullahi Wabarakatuh

In conjunction with Universiti Sains Malaysia 50th Anniversary celebrations, it is an honour and privilege for Universiti Sains Malaysia to host the International Conference on Multidisciplinary Research 2019 (iCMR 2019). On behalf of the University, I welcome all honourable speakers and delegates from the participating nations and regions to this 8th annual conference at the USM Main Campus in Penang. The theme for iCMR 2019 is "Multidisciplinary Research as Agent of Change for Industrial Revolution 4.0" which is in tandem with the global aspiration to embrace the Fourth Industrial Revolution or Industry 4.0.

Universiti Sains Malaysia strongly inspires its community to actively engage in innovative activities and promote continuous improvement. We believe that this event will be precisely invigorating while new collaborations can emerge among local enthusiasts and international researchers. Also, iCMR 2019 will be a suitable platform for young creative scholars and researchers to share new-fangled ideas to globalise the field of Science and Engineering as well as Health, Life and Social Sciences towards Industry 4.0.

This event can also be seen as a foundation to foster relations from different fields towards a significant contribution leading to worldwide transformation. Professionals including academic leaders, scholars and industry players will have a chance to be involved in fruitful exchanges and debate on the roles and commitment of academics and industry towards the revolution of balanced arts and sciences in the industries.

I would like to express my sincere appreciation to the keynote and plenary speakers, authors, session chairpersons, participants and the organising committee of iCMR 2019 in making this conference a success. This conference is an excellent platform to bring USM to the world and the world to USM. Lastly, I very much hope that this conference will provide a fresh impetus for the participants and consolidate bonds of friendship and mutual trust among them.

Thank you.

PROFESSOR DATUK DR. ASMA ISMAIL, FASc.

Vice-Chancellor Universiti
Sains Malaysia

FOREWORD BY THE DEAN OF SCHOOL OF DISTANCE EDUCATION CUM ADVISOR OF iCMR 2019



Assalamualaikum Warahmatullahi Wabarakatuh

On behalf of the Organising Committee, I am delighted to welcome all participants and renowned delegates to the Malaysian UNESCO World Heritage City, Penang for the 8th International Conference on Multidisciplinary Research 2019 (iCMR 2019). This annual event will take place from 21st - 22nd August 2019 at Universiti Sains Malaysia (USM), Penang, Malaysia.

This year, the iCMR 2019 is returning to Universiti Sains Malaysia (USM) for the third time since 2015 after the 4th iCMR. Bearing the theme of "Multidisciplinary Research as Agent of Change for Industrial Revolution 4.0", the key objective of this year's conference is to outline the core functions of multidisciplinary sciences towards the advancement of theories and practices of IR 4.0.

The Organising Committee is truly gratified to have a line-up of speakers consisting of multi-field experts to shed light on up-to-date research and topics that shape the possibilities of IR 4.0. The iCMR 2019 assembles Keynote Lectures with representatives from USM, Universitas Hasanuddin (UNHAS) and Universitas Islam Sumatera Utara (UISU), oral presentations as well as sponsored sessions which creates opportunities for scholars, researchers and practitioners to share their research and contributions towards the success of multidisciplinary sciences.

We envisage this two-day conference to offer an excellent platform for academicians, researchers and students from different countries all over the world to assemble and reacquaint, exchange ideas, seize novel opportunities and broaden their knowledge and subsequently create and drive a new history for the IR 4.0 especially in Malaysia. We invite you to take full advantage of every opportunity offered to you by the iCMR 2019.

Finally, we would like to record our sincere appreciation to all invited speakers, presenters and participants for their willingness to share their knowledge and research in iCMR2019. Without their contributions and involvements, this conference would not be possible. Welcome to iCMR 2019 and we hope you cherish your time in this academic event and the subsequent social activities.

Dr. Ku 'Azam Tuan Lonik
Advisor
iCMR 2019

FOREWORD BY THE CHAIRMAN OF iCMR 2019



Assalamualaikum Warahmatullahi Wabarakatuh

A very warm welcome to all of you.

On behalf of the committee, I am delighted to welcome all participants and renowned delegates to the 8th International Conference on Multidisciplinary Research 2019 (iCMR 2019) held in Universiti Sains Malaysia, Penang from 21st - 22nd August 2019.

The committee certainly appreciates an endless support, inspiration and encouragement from our core-member institutions; Universitas Islam Sumatera Utara (UISU), Universitas Syiah Kuala (UNSYIAH) and Universitas Hasanuddin (UNHAS) for giving us the opportunity once again to host the 8th annual conference. It is a great pleasure to meet the representatives from our stakeholders and thank you for joining us.

The iCMR is recognised to create a platform for academicians and researchers in various fields to share their research findings. The iCMR also provides a channel into new discoveries for improving the quality of life. The theme chosen for iCMR 2019 is "Multidisciplinary Research as Agent of Change for Industrial Revolution 4.0" is a vastly significant towards the development of sciences and technologies *via* several academic specializations in the era of IR 4.0.

The iCMR 2019 paves way to gather all academicians, scientists, researchers and students from neighbouring countries to meet, learn and showcase their recent research findings, advancement of instrumentations, conduct productive discussion as well as to foster essential professional and social networks.

I conclude this brief welcome speech by thanking all of you for your strong support for iCMR and I encourage all of you to participate in this conference in a spirit of collaboration and with a willingness to listen and respect alternative viewpoints.

Dr. Mohd Faiz Hilmi

Chairman

8th International Conference on Multidisciplinary Research 2019 (iCMR 2019)

CONFERENCE ORGANISING COMMITTEE

Patron	Prof. Datuk Dr. Asma Ismail, FASc. Vice-Chancellor, Universiti Sains Malaysia Dr. Drs. Yanhar Jamaluddin, MAP Rektor, Universitas Islam Sumatera Utara (UISU) Prof. Dr. Dwia Aries Tina Pulubuhu, MA. Rektor, Universitas Hasanuddin UNHAS Prof. Dr. Ir. Samsul Rizal, M.Eng. Rektor, Universitas Syiah Kuala UNSYIAH
Chairman	Dr. Mohd Faiz Hilmi
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School of Distance Education, Universiti Sains Malaysia

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Dr. Nik Norliati Fitri Md Nor
Dr. Tan Wen Nee

Universitas Islam Sumatera Utara (UISU) Prof. Dr. Ir. Nurhayati, MP

Universitas Hasanuddin UNHAS Dr. Muhammad Nasir Badu. S.Sos.M.Hum

CONFERENCE WORKING COMMITTEE

Secretariat & Registration:

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Dr. Roslan Chin
Pn. Norizan Syuhada Ahmad
Cik Khairun Nisa' Baharun

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Cik Fridaos Yusoff

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Publicity & Communication:

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Pn. Sabariah Zakaria

Conference Location & Meals:

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CONFERENCE PROGRAMME
8th INTERNATIONAL CONFERENCE ON MULTIDISCIPLINARY RESEARCH 2019
21 - 22 August 2019

Day 1 (Wednesday, 21 st August 2019)			
08.00 – 09.00	Registration (<i>Dewan Budaya, USM</i>)		
09.00 – 10.00	Opening Ceremony of iCMR 2019 (<i>Dewan Budaya, USM</i>)		
10.00 – 10.30	Coffee Break (<i>Dataran Bintang, Dewan Budaya</i>)		
10.30 – 11.15	<u>Keynote Address 1:</u> Prof. Dr. Muhammad, S.IP., M.Si Universitas Hasanuddin, Makassar		
11.15 – 12.00	<u>Keynote Address 2:</u> Assoc. Professor. Dr. Dahlena Sari Marbun, M.Ed Universitas Islam Sumatera Utara (UISU)		
12.00 – 14.00	Lunch (<i>Dataran Bintang, Dewan Budaya</i>)		
14.00 - 15.15	Parallel Session A	Session A1: Science & Engineering	*BT 1
		Session A2: Health and Life Sciences	BT 2
		Session A3: Geography	BT 3
		Session A4: Education & Language	BT 4
		Session A5: Economics	BT 5
		Session A6: Business and Management	BT 6
		Session A7: Economics	BT 7
<i>Break</i>			
15.20 - 16.35	Parallel Session B	Session B1: Sociology & Anthropology	*BT 1
		Session B2: Political Sciences	BT 2
		Session B3: Education & Language	BT 3
		Session B4: Mechanical & Industrial Engineering	BT 4
		Session B5: Agriculture	BT 5
		Session B6: Economics	BT 6
		Session B7: Business & Management	BT 7
16.35 – 17.05	Coffee Break (Dataran Bintang, Dewan Budaya)		
20.00 – 22.30	Conference Dinner (<i>Dataran Merah, Dewan Tuanku Syed Putra</i>)		

***BT: Bilik Tutorial, C24, Pusat Pengajian Ilmu Kemanusiaan (School of Humanities)**

CONFERENCE PROGRAMME

Day 2 (Thursday, 22 nd August 2019)			
09.00 - 10.15	Parallel Session C	Session C1: Political Sciences	*BT 1
		Session C2: Education & Language	BT 2
		Session C3: Computer Sciences & Information	BT 3
		Session C4: Health Science	BT 4
		Session C5: Economics	BT 5
		Session C6: Sociology & Anthropology	BT 6
		Session C7: Urban & Rural Planning	BT 7
10.15 – 10.45	Break (Dataran Bintang, Dewan Budaya)		
10.45 - 12.00	Parallel Session D	Session D1: Science & Engineering	*BT 1
		Session D2: Computer Sciences & Information	BT 2
		Session D3: Health Science	BT 3
		Session D4: Business and Management	BT 4
		Session D5: Law, Sociology & Anthropology	BT 5
		Session D6: Social Science	BT 6
		Session D7: Political Science	BT 7
12.00 – 14.00	Lunch (Dataran Bintang, Dewan Budaya)		
14.00 – 15.15	Parallel Session E	Session E1: Business & Management	*BT 1
		Session E2: Science & Engineering	BT 2
		Session E3: Economics	BT 3
		Session E4: Biotechnology and Marine & Fisheries	BT 4
		Session E5: Economics	BT 5
		Session E6: Language & Education	BT 6
		Session E7: Arts & Social Sciences	BT 7
15.15 – 15.45	Break		
15.45 – 16.15	Keynote Address 3: Prof. Dr. Ir.Marwan Universitas Syiah Kuala		
16.15 – 16.45	Keynote Address 4: Dr. Ku 'Azam Tuan Lonik Universiti Sains Malaysia		
16.45 – 17.05	Best Paper Award & Closing Ceremony		
17.05 – 17.35	Refreshments		

*BT: Bilik Tutorial, C24, Pusat Pengajian Ilmu Kemanusiaan (School of Humanities)

iCMR 2019 OPENING CEREMONY

21 August 2019 (Wednesday)

Dewan Budaya, USM

- 8.30 a.m. Arrival of Guests and Delegates
- 9.00 a.m. Arrival of Deputy Vice-Chancellor of Universiti Sains Malaysia
- 9.15 a.m. Official Songs: Negaraku & Menara Ilmu
 USM Transformation Video
 Recitation of Du'a
 Welcoming Address by the Chairman of Conference
 Welcoming Address by Dean of SDE
 Officiating Speech by USM Deputy Vice-Chancellor
 Souvenir Presentation
 Montage Presentation
- 10.00 a.m. Refreshments

iCMR 2019 CLOSING CEREMONY

22 August 2019 (Thursday)

Conference Room, SDE, USM

3.40 p.m. Arrival of Guests and Delegates

3.45 p.m. Keynote Address 3

Keynote Address 4

4. 45 p.m. Best Paper Award Presentation

4.55 p.m. Closing Speech

Ceremony of Passing Baton

5.05 p.m. Refreshments

Presentation Guide

Oral Presentations

Oral presentations are normally scheduled in sessions comprising five presentations, lasting 75 minutes in total.

Your oral presentation is comprised of a 10-minute presentation and 5-minute Q&A session. The sessions will be facilitated by a moderator appointed by the committee. Please remain in your session room for the entire session as the moderator may conduct a general discussion and gives the certificate for every presenter at the end of the presentations.

Equipment

All rooms will be equipped with a desktop/laptop pre-installed with PowerPoint and connected to a LCD projector and LCD screen. We advise you to use the computer provided by plugging in your USB flash drive. We recommend that you bring two copies of your presentation in case one fails, and suggest sending your presentation slide to your own email as a third and final precaution. Please take note that there will be no microphone provided during the sessions due to the capacity of the rooms.

You are required to load the presentation slide at the presentation rooms at least 2 hours prior to your presentation.

A Polite Request to All Participants

Participants are requested to arrive in a timely fashion for all presentations, whether to their own or to those of other presenters. Presenters are reminded that the time slots should be divided fairly and equally between the number of presentations, and that presentations should not overrun.

Participants should refrain from talking amongst themselves and ensure that mobile phones are switched off or set to silent mode during presentations.

KEYNOTE SPEAKER



Prof. Dr. Muhammad, S.IP., M.S

*Honorary Board (Penyelaras Pilihanraya Republik Indonesia)
Universitas Hasanuddin (UNHAS)*

Prof. Dr Muhammad, S.IP., M.S is a faculty member and chairperson for *Asosiasi Ilmu Politik Indonesia*, Makassar Branch at UNHAS since 2000. He received his PhD from the Universitas Airlangga in 2017. Previous to this, he was awarded a Master Degree in 1999 and a Bachelor Degree in 1994 from UNHAS. For more than 20 years (1997 – 2019) he has taught *Pembangunan Politik, Sistem Kepartaian dan Pemilu, Sistem Perwakilan dan Pemilu, Pemikiran Politik Timur Tengah, Sistem Politik Indonesia, Pengantar Ilmu Politik, and Proses Pembuatan Undang-Undang* at UNHAS. At the same time, he also delivers his lectures at *Program Magister Ilmu Politik Fisip UNHAS* and *Institut Pemerintahan Dalam Negeri (IPDN)* Makassar since 2011 and 2010, respectively.

Prof. Dr. Muhammad is actively involved in researching Indonesian politics. For his dedication, he had received multiple research funds as the main principle from the *DIPA Dikti Depdiknas*. Among of his many notable researches are the *Penelitian Fundamental dengan tema: Analisis Tentang Faktor Penghambat partisipasi politik masyarakat pada pemilihan kepala daerah* in 2009; *Penelitian Dosen Mandiri dengan tema: Uwa' dan Perubahan Sosial. Studi kasus kepemimpinan Uwa' dalam proses perubahan sosial di sidrap SulSel* in 2007; and *Penelitian Mandiri dengan tema: Kajian tentang faktor penghambat hak inisiatif DPRD Sulawesi Selatan periode 2004-2009* in 2006.

Through his years of service as academia, he has published several academic writings related to the election and political issues in Indonesia. His latest works are *Mewujudkan Akuntabilitas Pemilu* in *Jurnal Demokrasi* (2015), *Menilik Kesiapan Bawaslu dalam Menangani Pelanggaran dan Sengketa Pemilu* (2014) in *Jurnal Pemilu Demokrasi* (2013) and *Gender Dalam Pandangan Islam* in *Jurnal Terakreditasi Dikti* (2012). Prof. Dr. Muhammad has won numerous awards including the *Satyalancana Karya Satya X Tahun* in 2012 and *Tanda Kehormatan Bintang Penegak Demokrasi Utama* in 2015.

KEYNOTE SPEAKER



Assoc. Professor. Dr. Dahlena Sari Marbun, M.Ed
Universitas Islam Sumatera Utara (UISU)

Assoc. Professor. Dr. Dahlena Sari Marbun, M.Ed is the Director of the Career Development Division, Islamic University of North Sumatra, Indonesia. Previously, she held the position of Head of Department of History, Islamic University of North Sumatra (2014 - 2018), Head of Department of Civic Education, Islamic University of North Sumatra (2014 - 2018). She holds a Bachelor's Degree from the State College of Medan (1982), a Masters from the University of Science Malaysia (1999) and a Doctorate of Philosophy in Islamic State University of North Sumatra (2019).

Some of her most recent publications are *Autonomous Regional Authentication, and Marketing Perspective*. Proceedings ICMR 2014 Third International Conference, University of Science Malaysia. *Implementation of the Basic of Professionalism of Teacher in the Boarding School (Islam Boarding School): Case Study at Ar-Raudhatul Hasanah Boarding School*. Proceedings of the ICMR 2015, University of Science Malaysia. *Development of Historical and Political Education in Indonesia after Independence: A National Character Perspective*. Proceedings of the ICMR 2016, Hasanuddin University, Makassar. *Output Evaluation of Medan City International School*. Proceedings of the Seventh International Islamic Marketing Conference (GIMAC), Casablanca, Morocco, May 4-6, 2016. *Contributions and Needs of Islamic Leadership*. Research Management Review. January 2012, Volume 36. *The Development of Education in Indonesia from the Age of Independence to the Reformation Age (1945-2008)*. Proceedings of the Seminar and Congress of the Association of Educators and Historical Researchers (APPS), 2017.

KEYNOTE SPEAKER



Dr. Ku' Azam Tuan Lonik
Universiti Sains Malaysia (USM)

Dr. Ku' Azam Tuan Lonik is a Dean of School of Distance Education, Universiti Sains Malaysia. He obtained his B. Economics from International Islamic University, Malaysia and a PhD in Economics from the University of Leicester, UK.

Known for his expertise in Economics, he has been actively published many books and articles in journals. Some of the books are *Pertukaran Asing* (2017), *Malaysia Economy, Growth and Transformation* (2015) and *New Tourism Research* (2013). Among of his articles including, "Community Involvement in Tourism Entrepreneurship: Case Study of Tioman Island" in *International Journal of Multiculture and Multireligious* (2017), "Sustaining the Entrepreneurship in Rural Tourism Development" in *International Journal of Multiculture and Multireligious Understanding* (2017) and "Gravity Model on A Single Market Commodity - A Review of Literature" in *Management Research Journal* (2016).

Dr. Ku 'Azam also received many awards and was invited as a speaker in the international conferences in Malaysia and other foreign universities. He also become an editorial board member in well-established journals.

PARALLEL SESSION SCHEDULES FOR ORAL PRESENTATION

Parallel Session A1 – Science & Engineering: Mathematical Sciences

Date : 21/8/2019
Time : 2.00 pm – 3.15 pm
Venue : Tutorial Room 1
Session Chairperson : Hazrul Abdul Hamid

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3	A1-03	PREDICTION OF PM10 CONCENTRATIONS USING LOGISTIC REGRESSION ANALYSIS <i>Hazrul Abdul Hamid & Ahmad Shukri Yahaya</i>	36
4	A1-04	QUEUEING APPLICATION IN MC DONALD'S SUNGAI DUA, PENANG <i>Nurul Atiqah Mazlan, Nur Ezaty Syazwani Tajudin & Majid Khan Majahar Ali</i>	37
5	A1-05	A CONCEPTUAL PERSPECTIVE IN MATHEMATICS THROUGH AUGMENTED REALITY AND 3D IMAGE MODELING APPLICATION <i>Nur Intan Raihana Ruhaiyem & Loke Hui Kei</i>	37

Parallel Session A2 – Health and Life Sciences: Health Science

Date : 21/8/2019
Time : 2.00 pm – 3.15 pm
Venue : Tutorial Room 2
Session Chairperson : Rosmelisa Yusof

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2	A2-02	PSYCHOLOGICAL PROBLEMS RELATED TO PHYSICAL ABUSE OF CHILDREN <i>Bania Maulina & Irna Minauli</i>	38
3	A2-03	EFFICACY OF EYE MOVEMENT DESENSITIZATION & REPROCESSING IN TREATMENT OF POST-TRAUMATIC STRESS AND CO-MORBID DISORDERS: A SYSTEMATIC REVIEW OF RECENT LITERATURE <i>Anwar Khan, Salim Khan & Rosman Bin Md Yusoff</i>	39
4	A2-04	THE INFLUENCE OF INTERNET ADDICTION ON DEPRESSIVE SYMPTOMS IN ADOLESCENTS AT THE MEDICAL FACULTY OF THE ISLAMIC UNIVERSITY OF NORTH SUMATRA <i>Meri Susanti & Dwi Lupita</i>	39
5	A2-05	KNOWLEDGE, PRACTICE AND PERCEPTIONS OF HEALTHCARE PROFESSIONALS TOWARDS MEDICATIONS USE DURING PREGNANCY <i>Sami Al-Shakhshir, Syed Azhar, Mahmoud AL-Haddad & Mohd Pazudin</i>	40

Parallel Session A3 – Social Science: Geography

Date : 21/8/2019
Time : 2.00 pm – 3.15 pm
Venue : Tutorial Room 3
Session Chairperson : Noresah Mohd Shariff

No	Paper ID	Title & Author(s)	Page
1	A3-01	VULNERABILITY AMONG INDIGENOUS PEOPLES TOWARDS LANDSLIDE HAZARD: A CASE STUDY IN SUNGAI TIANG VILLAGE, CAMERON HIGHLAND MALAYSIA <i>Nur Syuhada Mustakim & Habibah Lateh</i>	40
2	A3-02	UNDERSTANDING THE IMPACTS OF LONG DISTANCE COMMUTING ON COMMUTERS' WELLBEING <i>Noresah Mohd Shariff</i>	41
3	A3-03	QUALITY OF LIFE AND RELATIONSHIP WITH PUBLIC EMPLOYMENT FERTILITY OF KOTA BHARU <i>Noor Hayati Mat Ripin, Nik Norliati Fitri Md Nor & Fatimah Hassan</i>	41
4	A3-04	EXAMINING DESTINATION ATTRACTIVENESS THROUGH TOURISTS' PERSPECTIVES: A FOCUS ON PHU KRADUENG NATIONAL PARK, THAILAND <i>Mayuree Nasa, Fatimah Hassan & Siriwan Ghuangpeng</i>	42

Parallel Session A4 – Social Science: Education & Language

Date : 21/8/2019
Time : 2.00 pm – 3.15 pm
Venue : Tutorial Room 4
Session Chairperson : Por Fei Ping

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4	A4-04	SENTENCE REPETITION AS LINGUISTIC MARKER FOR MALAY CHILDREN WITH SPECIFIC LANGUAGE IMPAIRMENT <i>Norsofiah Abu Bakar & Radiah Yusoff</i>	44

Parallel Session A5 - Social Science: Economics

Date : 21/8/2019
Time : 2.00 pm – 3.15 pm
Venue : Tutorial Room 5
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1	A5-01	EDUCATION AND HEALTH SPENDING AND ITS IMPACT ON POVERTY AND HUMAN CAPITAL: A CASE OF ACEH PROVINCE - INDONESIA <i>B.S. Nazamuddin, Fakhruddin & Heru Fahlevi</i>	44
2	A5-02	ACCOUNTABILITY, TRANSPARENCY OF FINANCIAL REPORTING AND INFLUENCE ON THE LEVEL OF ACCEPTANCE OF ZAKAT AT AMIL ZAKAT INSTITUTIONS (LAZ) IN MEDAN <i>Sri Rahayu, Heny Tri Astuti Kurnianingsih & Farida Khairani Lubis</i>	45
3	A5-03	ACCESS TO FINANCE AND MICROENTERPRISE GROWTH: EVIDENCE FROM MICROCREDIT CLIENT IN URBAN MALAYSIA <i>Mohamad Syahmi Mat Daud, Ku 'Azam Tuan Lonik, & Fazelina Sahul Hamid</i>	45
4	A5-04	INVESTIGATING THE DETERMINANTS OF BIG DATA ANALYTICS (BDA) ADOPTION IN SMALL MEDIUM ENTERPRISE MALAYSIA <i>Chun Hong Loh & Ai Ping Teoh</i>	46

Parallel Session A6 – Social Science: Business and Management

Date : 21/8/2019
Time : 2.00 pm – 3.15 pm
Venue : Tutorial Room 6
Session Chairperson : Siti Haslina Md Harizan

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Venue : Tutorial Room 7
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3	A7-03	THE EFFECT OF NETWORK INFRASTRUCTURE INVESTMENT, NUMBER OF CUSTOMERS AS CONSUMPTION OF RUPIAH EXCHANGE RATE THROUGH INFLATION USING PATH ANALYSIS IN TELECOMMUNICATIONS COMPANIES IN INDONESIA (CASE STUDY OF PT. INDOSAT) <i>Milla Naeruz</i>	49

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3	B1-03	THE TRADITIONAL CULINARY BUSINESS VIA ONLINE AND CHANGES OF HUMAN BEHAVIOR <i>Saiful Anwar Matondang, Siti Rahma, Tasliyah Haramain & Syahlan</i>	51
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3	B2-03	EVALUATING TRUST IN PUBLIC ADMINISTRATION USING FOUR DIMENSIONS OF E-SERVICE QUALITY: AGE AS A MODERATOR <i>Zarina binti Zulkifli & Khairiah Salwa Mokhtar</i>	54
4	B2-04	THE VALUES OF MUSLIM FRIENDLY TOURISM: AN INDONESIA EXPERIENCE PERSPECTIVE <i>Imam Mawardi & Wandu Abbas</i>	54
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2	B3-02	BUILDING THE BEST PERSONALITY OF YOUTH THROUGH VALUES AND TEACHING IN NOVEL KASIH NAN AGUNG FROM SPB4K THEORY PERSPECTIVE <i>Ani Binti Haji Omar</i>	56
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3	B4-03	STUDY OF COMPOSITE HARDNESS WITH GANODERMA BONINENSE MUSHROOM PARTICLES AS THE FILLER AND EPOXY RESIN AND POLYESTER RESIN AS MATRIX <i>Muhammad Rafiq Yanhar, Siti Rahmah Sibuea & Ahmad Bakhori</i>	58
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Session Chairperson : Syamsafitri

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2	B5-02	PROPER STIMULANT APPLICATION TO DETERMINE LATEX PHYSIOLOGY CHARACTER AND PRODUCTION OF CLONE RRIM 921 IN REGENCY OF DELI SERDANG DISTRICT <i>Yayuk Purwaningrum, Yenni Asbur, and Chairani Hanum</i>	60
3	B5-03	EFFECT OF SHADE AGAINTS SOIL AVAILABILITY AND NUTRIENT BALANCE OF PLANTED Asystasia gangetica (L.) T. ANDERSON AS COVER CROP <i>Yenni Asbur, Yayuk Purwaningrum & Mindalisma</i>	61
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Session Chairperson : Lim Chee Ann

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2	B6-02	THE IMPACT OF RETAIL 4.0 TECHNOLOGIES ADOPTION ON RETAILERS' PERFORMANCE IN MALAYSIA <i>Poorni Sakrabani, Ai Ping, Teoh</i>	63
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Parallel Session B7 – Social Science: Business & Management

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Session Chairperson : Azmil Munif Mohd Bukhari

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3	B7-03	ENTREPRENEURSHIP EDUCATION AS A AGENT OF TECHNOLOGY CHANGES: A REVIEW OF THE LITERATURE <i>Mohd Saifulamri Mustafa & Siti Haslina Md Harizan</i>	65
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3	C2-03	DOES PRESCHOOL TEACHER KNOW WHO IS THE CEO OF THE BRAIN? <i>Fazeila Isa, Nor Aniza Ahmad & Siti Aishah Hassan</i>	69
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Session Chairperson : Chong Choong Kian

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2	C3-02	DATA MINING APPLICATION TO FIND PATTERNS ASSOCIATION OF TRACER STUDY USING FOLD-GROWTH ALGORITHM <i>Tasliyah Haramaini & Jamilah Husna; Siti Rahmah Sibuea; Oris K. Sulaiman; Khairuddin Nasution</i>	71
3	C3-03	A FRAMEWORK FOR AUTOMATED GENERATION OF TEXTUAL INFOGRAPHIC FROM TOURISM REVIEW <i>Loi Hang Lieh & Gan Keng Hoon</i>	72
4	C3-04	INTEGRATING MACHINE LEARNING AND BIG DATA FOR FORECASTING AGRICULTURE <i>Mukhtar, Majid Khan Majahar Ali & Mohd. Tahir Ismail</i>	72
5	C3-05	DENGUE INFLUX MANAGEMENT AND ANALYSIS TOOLS (DIMAT) FOR PREDICTION MODELING AND SIMULATION <i>Nur Intan Raihana Ruhaiyem & Zahidah Md. Shah</i>	73

Parallel Session C4 – Health & Life Sciences: Health Science

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Session Chairperson : Uzma Rani

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2	C4-02	THE EFFECT OF HOLISTIC CARDIAC REHABILITATION PROGRAM IN REDUCING ANXIETY AMONG POST ANGIOPLASTY PATIENTS: A PILOT STUDY <i>Norizam Muhammad Yusof, Asrenee Abdul Razak & Muhammad Hafiz Hanafi</i>	74
3	C4-03	RELATIONSHIP OF EMOTIONAL INTELLIGENCE WITH ANXIETY CONDITIONS IN FACING THE OSCE STUDENTS MEDICAL FACULTY OF THE ISLAMIC UNIVERSITY OF NORTH SUMATERA <i>Ira Aini Dania & Rusmiyati</i>	74
4	C4-04	ALLELIC VARIATIONS IN THE GENES CODE FOR TRANSFUSION AND TRANSPLANT DETERMINANTS: CHALLENGES FOR BLOOD AND ORGAN RECRUITMENTS IN MALAYSIA <i>Ghazali Che Hajar Norul, Zefarina Zulkafli, Nor Suhaila Md. Riffin, Tuan Hulwani Tuan Mohammad, Bryan Raveen Nelson, Mohd Tajuddin Abdullah, Geoffrey Keith Chambes & Hisham Atan Edinur</i>	75
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Parallel Session C5 – Social Science: Economics

Date : 22/8/2019
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Session Chairperson : Nasina Mat Desa

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3	C5-03	SERVANT LEADERSHIP AND AFFECTIVE ORGANIZATIONAL COMMITMENT AMONG MALAYSIAN POLICE OFFICERS <i>Nasina Mat Desa, Shamini Ganesan & Muhammad Hasmi Abu Hassan Asaari</i>	77
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Parallel Session C6 – Social Science: Sociology & Anthropology

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Session Chairperson : Nik Suhaida Nik Abdul Majid

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2	C6-02	RITUAL BASED SETTLEMENT STRUCTURE CASE STUDY OF SAHU COMMUNITY - HALMAHERA - NORTH MALUKU PROVINCE <i>Hikmansyah, Bambang Setioko & Atiek Suprati</i>	79
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4	C6-04	COMMUNICATION STRATEGY OF FAMILY PLANNING SERVICES, WOMEN EMPOWERMENT AND CHILD PROTECTION (DKBP3A) IN SERANG REGENCY RELATED TO PREVENTION OF VIOLENCE ACTION ON WOMEN AND CHILDREN <i>Kurniawati, Nia Kania*, Rofikoh & Siti</i>	80
5	C6-05	TEXT ANALYTICS ON COMPANY REVIEWS IN JOBSTREET <i>Chiew Sook Chin, Gan Keng Hoon & Nur Hana Samsudin</i>	80
6	C6-06	DATAISM AND INTERNET ALGORITHMS IN MALAYSIAN EVERYDAY LIFE <i>Khauthar Ismail</i>	81

Parallel Session C7 – Social Science: Urban & Rural Planning

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Venue : Tutorial Room 7
Session Chairperson : Tang Jing Rui

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4	C7-04	"IN WITH THE OLD": COMMUNITY PARTICIPATION IN HERITAGE PRESERVATION IN PETALING STREET, KUALA LUMPUR <i>Rachel CHAN Suet Kay</i>	83
5	C7-05	DEFINING YOUNG PROFESSIONALS' HOUSING AFFORDABILITY FACTORS: RESIDUAL INCOME APPROACH <i>Nor Suzylah Sohaimi, Alias Abdullah & Syafiee Shuid</i>	83-84

Parallel Session D1 – Science & Engineering

Date : 22/8/2019
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Session Chairperson : Nur Syuhada Ayob

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Parallel Session D2 – Science & Engineering: Computer Sciences & Information System

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Session Chairperson : Zarina Md. Nor

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2	D2-02	FUZZY MULTIPLE SEQUENTIAL HEURISTICS INCORPORATE WITH MUTLI-AGENT SYSTEM FOR COURSE TIMETABLING PROBLEM <i>Li June Tan, Joe H. Obit, Yu-Beng Leau, Jetol Bolongkikit & Rayner Alfred</i>	87
3	D2-03	ACCIDENT MANAGEMENT IN THE CAMPUS THROUGH OCCUPATIONAL SAFETY AND HEALTH MOBILE APPLICATIONS <i>Anis Nadhirah Azmi, Sharifah Mashita Syed-Mohamad *, Nur Hana Samsudin & Mohd Hafiidz Jaafa</i>	88
4	D2-04	A COMPARATIVE STUDY ON VARIOUS EDGE PRESERVING FILTERS FOR VESSEL SEGMENTATION OF MRA IMAGES <i>Nur Intan Raihana Ruhaiyem & Nur Atifah Hammade</i>	88

Parallel Session D3 – Health & Life Sciences: Health Science

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Time : 10.45 am – 12.00 pm
Venue : Tutorial Room 3
Session Chairperson : Lamria Sidauruk

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5	D3-05	GENETIC DIVERSITY OF NORTH SUMATRA UPLAND RED RICE GENOTYPE ON MORPHOLOGICAL AND MOLECULAR MARKERS <i>Rahmad Setia Budi, Irfan Suliansyah, Yusniwati & Sobrizal</i>	91

Parallel Session D4 – Social Science: Business and Management

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Venue : Tutorial Room 4
Session Chairperson : Nur Shazlina

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2	D4-02	SAVING DETERMINANTS AMONG CAREER WOMEN IN PRIVATE SECTORS IN PENANG <i>Nur Shazlina, M.S & Zarina, M.N.</i>	92
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4	D4-04	THE READINESS OF THE ACCOUNTANCY PLAYERS FOR THE IMPLEMENTATION OF ARTIFICIAL INTELLIGENCE <i>Jia-Hui Chong, Zubir Azhar & Tan-Chin Lim</i>	93

Parallel Session D5 – Law, Sociology & Anthropology

Date : 22/8/2019
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Keynote Address 1

**PENGUATAN DEMOKRASI SUBSTANSIAL DALAM MEWUJUDKAN
PENGAWASAN PEMILU YANG BERINTEGRITAS**

Prof. Dr. Muhammad, S.IP., M.Si

Dosen Ilmu Politik, FISIP Universitas Hasanuddin, Makassar

ABSTRACT: Dari perspektif liberalisme, demokrasi merupakan bentuk dari paham kebebasan (*liberalism*) yang masuk ke dalam dunia politik. Hal itulah membuat demokrasi mencakup konsep kebebasan (*freedom*) dan konsep kesetaraan (*equality*). Pada kedua konsep tersebut, persyaratan-persyaratan kedaulatan rakyat meliputi aspek kebebasan berbicara-berpendapat, kebebasan berkumpul-berserikat dan kebebasan memerintah-yang diperintah. Berkaitan ketiga persyaratan tersebut, Negara demokrasi memiliki ciri atas 4 (empat) hal: (1) kebebasan pers sebagai saluran bagi kebebasan dalam berbicara-berpendapat; (2) partisipasi politik yang bermakna sebagai saluran bagi kebebasan dalam berkumpul-berserikat; (3) pemilu yang bebas, terbuka, adil, jujur, berskala dan kompetitif sebagai saluran bagi kebebasan dalam memerintah-yang diperintah; (4) pemerintah yang tergantung pada suatu majelis (parlemen) sebagai kebutuhan minimum.

Paper A1-01

**COMPARISON OF STRATIFIED AND RANDOM ITERATIVE SAMPLING IN
EVALUATION OF PARTIAL LEAST SQUARES-DISCRIMINANT ANALYSIS
MODEL USING IMBALANCED ATR-FTIR SPECTRA**

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ABSTRACT: Model evaluation is often used to derive model performance index that indicating the practical values of the prediction model. In practice, it occurs in the last step of the pipeline of statistical modelling; and various type of model evaluation methods or strategies have been proposed in the literature. Iterative resampling strategy is belived to be more reliable than sampling approach like Kennard-stone algorithm because it produces a number of test sets to ensure better representativeness. Most of iterative resampling methods available in commercial statistical software employ random sampling which would produce biased estimator if the studied dataset is imbalanced, *i.e.* unequal group sizes. As a result, stratified sampling has been proposed to ensure similar class proportions in both the test and training sets. This work aims to explore empirical differences between stratified and random iterative sampling strategies in assessing performances of partial least squares-discriminant analysis (PLS-DA) model using imbalanced attenuated total reflectance-Fourier transform infrared (ATR-FTIR) spectra of blue gel pen inks. The dataset consisted of 1361 spectra and 5401 variables; and can be classified into ten different pen brands (*i.e.* groups). The findings demonstrate the merit and pitfalls of the two sampling strategies.

Keywords: ATR-FTIR spectrum, partial least squares-discriminant analysis (PLS-DA), model validation

Acknowledgements: UKM CRIM (GUP-2017-043)

Paper A1-02

GIS TECHNOLOGY DETERMINE OPTIMAL COLLECTION ROUTES FOR SOLID WASTE MANGEMENT IN SEBERANG PRAI INDUTRIAL AREA

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ABSTRACT: As a development, the population has increased in the past few years. This increase in population is related to an increase in industrial area, generated waste and accumulation of waste. Waste generation and accumulation is associated with hazards and is unsafe to people and the environment. It is important for Malaysia to design and develop continuous solutions for waste management. One of the major activities of Solid Waste Management (SWM) in Malaysia is collecting all types of wastes from dropping area sending the collected waste to landfills. In this paper, new possibilities and directions for SWM and practices were analyze route from Seberang Prai industry area to sanitary landfill in Pulau Burung, Nibong Tebal district handled by Seberang Perai Municipal Council (MPSP). The Shortest route from Seberang Perai Industrial area Phase 1 (8 Companies) and Phase 4 (3 companies) to landfill were determined through ArcGIS software by basis of coordinate tracking, distance and time. Using a Geographic Information System (GIS) help determine cost savings for the collection and transportation of its solid waste. Studies have shown that the about 5.8 % (Phase 1) and 5.47 (Phase 4) by following the effective new routes for transporting solid waste to Pulau Burung sanitary landfill. The result could help MPSP to minimize the transportation cost, time and truck maintenance.

Keywords: Solid Waste Management, Transportation, GIS, Landfill, and Distance

Paper A1-03

PREDICTION OF PM₁₀ CONCENTRATIONS USING LOGISTIC REGRESSION ANALYSIS

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ABSTRACT: Particulate matter with an aerodynamic diameter of less than 10 μ m (PM₁₀) can cause several serious negative health effects to humans when it is present in the environment. Thus, the forecasting is important so that the risk of exposure towards particulate matter can be reduced. Secondary data of PM₁₀ concentrations, nitrogen dioxide (NO₂), sulphur dioxide (SO₂), carbon monoxide (CO), ozone (O₃) along with temperature and relative humidity at Jerantut, Klang, Nilai and Shah Alam stations between 2010 to 2012 were obtained from Department of Environment. The main objective of this study is to describe the relationship between PM₁₀ with other gases and weather conditions by using correlation and to determine the best prediction categories. Furthermore, this research aims to propose a model for predicting the concentration of PM₁₀ using logistic regression. PM₁₀ and O₃ at Jerantut station were found to have a strong positive correlation. Meanwhile, the other stations showed a strong positive correlation between PM₁₀ and CO. The best logistic regression model was obtained at Jerantut station in 2010 with an R² value of 0.565. On the other hand, the best logistic regression model for Klang, Nilai and Shah Alam stations were obtained in 2012 with R² values of 0.597, 0.366 and 0.320 respectively. The best prediction category for all stations was shown to be healthy with a correct percentage of more than 85% obtained from the analysis of the overall and annual results.

Paper A1-04

QUEUING APPLICATION IN MC DONALD'S SUNGAI DUA, PENANG

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ABSTRACT: A study was conducted at McDonald's Sungai Dua, Penang to improve its waiting and service time called queuing theory. A questionnaire were distributed to determine the customers' satisfaction level. Customers arriving, waiting, serving and departure time during two different hours 10.00am to 11.00am (normal hours) and 12.00pm to 1.00pm (peak hours) with two different days (Wednesday and Saturday) were recorded in three weeks consecutive weeks. There are four scenarios to see the different in the arrival, waiting and serving time. Scenario I when 100% customers using the counter to order the foods. Scenario II when 70% use the counter and 30% uses the machine. Scenario III and Scenario IV the number of customers forecasted using the counter decrease to 30% and 0% respectively. We will be using simulation software of ARENA and Statistical Package for the Social Sciences (SPSS) software. As a result, average waiting time of normal hour has found greater than peak hour. While, for collecting the foods is higher than ordering the foods because during peak hour most of the customers ordering the food using the self-serving machine. Therefore, during collection food the waiting time and number of customers in the queue will be increases for normal and peak hours. There is a suggestion that it should be one more counter for pick up food to reduce the waiting time and number of customers in the queue during collection time. Besides, for satisfaction level were concluded that hygiene satisfaction is moderate, and customers' service is good.

Keywords: queuing, fast food industry, queuing theory, ARENA simulation, waiting time

Paper A1-05

A CONCEPTUAL PERSPECTIVE IN MATHEMATICS THROUGH AUGMENTED REALITY AND 3D IMAGE MODELING APPLICATION

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ABSTRACT: Mathematics is a compulsory subject for every student in primary, secondary school and pre-university program. It requires good imagination for better understanding especially when new mathematics concept is introduced. This however lead to difficulty for teachers conducting mathematics class. Therefore, most of them ended up with memorizing the equations or formula – instead of looking deeper into conceptual perspective. So, majority of students find the maths class very tedious and useless because they don't know when they are going to apply the concepts in real-life. As we know, majority of students suffer in understanding the complex mathematics operations for example, differentiation, integration and others during secondary school and pre-university program. To fill up the gap, a mobile application that applying augmented reality to teach complex mathematics concepts is proposed to address this problem. Teachers can utilize this app to give students some real-life examples that they can relate to according to the list of equations available in the application. Furthermore, a 3D model will be created with information displayed using augmented reality will help teachers easier to explain the example to students. As the result, students find that maths class will become very interesting if teachers implement the right techniques and make it more engaging.

Keywords: augmented reality, mathematics concept, 3D modeling, teaching mathematics, and mobile application

Paper A2-01

IMPACT OF DIGITAL EDUCATIONAL PROGRAM ON CLINICAL OUTCOMES AMONG HYPERTENSIVE PREGNANT WOMEN

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ABSTRACT: This study aims to identify the impact of clinical pharmacist's digital educational program on drug adherence and clinical outcomes among Malaysian hypertensive pregnant women. A quasi-experimental study was undertaken at the antenatal clinic of Universiti Sains Malaysia Hospital (HUSM). The study was carried out with 51 hypertensive pregnant women who were conveniently interviewed. The intervention was an educational program that included four video clips and 44 short educational messages. The educational program was started immediately after recruitment through sending the video clips and short messages by WhatsApp application. Descriptive and inferential analyses were performed using SPSS version 22. Total score of drug adherence domain and diastolic blood pressure among hypertensive pregnant women showed significant improvements after the intervention ($P=0.001$, $P<0.001$), respectively. The study reinforced the essential role of the clinical pharmacist in patient education. Moreover, using digital technology to deliver a structured educational program for hypertensive pregnant women was an effective method in increasing drug adherence rate and improving diastolic blood pressure.

Keywords: Hypertension, Pregnant women, Digital educational program, and drug adherence.

Paper A2-02

PSYCHOLOGICAL PROBLEMS RELATED TO PHYSICAL ABUSE OF CHILDREN

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ABSTRACT: Children maltreatment is a widespread, global phenomenon affecting the lives of millions children around the world. It also become a national and internasional salient issues. One form of children maltreatment is physical abuse. Some research stated that physical abuse is one of the most destructive forms. Physical abuse is not only caused died, but also associated with some psychological effects. A qualitative method was chosen to gain a detailed description about psychological problems related to physical abuse in two physical abuse of children. The data obtained from this research, would be used as basis for planning the right interventions. This study used a qualitative approach by using depth interview and behavior rating scale. This research found that every child who was victim of physical abuse showed different effects. Behavior and emotional problems, attention problems and fear with perpetrator of physical abuse were also appeared related to abusive, which arises in one of the victims who was participants in this study. These problems could not showed in the other participant. It was influenced by duration and perpetrator of physical abuse.

Keywords: Behavior problems, emotional problems, attention problems, physical abuse of child

Paper A2-03

EFFICACY OF EYE MOVEMENT DESENSITIZATION AND REPROCESSING IN TREATMENT OF POST-TRAUMATIC STRESS AND CO-MORBID DISORDERS: A SYSTEMATIC REVIEW OF RECENT LITERATURE

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ABSTRACT: Post-traumatic Stress Disorders (PTSD) develops following trauma exposure. PTSD is highly comorbid and persons with PTSD usually report single or multiple comorbid disorders. Treatment choices can be either pharmacotherapeutic or psychotherapeutic, however, the former is only adopted once the psychotherapeutic management is less effective. Eye Movement Desensitization & Reprocessing (EMDR) is a psychotherapeutic technique used for the treatment of PTSD, however, its efficacy is not fully known, therefore more research is required in future to determine whether EMDR therapy is efficacious? This systematic review was conducted for determining the overall efficacy of EMDR therapy in PTSD and its comorbid disorders. Following the PRISMA protocol, all research papers published between January 2010 and January 2018 on the efficacy of EMDR were included in the search. The studies were searched in databases like, e.g., Pub-Med, PILOT, Science Direct and Cochrane Library. After screening through proper inclusion criteria and quality assessment, only 26 studies were finally selected for detailed analysis. The results showed that EMDR therapy has demonstrated efficacy in the treatment of PTSD and its comorbid disorders like, e.g., depression, anxiety, and personality disorders, etc. Following the EMDR therapy a remarkable reduction in the overall symptoms was observed. Although EMDR therapy is still in its infancy stages, yet many of the researchers consider it as an effective psychotherapeutic intervention. Therefore, EMDR therapy is hoped to be the treatment of choice in near future. This hope has built confidence among the researchers to consider this therapy as a choice of treatment.

Keywords: Eye Movement Desensitization & Reprocessing; Post-traumatic Stress Disorders; Co-morbid Disorders; Psychotherapy; Systematic Review

Paper A2-04

THE INFLUENCE OF INTERNET ADDICTION ON DEPRESSIVE SYMPTOMS IN ADOLESCENTS AT THE MEDICAL FACULTY OF THE ISLAMIC UNIVERSITY OF NORTH SUMATRA

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ABSTRACT: Internet addiction is the loss of control of someone in using the gadgets to access the internet. Excessive use of the internet lead to depression. Depression is a mood disorder or feeling that can lead to changes in the mindset or behavior. The purpose of this research is to know the influence level of internet addiction to symptoms of depression in adolescents. This research type is analytical research with Cross Sectional study design. Samples were taken with Purposive Sampling technique that is 65 people. Data analysis using Spearman Correlation test. Based on the result of the statistical test, the correlation (r) is 0,410 shows the correlation with medium strength between the level of internet addiction with the depression level in the Faculty of Medicine UISU students class of 2014. P value = 0,001 (<0,05) so it can be concluded that the influence level of internet addiction to incidence of depression in adolescents.

Keywords: Internet, Internet Addiction, Adolescents, Depression, Faculty of Medicine

Paper A2-05

KNOWLEDGE, PRACTICE, AND PERCEPTIONS OF HEALTHCARE PROFESSIONALS TOWARDS MEDICATIONS USE DURING PREGNANCY

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ABSTRACT: This study aimed to explore knowledge, practice, and teratogenic risk perceptions of healthcare professionals towards medications use during pregnancy at Universiti Sains Malaysia Hospital (HUSM) in Malaysia. A cross-sectional research design using a pre-validated questionnaire was distributed to all healthcare providers at Gynecological departments and hospital pharmacies at HUSM. Descriptive and inferential analysis were performed using SPSS version 22.0. A total of 221 respondents participated in this study. No idea was the dominant answer in most knowledge questions and drug teratogenic risk classifications. Only 36.2% of respondents always find the information resources about safety/risk of medicines during pregnancy supportive in their work. Finally, 34.8% of respondents disagreed that disease should not be untreated or undertreated due to the fear of teratogenicity and 27.6% of respondents always feel confident when prescribing/advising drugs during pregnancy. Respondents' levels of knowledge, perceptions, practices and drug teratogenic risk classification were inadequate (except for the gynecologists physicians and pharmacists who showed a relatively good levels). Healthcare professionals should be encouraged to continuously update their knowledge and practice which is reflected on the quality of service given to their patients.

Keywords: Health professional staff, Pregnant women, Teratogenic risk, and medications.

Paper A3-01

VULNERABILITY AMONG INDIGENOUS PEOPLES TOWARDS LANDSLIDE HAZARD : A CASE STUDY IN SUNGAI TIANG VILLAGE, CAMERON HIGHLAND MALAYSIA

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ABSTRACT: Cameron Highland is one of the districts in Malaysia that have recorded many landslide event. Tourism and agriculture are two important sectors of economy development in Cameron Highland. However, the development of these industries have also delivered the negative impact, which caused the environment degradation in this area. Our study selected Sungai Tiang Village as the study area. This village is occupied by indigenous people and the area is at risk of the landslide hazard because there are two mountains valley nearby. A total of 63 respondent have participated in this study. Our research objective is to analyse the vulnerability aspect among indigenous people towards the landslide hazard. In this study, we identified the risk knowledge, disseminate information and adaptation on landslide hazard as an important vulnerability aspect related to the landslide hazard. The result found that the risk knowledge among respondent was moderate. Besides, the majority of the respondents agreed that observation is the best source for disseminating information about landslide and they also have adapted to the surrounding to prevent the landslide hazard in the area. Furthermore, they have planted some vegetation to prevent the soil erosion that can contribute to the landslide whereby the plant has also become one of the food resources for their livelihood.

Keywords: landslide hazard, vulnerability, risk knowledge, disseminating information, and adaptation

Paper A3-02

UNDERSTANDING THE IMPACTS OF LONG DISTANCE COMMUTING ON COMMUTERS' WELLBEING

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ABSTRACT: Commuting to work is one of the issues central to the management of transportation system and human mobility. It is associated with morning and evening peak hour's congestion. Commuting is the journey and time spent on the road travelling from home to work place and travelling back. Many Malaysian have no choice and have to commute long distance to work as they live outside of urban areas while job locations are still in the city centres. Improvement in the transportation infrastructures and affluences increase the possibility to live far from work places. Commuting pattern is also fundamental in understanding socio-economic system as it can affect the quality of life and well-being of the affected households. Traffic congestion due to large number of vehicles on the road, traffic accidents or other factors during the commuting caused delay in arriving at work on time. This situation may affect the commuters, physically and mentally and also affect the employers when the employees are always late for work or absent from work due to factors such as stress or health issues. The objective of this study is to examine the impacts of daily commuting to work on the commuters' wellbeing. This study uses quantitative method using questionnaire survey on commuters in the Penang Island. The output of this study may be used to recommend and draft guidelines for public transportation policy as well as guidelines to reduce the use of cars.

Keywords: Commuting to work, transport, wellbeing, impacts and Penang Island

Paper A3-03

QUALITY OF LIFE AND RELATIONSHIP WITH PUBLIC EMPLOYMENT FERTILITY OF KOTA BHARU

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ABSTRACT: This research study is to see whether there is a link between the quality of life and fertility index in the community, especially the civil servants in the study area, Kota Bharu district. The quality of life index in Malaysia is measured by the Malaysian Quality of Life Index (IKHM). This study will use some of the components contained in the index and be applied in measuring the quality of life of civil servants in Kota Bharu district in producing a civil service quality index for the study area. Fertility or human fertility is a natural process that is responsible for the succession of biology and community preservation. This means that without fertility the population will not increase. When population growth declines from the level of replacement, the demographic pattern of the population will also be affected and unbalanced. This study will try to assess the quality of life and fertility as well as the factors that cause the quality of life and fertility to increase or decrease among civil servants in the Kota Bharu district. The Min Score Test, Cross Test and Correlation Test will be conducted on the data obtained through the questionnaire and data from the Department of Statistics, Malaysia and the National Population and Family Development Board (LPPKN). The results of the analysis will see whether the quality of life affects or does not affect the fertility level among civil servants in Kota Bharu.

Keywords: women, fertility, quality of life

Paper A3-04

EXAMINING DESTINATION ATTRACTIVENESS THROUGH TOURISTS' PERSPECTIVES: A FOCUS ON PHU KRADUENG NATIONAL PARK, THAILAND

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ABSTRACT: This research was aimed to examine the attractiveness of a nature-based tourism destination in Thailand, known as Phu Kradueng National Park (PKNP) in Loei Province, through tourists' perspectives. Tourism destination assessment framework developed based on the Dickman's 5As concepts was included in the questionnaire with 5-level of Likert scale as the tools in collecting data from 465 tourists visiting PKNP. The data was collected by using a self-administered online survey and was analysed by using SPSS for descriptive analysis. The evaluation of PKNP as a tourism destination was perceived to be at a high level for all components which include attraction, activity, accessibility and accommodation. However the level was moderate for amenity, facilities and services component. The perception for attraction components was perceived the highest average mean score M=4.65 and its subcomponents on natural beauty was valued the highest mean score with M=4.86. The results showed that the majority of tourists perceived the unique natural environment with cool temperature, abundant flora and fauna resources was the reason for them visiting PKNP. Thus, these finding are useful to the local authorities and management of PKNP to ensure its sustainability and popularity as a must visit destination in Thailand in the future.

Keywords: Phu Kradueng National Park, Destination attraction, tourist perception, nature-based tourism

Acknowledgements: Research grant from the Mahasarakham University, Thailand

Paper A4-01

METAPHORICAL EXPRESSIONS AND GREEN GRAMMAR ALTERNATIVES IN ACEHNESE FISHING COMMUNITY: A CRITICAL ECO-LINGUISTIC PERSPECTIVE

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ABSTRACT: The paper is aimed to identify and describe metaphorical expressions related to fishing activity in Acehese fishing community, located in Aceh Province, Sumatra, Indonesia through critical eco-linguistic perspective and the alternative structure based on green grammar concept to obtain harmonious relations among the respective objects of nature. A reciprocal relation between language and environment is under the eco-linguistic study as language is a part and product of environment, unseparated from human life, tending to the achievement of global harmony. Based on dialectical theory, eco-linguistic covers three dimensional social praxis, ideological, sociological, and biological. This study attends to qualitative method with its phenomenological approach, giving vivid social pictures, benefited to be analyzed to support and uplift the welfare of the people in a whole. The result of the analysis shows that several metaphorical expressions are implemented by means of the three dimensions concerning the fishing activity. The use of green grammar alternative is proposed to give a constructive relation rather than a destructive one, the first siding to all living creatures, the second standing opposite. This paper is proposed to have a harmonious relationship between language and ecology in order that the change of ecology does not affect the loss of traditional wisdom, ideology as well as culture as the ethnical identity of a community.

Keywords: metaphorical expressions, green grammar, critical eco-linguistics

Paper B3-03

PRIMARY SCHOOL MATHEMATICS TEXTBOOKS: ELEMENTS ACROSS CURRICULUM

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ABSTRACT: We analyze the typical primary school mathematics textbooks in Malaysia from the perspective of elements across curriculum, important to develop the capacity of mathematical thought as well as to embedded students' awareness to become a good citizen and the meaning of learning mathematics. This concept paper will give deeper understanding on how elements across curriculum concluded from different categories such as cultures, history, science, sports and e-learning was presented in mathematics textbooks. We also provide how mathematics aims not only knowledge and mathematical skills, but appreciate the values adapted for national unity and well being in the perspective of multicultural in Malaysia. These latent messages match with National Education Philosophy, providing a balanced student in terms of physical, emotional, spiritual and intellect. When the students clear with the meaning of learning mathematics, the highest function of education has achieved. These paper provide insight into opportunity to learn encompasses wider educational and social contexts. Finally, we hope its stimulate others to realize how textbooks play a crucial role especially in connection to different fields.

Keywords: learning mathematics, textbooks, mathematical thoughts, elements across curriculum, and awareness

Paper A4-03

LOCAL WISDOM IN ANDREA HIRATA'S NOVEL *DWILOGI PADANG BULAN*

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ABSTRACT: This research aims at describing about the value and meaning of local wisdoms including the language used as a kinship system in society and also religious ceremonies in Malay Belitung people in Andrea Hirata's novel *Dwilogi Padang Bulan*. *Padang Bulan* is the first of Hirata's dwilogi. The novel tells about Malay culture in the society of Malay Belitung. It is hoped that the local wisdoms performed in the novel represents the reflection of the society this time as a reference to solve issues in Indonesia especially for Malay society nowadays. The method used in this research is qualitative descriptive method with objective approach. Sociology of literature approach is used to describe about the portrayal of the local wisdoms in the novel. Data is collected by observastion and library research. The results show that language meaning in Andra Hirata's novel *Dwilogi Padang Bulan* reveals about the local wisdom values which support the forming of polite manners of Malay people in the community. The religious ceremonies performed such as the prophet Muhammad's birthday ceremony known as *Maulid Nabi*, *nganggung* tradition, *buang jong* ceremony, *sembahyang rebut* ceremony contain religious value and meaning, value of responsibility, respect, cooperation, obedient, and independent for Malay Belitung people.

Keywords: local wisdom, kinship system, religious ceremony

Paper A4-04

SENTENCE REPETITION AS LINGUISTIC MARKER FOR MALAY CHILDREN WITH SPECIFIC LANGUAGE IMPAIRMENT

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ABSTRACT: Linguistics is a knowledge field that studies the language scientifically. The linguistic field consists of theoretical linguistics and application linguistics. Application linguistics is a multidisciplinary study. One of them is clinical linguistics, a field that combines linguistic knowledge with its application in one of the components in the area of health science, namely speech science. This study examines the sentence repetition test, which is a tool used in the clinical field to describe, handle and evaluate the level of children's language disorders. The sentence repetition test is used to measure the ability of children's language to repeat the sentence that has been heard. Recently, the sentence repetition test has the potential to be a linguistic marker to diagnose children with language disorders and to identify the ability of children with SLI and normal children in the monolingual acquisition context. This is a cross-sectional study which conducted to investigate the ability of Malay children in the range of 4;0 – 9;11 years old. A total of 45 respondents were involved in the study. The respondents were classified in three groups, namely children with SLI, children of same age and children of same language groups. Based on the findings, it has been proven that children with SLI have difficulty in repeating complex sentences and their performance is significantly incompatible with children of same age group. Therefore, the test has potential to be a linguistic marker. Meanwhile, qualitative findings found the difficulty in repeating the sentences causes children with SLI to use the omission strategy. The findings also discussed the impact of the study, which is the sentence repetition test can be used in assessing language disorders by speech-language therapists and teachers for teaching and learning the Malay language.

Keywords: children with SLI, sentence repetition, syntax, linguistic marker, Malay children

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Paper A5-01

EDUCATION AND HEALTH SPENDING AND ITS IMPACT ON POVERTY AND HUMAN CAPITAL: A CASE OF ACEH PROVINCE - INDONESIA

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ABSTRACT: The aim of this study is to investigate the impact of education and health aggregate spending on poverty. Aceh provincial panel data covering 23 regencies/municipalities for the period 2010 - 2015 and the 2017 National Economic and Social Survey (SUSENAS) cross-sectional household data were used. The results show that increased public spending for education and health have different effects on poverty reduction. Education spending has a significant impact on poverty reduction, while the opposite is true for health spending. Household human capital investment behavior changes when the government provides a more extensive education funding and introduces JKN universal health coverage. The results provide implications for different policy measures to prevent crowding-out effects in human capital investments and to stimulate household own spending on education and health.

Keywords: education spending, health spending, poverty, household behavior

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Paper A5-02

ACCOUNTABILITY, TRANSPARENCY OF FINANCIAL REPORTING AND INFLUENCE ON THE LEVEL OF ACCEPTANCE OF ZAKAT AT AMIL ZAKAT INSTITUTIONS (LAZ) IN MEDAN

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ABSTRACT: The purpose of this study was to analyze the effect of Accountability and Transparency of Financial Reporting on the Acceptance of Zakat Funds at the Amil Zakat Institution (LAZ) in Medan City. Zakat is very potential as an effective means to empower the economy of the people. Indonesia has a huge potential of zakat, data obtained from Baznas that the potential of zakat in 2017 reaches 203 trillion rupiah but that is collected only 6.2 trillion rupiah and is classified as minimal from its potential. This potential, if explored optimally from all Islamic societies and managed properly with trustworthy management and high professionalism, will create a large amount of funds that can be used to overcome the people's economy. In North Sumatra, especially in the city of Medan, zakat receipts do not appear to be one aspect that can be a solution in overcoming the economy of the ummah, because it is not optimal the level of zakat funding and utilization of zakat funds by mustahiq is limited to consumption. Zakat institutions are still managed informally, good governance, credibility, transparency, accountability, and professionalism are not given much attention. This will cause public distrust, because it requires the application of professional management governance practices that are in accordance with sharia standards. The results of this study indicate that accountability and transparency greatly influence the level of receipt of zakat funds.

Keywords: Level of acceptance Zakat, Accountability, and Financial Report Transparency

Paper A5-03

ACCESS TO FINANCE AND MICROENTERPRISE GROWTH: EVIDENCE FROM MICROCREDIT CLIENT IN URBAN MALAYSIA

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ABSTRACT: This study attempt to investigate the impact of access to microcredit assistance on microenterprise growth in urban areas in Malaysia. Areas of investigation which includes microentrepreneur and microenterprise characteristics, the delivery system by microfinance institution, and the role of government in enterprise development. A survey involving 105 active microcredit clients run by a government aid organization in Penang, Malaysia was conducted in late 2018. Descriptive statistics are performed to analyze the data. The findings reveals that most of the microcredit entrepreneurs are female, middle-aged or older, poorly educated, and are the first-time borrowers. In addition, we find that most of them use their own savings for business operations and maintenance, are involved in the food and beverage sector and are unable to employ workers. This study recommended for more emphasize on comprehensive delivery approach by MFIs through embedding non-financial services despite credit lending to their clients. Government and other related organizations should aim to create new alternatives to manage their business cost, provide infrastructure, and improve the conducive business environment to ensure more sustainable microenterprise growth and development in urban areas.

Keywords: Microcredit, Microenterprise growth, Microentrepreneur, Delivery system, Government policy

Paper A5-04

INVESTIGATING THE DETERMINANTS OF BIG DATA ANALYTICS (BDA) ADOPTION IN SMALL MEDIUM ENTERPRISE MALAYSIA

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Abstract: In today's digitalised era, the adoption of Industry 4.0 technology pillars can boost businesses by enhancing organizational performance. As one of the crucial pillars, big data potential has been receiving heightened interests from academic and practitioners. Big Data Analytics (BDA) is viewed as a new strategic weapon in business that allows organizations to gain valuable insights for decision-making towards better performance. Most multinationals and larger companies may already be implementing BDA aiming at enhancing organizational performance, but many Small medium enterprises (SMEs) are still at the exploratory stage. The present study, drawing upon Technological, Organizational and Environment (TOE) model, proposes and investigates the influence of TOE factors on BDA adoption among Malaysian SMEs. The result will contribute to the understanding of the determinants affecting BDA adoption.

Keywords: Technology Organizational Environment (TOE), Big Data Analytics Adoption, Innovation diffusion and Small Medium Enterprises

Paper A6-01

ANALYSIS OF THE INDIVIDUAL AND ORGANIZATIONAL DETERMINANTS OF JOB PERFORMANCE IN THE UNIVERSITIES OF PAKISTAN

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ABSTRACT: In the current knowledge based economy, the universities are regarded as strategic assets. Success of universities is a key to the development of a country. Researchers have identified various factors as determinants of performance and the overall functioning of universities. The present study began with the identification of individual and organizational determinants and then examining their relationship with the job performance via through the mediating role of work engagement. In this regard a cross sectional research design was adopted and data were collected through a self-administered & online questionnaire from 947 faculty members working in the twelve universities of Pakistan. The data were analysed by descriptive and inferential statistical tools. The results showed that individual and organizational factors were significantly associated with job performance, whereas work engagement had partially mediated the association between individual & organizational factors and job performance. This study has yielded important contributions. Theoretically, the Job Demand Resource Theory was further extended after its successful testing and validation in Pakistan. Whereas empirically, the findings of this study have helped in proposing practical implications for the academicians, institutional heads, and the policy makers in the Higher Education Sector of Pakistan. In this way the dynamics of job performance could be better understood in the academia of Pakistan. It can help in the improving the Higher Education Sector of Pakistan as a whole.

Keywords: Job Demands, Job Resources, Work Engagement, Job Performance, Academic Staff, Universities

Paper A6-02

EFFECTIVENESS OF DISTANCE EDUCATION TOWARDS SUSTAINABILITY FROM LEARNERS' PERSPECTIVES

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ABSTRACT: Education for Sustainable Development has become an important issue in transforming society towards sustainability in the Malaysian higher education scenario. In contending with the challenges posed by the 4th Industrial Revolution, distance education has been acknowledged as a mechanism through which sustainable development can be achieved via digital technology. However, not much importance has been given to investigating the ways in which distance education can be effective in instilling sustainability among learners and the barriers which hinder it. Therefore, a study has been carried out to explore the perceived effectiveness of distance education and the barriers towards sustainability among Malaysian distance learners. A total of 72 participants were interviewed by the researcher and the data obtained was transcribed into meaningful themes for analysis. A wide spectrum of factors was found to have contributed positively towards the effectiveness of distance education in nurturing sustainability despite the barriers encountered by learners. The researchers are confident that some of the findings may contribute towards the building blocks of knowledge in the respective areas of study. This study may provide the much needed motivation to policy-makers and university administrators in empowering distance education programmes so that a larger student population may be reached beyond national and international borders. This study will surely benefit other stakeholders of distance education programmes and higher education institutions which are concerned about sustainability of higher education for future development.

Keywords: Barriers, digital technology, distance education, effectiveness, sustainable development.

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Paper A6-03

THE MODERATING EFFECT OF FINANCIAL PERFORMANCE ON THE RELATIONSHIP BETWEEN INTELLECTUAL CAPITAL AND BANKRUPTCY: EVIDENCE IN MANUFACTURE COMPANY LISTING IN INDONESIA STOCK EXCHANGE

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ABSTRACT: Changes in the era of globalization in the business world based on the world of work are changing towards businesses that are based on business knowledge in order to excel in competition. This emphasizes the importance of knowledge assets that are assessed by the intellectual capital approach. This study aims to determine the effect of mediating financial performance on the relationship between intellectual capital and bankruptcy. The population in this study are large trading and retail companies listed on the Indonesia Stock Exchange with the 2014-2016 research period. The samples in this study were 30 obtained using purposive sampling. this study found that intellectual capital did not affect financial performance and bankruptcy. This study also found no effect of mediating financial performance on intellectual capital and bankruptcy relationships.

Keywords: Intellectual Capital, Financial Performance, Bankruptcy

Paper A6-04

THE FOOD WASTE AWARENESS AMONG STUDENTS AT UITM PUNCAK ALAM

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ABSTRACT: In Malaysia, out of 38 000 tonnes of waste per day, about 40 percent of it is food waste. These foods are being discarded due to various reasons and at various stages beginning from the stage of before meal is being prepared to after the meal is being consumed. Unfortunately, the food wastage can result in environmental, economic and social impacts. Hence, this study is conducted to determine the level of food waste awareness among students at UiTM Puncak Alam, particularly in relation to the environment, economic and social impacts. An online form, as well as a printed questionnaire, were distributed to the students. A total of 220 questionnaires were gathered and later were analyzed using SPSS version 22. The result showed that food waste awareness related to environmental impact had the highest mean score while social impact had the lowest mean score. The reasons that contribute to food waste among the students were expired food (29.2%), leftover food (23.1%), food that does not have good smell and taste (20%), food has mold (18.1%) and they do not like the food or ingredient (9.2%). Almost 60% of the students opted to discard the food. Based on the findings, further actions need to be done in educating the students as well as to create awareness on how the food waste can result in negative impacts especially to the environment, economic and social impact.

Keywords: Food waste, awareness, environmental impact, economic impact, social impact

Paper A7-01

CAPABILITIES, COMMITMENTS AND EFFECT ON THE COMPETITIVENESS OF SMALL AND MEDIUM ENTERPRISES (SME) IN MEDAN

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ABSTRACT: This research is related to the Small and Medium Enterprises which number in Medan City still requires an increase in competitiveness by increasing the capabilities possessed by small and medium enterprises both in terms of product quality, packaging, permits, and halal certificates. high in increasing the business that is owned so that it can be interspersed with similar products and the commitment of business people to the business that was built from the beginning so as not to change product replacements where there are still many in Medan City The purpose of this study is to determine the competitiveness of SME products with survey methods and direct observation of SMEs in Medan City consisting of 21 Subdistricts and what factors led to low competitiveness of SMEs in Medan by connecting to the SME's ability and commitment variables to its business. The analysis technique used was using multiple linear regression analysis. and the results of the study showed that the results of the F test were obtained by 321,409 with Sig 0,000 < α 0,005 indicating that Ho was rejected and Ha was accepted, meaning Competence (X1) and Commitment of SMEs (X2) significantly affected the competitiveness of SMEs (Y) in level of α 0,005. It means that even though the commitment of SMEs together has positive results but the commitment of SMEs that can change towards this good leads to positive values T test results (count 1) for Competence of 14,356 > t_{α} (table 1) of 2,001 which means that Competence is influential in providing Competitiveness of SMEs in the Business. For t_{α} (count 2) of 2,244 > t_{α} (table 2) 2,001 means that if the SME Commitment is increased, it will make SME's competitiveness in competing with other similar businesses increase. Determination test of 0.917 means that together the Competency variables (X1) and UKM Commitments (X2) affect the Competitiveness of SMEs in the city of Medan.

Keywords: Competitiveness, SME, Capability, and Commitment

Paper A7-02

THE IMPACT OF MICROCREDIT IN MALAYSIA – A SYSTEMATIC REVIEW

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ABSTRACT: Microcredit scheme was established to provide small loan to assist poor people to generate income through self-employment activities. This loan enables the poor people to either start a small business venture or to expand their existing small business activities. This business ventures are intended to help them to achieve economic independence. There were clear evidence in the literatures that microcredit delivers positive impact in uplifting the socio-economic status of the micro-entrepreneur. However, there were also some studies that indicated that microcredit worsen the economic well-being of the poor or in some cases microcredit does not reach the intended target that is the poor. This paper is intended to review the effectiveness of the microcredit scheme in Malaysia based on existing literatures on the impact of microcredit on its recipients. In doing so, we have identified 10 related studies to be examined. The analysis discovered that the impact of microcredit can be categorized into economic impact and social impact. However, the social impact of microcredit is relatively less studied than the economic impact. The economic impact of microcredit was discovered to have a positive relation with income, asset, economic vulnerability, saving, spending and employment. On the other hand, our review found that the social impact of microcredit have a direct relationship with empowerment, quality of life and welfare of the beneficiaries. Overall, the evidence showed that microcredit has positive impact on the beneficiaries which, to a large extend, includes the poor.

Keywords: microcredit, economic impact, social impact, systematic review, Malaysia

Paper A7-03

THE EFFECT OF NETWORK INFRASTRUCTURE INVESTMENT, NUMBER OF CUSTOMERS AS CONSUMPTION OF RUPIAH EXCHANGE RATE THROUGH INFLATION USING PATH ANALYSIS IN TELECOMMUNICATIONS COMPANIES IN INDONESIA (CASE STUDY OF PT. INDOSAT)

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ABSTRACT: Three operators of telecommunications companies in Indonesia, namely Indosat, Telkom and XL announced their business performance in 2018 which suffered losses. Deputy Chairperson of the Association of All Indonesian Telecommunications Organizers (ATSI) Merza Fachys said that this happened because there were macroeconomic and regulatory factors that made business people consolidate in business strategies. Especially the weakening of the rupiah exchange rate against the US dollar which has penetrated the Rp. 15 thousand figure. The challenge for operators when the rupiah exchange rate weakens is to face high operational costs. "Especially if there is equipment that leases and pays with US dollars. Realizing this problem, then the formulation of the problem in this study is taken, namely whether the number of customers, and the number of networks affect the exchange rate through inflation. The theory used in this study is economic micro and management related to exchange rates, inflation, customers and investment. The method used is a quantitative approach using secondary and numeric data with time series types, applications that are used through Paths, and the results of this study stating the amount of investment directly influences and is positively related to the number of customers, the number of customers directly does not affect inflation and is negatively related, the amount of investment directly does not affect inflation and is positively related, the number of customers directly influences and correlates negatively to the exchange rate, the amount of investment directly affects the exchange rate and is positively related. Inflation directly has no effect on exchange rates and is positively related

Keywords: Number of Customers, Network Investment, Inflation, Exchange Rates

Paper B1-01

**RELAPSE DAN KAEDAH PEMULIHAN DI RUMAH PENGASIH
RELAPSE AND RECOVERY METHOD AT RUMAH PENGASIH**

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Abstract: Increasingly developing countries towards developed nation status, the development of adolescents and youth were also seen flourished alongside technological advances. The achievement of this group in the field of education and innovation is very commendable. But there is no denying, there is still no exist a handful of acting not in line with the development of the country. They fall into the growing social problems. Sad when it is among teenagers as early as age 12 have begun smoking and sucking good drugs. This study will review experience relapse and recovery method used by Rumah PENGASIH in the recovery process. Kedah is seen as factors that contribute to the confidence of addicts to recover from drug addiction. Using qualitative methods in the form of case studies, this study was carried out at Rumah PENGASIH Amanjaya, Gopeng, Perak. Respondents selected through the age of around 20's, 30's and 40's.

Keywords: Experience 1, Relapse 2, Support 3, Recovery 4

Paper B1-02

**LOCAL WISDOM OF BELITUNG MALAY COMMUNITY IN ANDREA HIRATA'S NOVEL
SIRKUS POHON**

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ABSTRACT: The objective of the research is to describe local wisdom in Belitung Malay community in Andrea Hirata's novel Sirkus Pohon by applying Sibarani's two types of core local wisdom. (2013). As Sibarani (2003) states that local wisdom belongs to humans that derives from their own cultural values by using all their minds, and their knowledge to act and behave towards their social environment. While, Sibarani's two types of core local wisdoms, namely local wisdom for prosperity and peace or goodness and local wisdom which aims to build peace with a good community personality. The writers use qualitative research, hermeneutics type. This type is considered appropriate for local wisdom study. Endraswara (2011) states that hermeneutics is a paradigm that attempts to interpret the text on the basis of linguistic logic, which can make explanations of literary texts and understanding meaning by using word meaning and then the meaning of language.. The writers analyze and divide local wisdom into six categories, they are local wisdom about daily habits, about inheriting the noble values of Belitung Malay community, about using wise words, about staging of marriage ceremony, about cultural preservation. The writers conclude that five of the categories are local wisdom for prosperity and peace or goodness and local wisdom about cultural preservation aims to build peace with a good community personality.

Keywords: Local Wisdom, Belitung Malay Community, Sirkus Pohon

Paper B1-03

THE TRADITIONAL CULINARY BUSINESS VIA ONLINE AND CHANGES OF HUMAN BEHAVIOR

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ABSTRACT: The change of human behavior on the culinary business due to online technology is a new phenomenon in Southeast Asian Countries. Based on the paradigm of the Science Technology and Society (STS), there is a new cultural behavior or change due to the connection of technology in the society. This paper seeks the growth of culinary business which offers traditional or local food in North Sumatra Province of Indonesia. With an observation and survey techniques, it explored the positive effects online system on the growing of cafes and restaurants around Medan Municipality of North Sumatra. This study used three indicators in the fieldwork; they were: reinvention of gastronomy and transformational traditional culinary, online system for food commerce, as well as potential culinary for global tourism. Data obtained revealed that the number of reinvention of gastronomy and transformation of culinary business significantly increased from 2016-2018. The types of menus and transaction of cafes and restaurants grew double since the application online system. It found the human behavior in ordering the local food of North Sumatra change because the online system makes the easier and faster to get the food at homes, offices, and other places. Technology enhances the reinvention of local gastronomy and transformation of culinary business of North Sumatra Province of Indonesia. It has a great impact on the global tourism development.

Keywords: culinary business, online system, human behavior

Acknowledgements: Research grant of Ministry of Research, Technology, and Higher education of Indonesia 2019-2020

Paper B1-04

DEVELOPING OF PSYOSPIRITUAL MODEL TO INCREASE RECOVERY FEATURES OF PEOPLE ON SURVEILLANCE

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ABSTRACT: Religious-based reinforcement plays an important role in the Supervisory Person (OKP) as the basis for self-defense in maintaining a recovery. Some AADK drug rehabilitation institutions have embarked on psychospiritual treatment and rehabilitation modules, namely the ISRA module (Islamic Spiritual Rehabilitation Approach) which highlighted spiritual and religious elements. According to Fauziah et al. (2017) found that spiritual and religious programs can help empower addicts to change their behavior of leaving drugs. Hence, the implementation of psychospirit-based modules is further reinforced as an effort to reduce relapse rates amongst the OKPs. The ISRA module emphasizes the practice of dhikr in treatment because it is able to treat the client's spirit as well as to avoid relapsing and continue to become a fortress while in society. Psychospiritual elements such as prayer practice, remembrance (Ariyanto, 2006; Longshore, Anglin & Conner, 2009; Juhnke, 2009) and prayer (Mohamad Aiman, 2010; Fatimah, 2008) have proven to have a positive impact on drug rehabilitation. This study explores the features of the OKP recovery that have been through psychospiritual models and the relevance of how bio-training feedback helps in the recovery process. This paper uses a conceptual analysis tool to describe something based on ontology and epistemology ie how spiritual and religious elements can be the bastion of drug redundancy. Thus, this writing focuses specifically on the effects and changes of the OKP after the psychospiritual model as a case of discussion.

Keywords: OKP, modul ISRA, psychospiritual, recovery features, bio feedback

Paper B1-05

THE CAMBODIAN MUSLIM COMMUNITY IN MALAYSIA: AN ETHNOGRAPHIC OVERVIEW

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ABSTRACT: The mass exodus of Cambodian Muslim community's into Malaysia occurred in 1975 following the acquisition of administrative powers by the Khmer Rouge or Red Khmer regimes led by Pol Pot. This event became a turning point that brought the changes of administration of Kampuchea to Communist regimes. The cities were emptied and the people were forced to work to 'develop' the country regardless of their religious, gender, ethnic, educational, and social class backgrounds. The implication is that 1.5 - 2 million Cambodians died from hard work, starvation, disease and killed without apparent cause during the Pol Pot regime. The survivors are seeking political asylum in neighboring countries. They were detained in refugee camps and they were screened and processed by UNHCR before being settled in Malaysia. This study was conducted using an ethnographic approach among the Cambodian Muslim community. Results show that these community has established a strong social networks through kinship ties, marriage, religion and ritual for sustainable livelihood. The Cambodian Muslim community is now part of the Malaysian people and is spreading across the peninsula

Keywords: Cambodian Muslim, Refugee, Kinship, Social network, Regime Pol Pot.

Paper B1-06

BELONGING IN DISTANCE LEARNING: A PRELIMINARY REVIEW ON STUDENTS' PERSPECTIVES

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ABSTRACT: With Industrial Revolution 4.0, distance education is becoming a standard in higher education. One of the dynamics of distance education is, it allows the pursuit of education without the need for one to displace themselves. It offers the flexibility of time and space traditional education is constricted to. Past studies discovered that learning improves when there is a sense of belonging in the distance education community. Despite this, distance education is not omnipotent. While it is convenient, the issue of effectiveness often comes into question. Previous research revealed the lack of belonging as one of the causes of ineffectiveness in terms of satisfaction, graduation on time, dropout rates and learning outcome in distance education. The formula to effective learning consequently became a battle between belonging and isolation. This is problematic because essentially, learners are expected to self-study with distance education. As conceptual paper this paper investigates students' experiences in distance education through a preliminary qualitative survey for descriptive purposes; it explores students' experiences on belonging in distance education. The finding reveals that learners do not feel isolated from distance learning but instead felt belonged in the community. This finding contrasts from the usual research outcome of belonging in distance education. As preliminary research, further research needs to be conducted to explore the relation between belonging, isolation and the emerging themes identified in this research.

Keywords: Belonging, Distance Education, Isolation, Relation

Acknowledgements: Short Term Grant, Universiti Sains Malaysia (304 / PJJAUH / 6315196)

Paper B2-01

**POLITIK MEDIA DAN MEDIA POLITIK DALAM STRUKTUR PENTADBIRAN
MALAYSIA: SATU KAJIAN PERBANDINGAN ANTARA DUA GELOMBANG MEDIA
(PRU 13, 2013 DAN PRU 14, 2018)**

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ABSTRAK: Muktahir ini politik dan media dilihat mempunyai satu hubungan yang sangat rapat antara keduanya. Hal ini kerana kedua duanya memerlukan antara satu sama lain. Politik berurusan dengan ideologi tentu bersangkutan dengan kehidupan sosial rakyat. Oleh yang demikian media adalah jambatan diantara topik atau tema yang bersangkutan dan menjadi penghubung kepada rakyat. Dalam konteks ini media memainkan peranan yang cukup signifikan kepada khalayak dalam menyampaikan maklumat tidak kira dari pelbagai bentuk saluran yang terdapat pada masa kini. Menurut Schramm (1964), media massa memainkan berberapa peranan kepada masyarakat seperti; sebagai pemberi maklumat yang cepat dan tepat pada waktu yang diharapkan oleh masyarakat dan sebagai pembuat keputusan melalui perbincangan dengan kelompok yang memperjelaskan masalah yang sedang dibincangkan. Oleh itu, kajian ini akan mengkaji corak perubahan yang berlaku akibat daripada pengaruh media terhadap masyarakat dan bagaimana media digunakan untuk menjadi saluran dan utusan oleh politik.

Kata kunci: Media Politik, Politik Media, ideologi, maklumat, dan masyarakat

Paper B2-02

**POLITICS OF SPATIAL PLANNING: RELATIONSHIP BETWEEN THE EXECUTIVE
AND LEGISLATIVE**

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ABSTRACT: This paper examines the power relations between the Executive and the Legislative in the Issuance of Use and Utilization of Land Permits in Gowa Regency . This study aims to describe the power relations between the DPRD and the Government of Gowa Regency in the Issuance of Land Use and Utilization Permits. This research uses the theory of power, space theory, good governance theory, political communication. The research method used in this study is a qualitative method with data collection methods namely interviews, observation, and documentation. The results of this study explain that the Gowa Regency Government and DPRD prioritize the interests of the developer. The suitability of space in this case is not too much attention. The Gowa Regency Government and the DPRD support or accept developers to invest in Gowa Regency especially for the issuance of land use and utilization permits for housing development. But on the other hand the people who want to take care of land certificates tend to be complicated by the government and in this matter there is no form of supervision or follow-up from the DPRD. The DPRD is not included in the process of issuing permits for direct use and use of land but the function of the DPRD is to oversee the process of issuing permits for use and utilization of land. For developers or investors who do not get permission, they can take other steps, namely to complain to the DPRD formally and legally to find a solution. The implication of this study is that the Regional Government of Gowa Regency should have serious attention in this matter by formulating spatial policies, considering the value and spirit of managing diversity in policy practice. In order for the Gowa Regency Parliament to oversee the issuance of land use and utilization permits for housing development and investor activities in Gowa Regency that have not been regulated in regional regulations and developers or investors should pay more attention to the suitability of the requested space.

Keywords: politics, spatial planning, relation between executive and legislative, land use permits

Paper B2-03

EVALUATING TRUST IN PUBLIC ADMINISTRATION USING FOUR DIMENSIONS OF E-SERVICE QUALITY: AGE AS A MODERATOR

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ABSTRACT: Upholding a citizen trust in public administration become a main focus for the government in order to maintain a satisfactory long term. Low level of trust is said one of the leading factors for the citizen to have less confidence toward the decision and action made by the government. In this case, a trustworthy relationship help to increase efficiency and effectiveness of government administration and improve the performance of the organization. However, it is sad to realize that the level of trust in public administration is diminishing over the years. This hurtful trend of public trust happened since 1960s. In this case, applying new governmental style such as e-government initiative is said able to give a positive impact on public trust level. Thus, this quantitative study intend to discover the the truth behind this using four dimensions of e-service quality which are efficiency, privacy, fulfilment and system availability. This research also intend to see the effect of age as a moderator variable between e-service quality's dimension and public administration trust. SMART-PLS is use as a tool for analysis in analyzing data collected from the survey distributed to 100 respondents who have an experience in using any of e-government services provided by the Malaysian government.

Keywords: Trust, Public Administration, E-service Quality, Age

Paper B2-04

THE VALUES OF MUSLIM FRIENDLY TOURISM: AN INDONESIA EXPERIENCE PERSPECTIVE

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ABSTRACT: This research to propose a framework to better understand Muslim-friendly tourism and Islamic values. Many tourism researchers perceive value and propose various concepts regarding tourism that are based on religious values in various terms. Indonesia as the largest Muslim community is an opportunity to develop tourist destinations with religious values that do not only focus on issues of pilgrimage but other destinations related to the needs of Muslim tourists. A tourism product is needed that supports and facilitates special Muslim tourism in carrying out religious activities without having to eliminate the religious diversity that is characteristic of the Indonesian people in the tourism space. However, the exploration of Value Muslim-friendly tourism is very necessary to expand the concept so that it fits the needs of Muslim tourists where Muslim tourists have made the largest tourism market in the world, while the value offered on tourist oriented market needs is still not clearly defined. Therefore, a framework is needed to present an Islamic view of the concept of Muslim values in friendly tourism which is the first goal of this research. This research provides a description of the halal tourism market in Indonesia and also provides a description of the problems that occur in Muslim-friendly tourism values.

Keywords: Muslim Tourism, Muslim Tourism Indonesia, Muslim-friendly tourism and Islamic values.

Acknowledgements: Indonesian Endowment Fund for Education, Ministry of Finance of Republic of Indonesia

Paper B2-05

COLLEGE STUDENTS SYNERGY AND POLITICAL DEVELOPMENT OF SINJAI DISTRICT YEAR 2007-2017

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ABSTRACT: This research is about the Synergy of Students with the Government in Political Development in 2007-2017. This study aims to find out how the role of students in Helping the Political Development of Sinjai Regency in 2007-2017 and to explain how the pattern is built between students and the government so that later they can synergize more in building Sinjai district. The type of research used is qualitative research which describes events or events, people's behavior or situation in a particular place in a detailed and in-depth narrative form. The primary data collection method in this thesis uses interview methods and observation methods, while secondary data uses documentary methods and literature review methods. Data analysis method used is descriptive analysis from the results of interviews, researchers will describe and analyze based on the theoretical framework used in this study. The results of the study show that Sinjai students took part in the process of helping the political development of Sinjai district, both in terms of monitoring the implementation of policies and in terms of evaluating public policies. In addition, this study also shows that the lack of synergy between students and the Sinjai government is seen from the many rules that are considered as inefficient students. For example, Regent Regulations concerning Procedures for Providing Educational Funding to District Students. Sinjai and Regional Regulations concerning Regional Property Usage Retribution.

Paper B3-01

CONFLICT IN HAMKA'S NOVEL MERANTAU KE DELI: A SOCIOLOGY OF LITERATURE APPROACH

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ABSTRACT: This research aims at defining and describing conflicts faced by the protagonist, Leman, in Hamka's Novel *Merantau Ke Deli*. Hamka through the novel tells about Minangkabau ethnic group and its customary law which adopts matrilineal system. The system adopts the family ties of mother. The system puts the position of men under the women in many aspects of life such as considered as guest (*urang sumando*) in his own house, and no power in deciding his daughter's marriage. This research conducted uses descriptive qualitative method proposed by Cresswell (2013). Conflict theory proposed by Fickering which divided conflict into social conflict, interpersonal conflict, and intrapersonal conflict is applied. Sociology of literature approach is used to reveal kinds of conflict, causes of conflict, and solutions of the conflict. The result showed that the protagonist, Leman faced social conflict about the customary law applied in his community. As a Minangkabau man, he has to marry a Minangkabau woman to be considered in the society although he has married a Javanese woman and to be allowed in using an honorific title in Minangkabau society. The interpersonal conflict faced by the protagonist is between he and his wife, Poniem. And the intrapersonal conflict is when he decided to marry Marriatun, a Minangkabau woman, to be his second wife.

Keywords: conflict, social, interpersonal, intrapersonal, Minangkabau

Paper B3-02

BUILDING THE BEST PERSONALITY OF YOUTH THROUGH VALUES AND TEACHING IN NOVEL KASIH NAN AGUNG FROM SPB4K THEORY PERSPECTIVE

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ABSTRACT: This study focuses on the analysis of a novel titled *Kasih Nan Agung* by Sri Rahayu Mohd Yusop in building a self-admired personality of adolescents. The main focus of this study is to link values and lessons from the perspective of the 4K Integrated Thought System (SPB4K) theory. This study can be used as a guide and example in today's youth life. 4 thoughts in this theory are spiritual thoughts, instincts, certainty and creativity. The intrinsic and extrinsic textual study covers religious, religious, moral, ethical, normative and artistic writing styles. Preliminary study finds the novels of *Kasih Nan Agung*, educating teens about the beliefs of God's existence that creates human events and the universe. With that belief, a teenager will obey all instructions and abandon all his prohibitions. This belief is in line with spiritual thought. If these beliefs exist in adolescents, they will defend religion and belief from being mocked or humiliated. Besides that, the values and lessons that can be emulated by today's teenagers are highly motivated and open-minded in the face of various allegations to not easily give up. This is in line with the thinking of the past and the thinking of the truth. The novels that won the first place of the New Year's Eve Magazine Literary Prize category in 2008 are full of beautiful and unique language styles that can be explored using creative thinking. In this regard, through literary works, teens not only better understand the concept of literature, but also enhance the use of language, language politeness and even add to the collection of vocabulary and vocabulary through the novel that is read.

Keywords: Personalities, Teens, Novels, Thoughts, Spirituality, Intercourse, Confidence, Creativity

Acknowledgments: Kementerian Pendidikan Malaysia di atas penganugerahan geran penyelidikan Eksplorasi (ERGS) Fasa 1/2013 (ID: 2013-0089-107-22)

Paper A4-02

THINK E-READER: PEDAGOGICAL-LED OPEN EDUCATIONAL RESOURCES (OER) FOR METACOGNITIVE READING SKILLS AMONG ELEMETARY READERS

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ABSTRACT: Research has indicated that reading comprehension is an interactive, constructive, meaning-making process, which entails the use of reading skills and the types of reading materials. In that sense, the presentation of reading text is a valuable and a critical component in developing metacognitive reading skills to comprehend texts. Studies have also found that elementary readers encountered difficulties in comprehending traditional printed texts which contain rigid and static presentation of information. Besides, both experimental and descriptive studies claimed that metacognitive reading skills play an outstanding role in enhancing comprehension in reading. With this ever-growing significance of metacognitive reading skills, this study mainly aimed at developing metacognitive reading skills among elementary readers through the invention of Think e-Reader. Based on the Experiential Learning Theory of David Kolb (1984), Think e-Reader consolidates open educational resources (OER) by transforming reading experiences, including cognition, environmental factors and emotions for deeper cognitive processing. The findings of this study suggested that Think e-Reader has successfully engaged and developed metacognitive reading skills among elementary readers on an average of 40 per cent. The readers were able to provide correct answers for reading comprehension questions and relate their thoughts with the story in open-ended questions. The findings have implications on learning and teaching reading comprehension strategies among elementary readers by tapping into the contemporary online literacy practices.

Keywords: Think e-Reader, pedagogical-led, open educational resources, metacognitive reading skills, and elementary readers

Paper B3-04

DEVELOPING ENGLISH BASED ON MODEL OF MARKET NEED-ORIENTED TO ENHANCE STUDENTS' ACHIEVEMENT

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ABSTRACT: C Package Program is one of informal education program which is parallel to senior high school or vocational school in Indonesia. This program is intended to replace the formal education for students who cannot continue his/her education in formal education program. One of the compulsory sources that must be learned in this program is English. Many experiences show that the students' achievement in English is far from being satisfactory. Therefore, a model of learning that is potential to enhance students' achievement in English should be created. The research aims at describing the development of the model, the validity of the model, and the students' achievement in English. The model developed is called Model of Market Need-Oriented. The research was conducted by using research and development design. The research started with preliminary studies to know the design of Model. The syntaxes used in this model are (1) orientation activities, (2) presentation (which covers many activities, namely: (a) cooperation in the study group, (b) role playing, (c) group showcase, (d) assessment on the work of group as feedback, and (e) reflection), and (3) closing. The result show that the model has met the requirements, the model is valid, and the students achievement is satisfactory and the students under the model can work together and perform the responsibility to the teaching materials.

Keywords: Learning Model, Market Need-Oriented, C Package Program, Compulsory Course, Informal Education.

Acknowledgements: Author would like to thank UMN Al Washliyah Rector for funding this Research. Then the thanks is also sent to the Head of C Package Program who allowed his school to be the place for this research.

Paper B4-01

SUB BITUMINOUS COAL BLENDED ANALYSIS

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ABSTRACT: The purpose of the study is to examine the blended coal specification which was selected as a main fuel in thermal coal power plant. Due to limited preferred coal and designed coal to the thermal power plant specification, the coal blending facilities was carried out. However, before firing the blended coal the coal specification must be determine to predict the coal performances and characteristics. Besides, the chemical analyses and testing of a coal sample are generally done at the first stage at off-site in a laboratory. Therefore, the quality and rank for the blended coal with its intrinsic characteristics between two types of sub-bituminous coal were evaluate first. The study also presents the ash analysis for blended sub bituminous coal in prediction for slagging and fouling affects in the boiler furnace. The results show, the coal blended specification was moderate. The paramters is looking at the slagging index and fouling index which is categorize at the same level, medium. Summaries of the sub bituminous; coal medium calorific value, moderate moisture content, high HGI, low ash content, moderate fuel ratio, medium Nitrogen content, moderate ash fusion temperature, low content of SiO₂ and moderate content of total sulphur. In addition, the study recommends to closely manage the handling storage of the blended coal, carefully monitor slagging deposits in the boiler, the need for inspection of the fouling deposit at the superheater.

Keywords: Sub-bituminous Coal, Blended Coal, Proximate Analysis, Ultimate Analysis

Paper B4-02

INFLUENCE OF DIFFERENT OF MOLD INLET GATE ORIENTATION ON WIRE SWEEP IN PBGA ENCAPSULATION PROCESS

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ABSTRACT: This paper presents three-dimensional (3D) fluid structure interaction (FSI) technique; using Mesh based Parallel Code Coupling Interface (MpCCI), for the visualization of wire sweep during encapsulation of plastic ball grid array (PBGA) package. The effect of different of mold inlet gate orientation on the melt flow behavior and wire sweep are mainly studied. The 3D model of mold and wires are created using GAMBIT, and the fluid flow and structure are simulated using FLUENT and ABAQUS, integrated with MpCCI. The Castro-Macosko model is used to incorporate the polymer rheology and Volume of Fluid (VOF) technique is applied for melt front tracking. User-defined functions (UDFs) are incorporated to allow for curing kinetics. Wire sweep profiles are presented. The numerical results of melt front patterns and filled volume are compared with the experimental results and found in good agreement. It is observed that the different of inlet gate orientations of center and diagonal position are significantly influence the eventual wire sweep.

Keywords: Fluid structure interaction, Mesh based parallel code coupling interface, Castro-Macosko model, Epoxy molding compound, Volume of fluid, Wire sweep

Paper B4-03

STUDY OF COMPOSITE HARDNESS WITH GANODERMA BONINENSE MUSHROOM PARTICLES AS THE FILLER AND EPOXY RESIN AND POLYESTER RESIN AS MATRIX

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ABSTRACT: This study describes the hardness testing of two composite materials with the same fillers, namely ganoderma boninense mushroom particles (with variations in volume and particle size). This mushroom can cause rot at the base of oil palm tree trunks so that it can damage the oil palm tree. While matrix used as adhesive are polyester resin and epoxy resin. Mushrooms soaked with alkaline (NaOH) for 1 hour to remove dirt and sap which can reduce the bond between the matrix and particles, after that heat it in oven with a temperature of 60 degrees Celsius for 12 hours to remove the water content. Then the mushrooms are made into particles using a blender that has a rotation of 28000 rpm and sieved with mesh of 20, 30, 40, and 50. A mixture of mushroom particles and matrix stirred and poured into a glass mold. After 12 to 24 hours the mold can be opened and the specimen has been formed. The test results showed composites with variations of mushroom volume and epoxy resin matrix is harder than polyester resin matrix with a percentage between 23.25% to 64.51%. Whereas with variations in particle size, composites with epoxy resin matrix are also still harder with a percentage between 9.2% and 22.85%. Even so the difference in hardness is not too significant because the unit of hardness is mikrovickers.

Keywords: Hardness, composite, ganoderma boninense, polyester resin, epoxy resin

Paper B4-04

TOF-SIMS FRAGMENT PATTERN ANALYSIS OF BORON-DOPED CHEMICAL VAPOUR DEPOSITION DIAMOND

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ABSTRACT: Chemical vapour deposition diamond has been used widely in optoelectronic applications such as sensors, detectors and electrodes. Boron doping is usually necessary for device applications to achieve *p*-type conductivity and can be done by adding various gases such as diborane (B_2H_6) or trimethyl borate ($C_3H_9BO_3$) with the methane and hydrogen gas stream into the reactor. Time-of-flight secondary ion mass spectrometry (ToF-SIMS) is usually used for surface analysis of light element dopants in minute atomic concentrations. Fragment patterns are able to detect species in the parts-per-billion (ppb) range. However, ToF-SIMS surface analysis based on the ion fragments can be problematic due to the difficulty of obtaining reference spectra for the materials that are analysed as well as the disadvantage of detecting fragments originating from unavoidable contaminants on the sample surface. In this work, we study the fragmentation patterns of as-received boron-doped CVD diamond to identify common contaminant peaks (e.g. atmospheric aerosol particles) from peaks originating from the diamond material. Fragment patterns are acquired using Bi_1^+ as the primary ion source and operated in the high current bunch mode from the IONTOF IV instrument. The positive spectrum shows the presence of B^+ while the negative spectrum indicates that BO^- and BO_2^- are the only ion fragments with boron.

Keywords: time-of-flight secondary ion mass spectrometry, chemical vapour deposition diamond, boron, fragment pattern analysis.

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Paper B4-05

CAST IRON GREEN MACHINING

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ABSTRACT: The main activity in the metal cutting industry is machining various kinds of metal materials to make various products such as bolts, couplings, gears, shafts, and other engine components for sale in the local market as well as for export trade needs. Cutting fluid is often used for metal machining, this aims to obtain a long tool life and low machined roughness, but it turns out that the use of this coolant has a negative impact on machine operators and the environment. The negative impact on machine operators is lung disease and skin disease while in the environment is environmental pollution because cutting fluid is from synthetic materials that cannot decompose in nature, for this reason scientists are trying to eliminate the use of cutting fluid in metal machining. In this paper a dry machining test was carried out on a cast iron with 8 (eight) varied cutting conditions (2^3 factorial method). In the test, information on tool wear (VB), machining time (t), surface roughness (Ra), machining length (lm), machining volume (Vm) and Material removal rate (MRR) were obtained. The test data are then analyzed so that from the 8 (eight) cutting conditions the optimum cutting conditions are obtained to be applied to environmentally friendly machining (green machining).

Keywords: coolant, cast iron, green machining

Acknowledgement: Research funding from DIRJEN DIKTI Indonesia

Paper B5-01

STUDY ON POLYETHYLENEGLYCOL (PEG) AND SALICYLATE ACID APPLICATION AS ALTERNATIVE STIMULANTS IN INCREASING RUBBER LATEX YIELD OF CLONE PB260

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ABSTRACT: The purpose of this study was to determine the effect of PEG (Polyethylene Glycol) and salicylic acid in increasing rubber latex yield of clone PB260. This study was carried out in PTPN III, District of Galang, Regency of Deli Serdang, Province of North Sumatra, located at 25 m above sea level. This study uses a factorial Randomized Block Design (RAK) with two factors and three replications. The first factor is PEG which consisted of 0%, 3%, and 6% . The second factor is Salicylic Acid application which consisted of 0 g/L, 1 g/L, 2 g/L and 3 g/L. The parameters observed were production (g/p/s), TSC (Total Solid Content), duration of latex flow, and plugging index. The results showed that application of PEG as an alternative stimulant has a significant effect in increasing latex yield, latex flow rate and reducing plugging index while application of salicylic acid has a significant effect in increasing production and TSC but has no significant effect on the latex flow rate and plugging index. PEG is potential to be used as an alternative stimulant but further research is still needed to determine the long term effect of PEG on plants.

Keywords: PEG, salicylic acid, PB 260, quick stater

Paper B5-02

PROPER STIMULANT APPLICATION TO DETERMINE LATEX PHYSIOLOGY CHARACTER AND PRODUCTION OF CLONE RRIM 921 IN REGENCY OF DELI SERDANG

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ABSTRACT: Physiological characteristics of rubber trees are closely related to the ability to form latex. Sucrose, inorganic phosphate, and thiol levels in latex are physiological characters. The purpose of this study was to determine the correlation between physiological characters and latex production of clone RRIM 921 and proper stimulant application without disturbing the health of rubber trees. This research was conducted at PT. Perkebunan Nusantara III (Persero), Sei Putih Farm, and Physiology Laboratory of Sungei Putih Research Institute in 2018. The clones tested in this study were 17 years old of clone RRIM 921. This study uses correlation statistical analysis and regression test. Correlation analysis show that Pi level has negative significant correlation with Thiol latex, where high level of Pi will be followed by low level of thiol and vice versa. Latex production of clone RRIM 921 in May, June and July were not affected by latex physiology. The right stimulant application after leaf fall for RRIM 921 is in May.

Keywords: Hevea brasiliensis; sucrose; phosphate inorganic; thiol

Acknowledgements: The research was funded by the Ministry of Research, Technology and Higher Education, the Republic of Indonesia through National Competitive Grant Research, Ministry of Research, Technology and Higher Education (Grant IDNo. 0045/E3/LL/2018 and No. 58/I/LP-UISU/V/2018)

Paper B5-03

**EFFECT OF SHADE AGAINST SOIL AVAILABILITY AND NUTRIENT BALANCE
OF PLANTED *Asystasia gangetica* (L.) T. ANDERSON AS COVER CROP**

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ABSTRACT: Cover crops is widely used in plantations and seasonal crops because of its advantages for land conservation, weed control and improving soil physical, chemical and biological properties. This study aimed to study the effects of shade against availability and nutrient balance on the soil planted *Asystasia gangetica* as cover crop. *A. gangetica* cuttings were planted at a spacing of 20 cm x 20 cm at Faculty of Agriculture UISU Experimental Field from January to June 2018 using Randomized Completely Block Design with six replications and shade as a treatment. The results showed that nutrient availability of N and K was higher in non-shade conditions, while the availability of P nutrients was higher in shaded conditions. Based on the nutrient balance that planting of cover crop *A. gangetica* in non-shade conditions could increase N, P, K, but in shaded conditions could increase P and K in the soil.

Keywords: Nutrient uptake, N, P, K, chemical properties

Acknowledgements: The research was funded by the Ministry of Research, Technology and Higher Education, the Republic of Indonesia through National Competitive Grant Research, Ministry of Research, Technology and Higher Education (Grant ID No. 0045/E3/LL/2018 and No. 58/I/LP-UISU/V/2018)

Paper B5-04

GROWTH AND YIELD OF UPLAND RICE BY MULCHING

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ABSTRACT: Upland rice is an alternative rice producer for lowland rice. Mulching is an alternative of agronomic technique for increasing upland rice productivity. The purpose of this study is to modify plant media by utilizing mulch to increase growth and yield of upland rice. The study used factorial randomized block design with three replications. The first factor is upland rice varieties, namely: Red Sigambiri, IPB 8G, and IPB 9G. The second factor is mulch, namely nomulch; Silver Black Plastic Mulch; *Asystasia gangetica*; and rice straw. The results showed that mulching was only able to affect the growth of upland rice. The use of several upland rice varieties was able to influence the growth and yield of upland rice and IPB 9G varieties were superior compared to Red Sigambiri and IPB 8G. Interaction treatment can only influence the growth of upland rice, namely number of productive tillers. The highest number of productive tillers was found in the interaction of IPB 9G variety with Silver Black Plastic Mulch. Red Sigambiri and 8G IPB varieties produced the highest number of tillers at *A. gangetica* mulch.

Keywords: upland rice, mulch, growth, yield

Paper B5-05

ACCUMULATION OF HEAVY METALS IN SOIL AND *ORYZA SATIVA* SAMPLES COLLECTED FROM RICE FIELDS IN PEDU, KEDAH

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ABSTRACT: The study was conducted in several rice fields in Kg Bukit Kura, Pedu, Kedah. The aim is to determine the content of heavy metals in various parts of the *Oryza sativa*, namely roots, stem, leaf, paddy, rice husk, rice bran, brown rice and white rice. The heavy metal levels were also collected from the soil surrounding the root zone. Heavy metals studied were cadmium (Cd), chromium (Cr), copper (Cu), iron (Fe), manganese (Mn), lead (Pb) and zinc (Zn). The presence was detected using Inductive Couple Plasma Mass Spectrometry (ICPMS). Results showed that iron (Fe) was the most predominant metal ion in the soil and plant parts such as roots, stems, leaves, rice husks and rice brans, while zinc (Zn) was the most predominant metal in the grain such as brown and white rice. The concentrations of heavy metals in the rice grains were however below the maximum levels as stipulated by the Malaysian Food Act(1983) and Food Regulations (1985).

Keywords: Heavy metals, *Oryza sativa*

Acknowledgement: MARDI Study Scholarship, USM Bridging Grant

Paper B6-01

DEVELOPING COMPETITIVENESS INDEX FOR MALAYSIA STATES

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ABSTRACT: Over the years, urban competitiveness has become an important issue in the modern world. A competitive cities have complex and multi-dimensional features. The concept of urban competitiveness can be referred to not only the ability of urban area to provide a suitable business environment capable of attracting investors from around the world but also at the same time promote better urban living experience of its residents. Due to problem of data availability for municipalities, this study will examine the concepts of urban competitiveness from the perspective of states in the context of Malaysia by applying the comprehensive States Competitiveness Index to rank the level of competitiveness for all 14 states in Malaysia for the period 2005-2016. This study investigates the dimensions of states competitiveness and the factors influencing states competitiveness using a three-level hierarchical indicator system covering economic, social and environmental dimensions to arrive at a competitiveness index. An equal weightage method was used to address the three dimensions. The index is based on 24 indicators across 6 dimensions namely Economic Performance, Economic Structure, Marketization and Openness, Quality of Life (QoL), Domestic Security and Environmental. The index of competitiveness is therefore the weighted sum of these indicators. The result shows that in term of ranking Wilayah Persekutuan Kuala Lumpur is the most competitive states from year 2005 to 2016. In year 2016 the state with the top competitiveness in the dimension of Economics Performance, Quality of Life and Environmental was Wilayah Persekutuan Kuala Lumpur. The top competitiveness for the dimension of Economics Structure was Selangor, while for Marketization and Openness was Johor and for Domestic Security was Sabah. A state does not necessarily rank the same in economic, social, and environmental competitiveness, but may perform well in different ways. The paper argues that, in order to sustain competitiveness, a state should achieve not only good economic performance, but also satisfactory social and environmental development.

Keywords: Competitiveness, Economic Performance, Economic Structure, Marketization and Openness, Quality of Life, Domestic Security and Environmental

Paper B6-02

THE IMPACT OF RETAIL 4.0 TECHNOLOGIES ADOPTION ON RETAILERS' PERFORMANCE IN MALAYSIA

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ABSTRACT: The Malaysian retail industry has been on a downward trend in recent times. This is mainly due to customers' shift from 'brick and mortar' stores to online shopping. However, online shopping, too, has its limitations. The younger generation (Gen Y and Gen Z) is technologically savvy and as such, has different expectations from retailers, when compared with previous generations. They desire an omnichannel shopping journey which covers 'brick and mortar' stores, online shopping, webrooming and showrooming. In addition to this, they are also interested in retail outlets which have incorporated novel technologies as these outlets provide them with a unique and exciting shopping experience. Technology has been known to improve firm's performance. As such, the incorporation of Industry 4.0 technologies in the retail industry (known as Retail 4.0 technologies) is expected to improve the performance of retailers. In this study, retailers' performance will be measured in both financial and non-financial means. An online survey in the form of a structured questionnaire will be conducted to gather primary data for this study. Statistical analysis will be conducted using the Partial Least Squares – Structural Equation Modelling (PLS-SEM) method. Finally, the conceptual model proposed in this study can be used for the formation of strategies that will enable the retail industry to overcome the challenges that it is currently facing and help to improve the performance of Malaysian retailers.

Keywords: Retail Industry, Technologies adoption, Performance, Retail Industry, Malaysia

Paper B6-03

A NEW BOARD OF DIRECTORS PERFORMANCE: ACCOUNTING BEHAVIOR APPROACH

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ABSTRACT: The purpose of this study is to examine the relationship between a board director performance on the financial performance by accounting behavior approach. Research methodology used is the quantitative correlation between independent and dependent variables with or not using variable control. The study also involved Nine financial ratios to reflect a broader range of corporate conditions. Sample and data, this study used secondary data of financial statements and annual disclosures of state enterprises in Indonesia in 2009 - 2016. The results showed that independent and dependent variables with or without variable control have varied results. First, H1 is accepted that with or without control variables correlated to Return On Asset and Fixed Asset Turnover. Secondly, H2 is accepted that with or without control variable is not correlated to financial performance. Third, H3 with control variable is not correlated to financial performance whereas without control variable correlate to net profit margin and cash ratio. Originality of the research, this study provided an idea of a new board performance director to anticipate bankruptcy indications of firms characterized by ROA and Fixed Asset Turnover.

Keywords: Transparency, A New Board Performance Director and Financial Performance

Acknowledgements: Indonesian Endowment Fund for Education, Ministry of Finance of Republic of Indonesia

Paper B7-01

AKEMI IN COMMUNICATE TO WIN BIG

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ABSTRACT: The purpose is to explore on the impact of the social AIDA model at Malaysia's AKEMI's Facebook towards consumers' excitement in purchase. With the exciting contents at social media, consumers are easily swayed away in the matter of seconds and therefore marketers need to make fast action to retain them. Previous research had been done on social media's influence on purchase decision in the context of automobile industry with German speaking respondents and therefore, this study is to filling in the gap through the context of virtual market in Malaysia where readers are expected to learn in depth on how dialogue between a brand and the impact towards excitement to purchase through the application of social AIDA model; awareness, interaction, dialogue and action by the E.ST. Elmo Lewis (1898). The method will be qualitative with the application of interviews, observation and transcribe using thematic analysis (Braun & Clarke, 2006) while on secondary reference will from diagrams, pictures, AKEMI's Facebook and website. The practical findings are crucial to AKEMI's commercial value as the findings will enlighten the executives in building sustainable relationship with AKEMI's FB followers and in addition, it contributes to previous research of factors influencing purchase decision and the gap of measuring impact from social media.

Keywords: Social Media Marketing, Facebook, AIDA, Retailing, and Malaysia

Paper B7-02

THE RELATIONSHIP BETWEEN MARKET INNOVATIVENESS, BEHAVIORAL INNOVATIVENESS, STRATEGIC INNOVATIVENESS, POLITICAL NETWORKING, INSTITUTIONAL SUPPORT AND PERFORMANCE

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ABSTRACT: The Tourism is is the largest component within the service sector which in turn the largest contributor to Malaysia's gross domestic product (GDP). Tourism industry is in a downward spiral due to various reasons such as global economic crisis strong competition from other countries. Innovative efforts are necessary to further promote this industry to reap the full benefits and potential. Innovativeness remains one of the important factors in enhancing tourism enterprises. In view of the above, the purpose of this study is to examine the interrelationship of three innovativeness variables and performance. In addition to that, the moderating role of political networking and institutional support will also be studied. Based on responses from 126 tourism related entrepreneurs, this study conducted partial-least-square structural equation modeling analysis to test all the hypotheses. Additionally, this study also conducted semi structured qualitative interviews to understand in detail the challenges faced by entrepreneurs. In general, market innovativeness, strategic innovativeness, political networking and institutional support positively influence performance. Furthermore, political networking moderates the relationship between all there innovativeness constructs (market, behavior and strategic) and performance. However, institutional support only moderates the relationship between market innovativeness and performance. Apart from providing some new evidence in the important area of innovativeness of tourism related entrepreneurs, this study has also important implication for managers and policy makers while revealing considerable scope for future research.

Keywords: Market Innovativeness, Behavioral Innovativeness, Strategic Innovativeness, Political Networking, Institutional Support, Performance, Langkawi Island, Tourism

Paper B7-03

ENTREPRENEURSHIP EDUCATION AS A AGENT OF TECHNOLOGY CHANGES : A REVIEW OF THE LITERATURE

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ABSTRACT: The field of entrepreneurship is increasingly becoming a career choice. Based on the commitments and policies that have been introduced by the government, entrepreneurship is still widely open for everyone to explore further. The business network of entrepreneurs will embrace the economy of a country and the global world. The entrepreneurial tendency is formed through entrepreneurship education, environment and infrastructure which is appropriate to the development of entrepreneurs and business. Instead of promoting innovation creation, the growth of entrepreneurs and entrepreneurial emphasis also will lead to technology changes. The main purpose of this review is basically to examine of existing publications, identify the entrepreneurship education as a agent of technology changes and to determine how far is the entrepreneurial role in the industry revolution 4.0 (IR4.0) by applying narrative review. A total of 80 articles have been reviewed which is in two stages undertaking, an initial review and an updated review. To be precise, online searching was conducted to find relevant articles for entrepreneurship education as a agent of technology changes. The findings can be used as a reference to improve the entrepreneurship framework. This is beneficial to government as policy-makers, higher learning education, institute of skill learning, industry side and other stakeholder at both stages.

Keywords: entrepreneurship, entrepreneurship education, industry revolution, technology changes, and entrepreneurial role

Paper B7-04

OPPORTUNITY RECOGNITION, ALERTNESS AND INNOVATIVE BEHAVIOUR FROM THE PERSPECTIVE OF RURAL ENTREPRENEURS

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ABSTRACT: Recognising opportunities is essential for small businesses to expand businesses. The decision to expand often arises from the entrepreneur belief that the opportunities will lead to profit potential. Opportunity recognition enables the entrepreneur to identify a good idea and transform it into a business concept. Somehow, the path to opportunity determined by entrepreneur alertness concerning the environment. In this study, we examined the opportunity, alertness and innovative behaviour among rural entrepreneur. The aim of this paper is twofold. First, it aims to explore the concept of alertness among rural entrepreneur. Second, it's intended to gain a richer understanding of how rural entrepreneur response to the opportunity. This study also investigates the relationship between alertness and innovative behaviour. There are 53 rural entrepreneurs involved in this study. Descriptive analysis, factor analysis, and regression analysis were used to analyse the data. Descriptive research was used to obtain information concerning opportunity recognition and to describe alertness among rural entrepreneur. The result shows a mixed result for opportunity recognition. In a regression analysis, the result indicates that evaluation and judgement influences rural innovative entrepreneurial behaviour.

Keywords: opportunity recognition, alertness, innovative behaviour, rural entrepreneurs

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Paper C1-01

E-GOVERNMENT AND THE TRANSFORMATION OF PUBLIC AGENCIES IN NIGERIA

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ABSTRACT: This paper seeks to explore what impact does Information and Communication Technologies (ICT) have in transforming public administration. This question and motivation for this study is born out of the deficiency of empirical investigation and divided opinion on the impacts of ICT in transforming the structure, culture and administrative processes of public agencies particularly from the internal aspects. This study has therefore, carried out a qualitative research on the nature and impacts of ICT on the National Identity Management Commission (NIMC) of Nigeria using structured interviews. This study employed the Transformation Change Analytical Framework to analyse the NIMC before and after the introduction of ICT. The study finds that ICT has improved NIMC organizational structuring, cultural change and process of administration.

Keywords: E-government, ICT, Transformation, Organizational structuring, cultural change

Paper C1-02

THE EFFECT OF PUBLIC ADMINISTRATION COMMUNICATION IN ENHANCING TRUST LEVEL: CITIZEN ATTITUDE TOWARDS E-GOVERNMENT AS MEDIATING VARIABLE

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ABSTRACT: Trust has been described as the relationship where the citizen believes that their leader is able to deliver the need of the public perfectly. In public administration, trust is labelled as an valuation of whether or not the government is executing the program and policy in accordance with normative expectations assumed by the public. It is substantial for the government to have higher level of trust from the public in order to effectively operate, especially in democratic country. Moreover, it is also essential for the government to gain public trust as it helps them to minimize the complexity and maximize the efficiencies in public sector administration. Low level of public trust tend to make the government unable able to play the roles given properly. Yet, based on the previous study and statistics, it is reported that the level of trust in public administration is reducing over the years. Several factors has been discovered as a causes for trust reduction in government administration such as unhappy with what the government had delivered to them far below their expectation in term of government operation and policy sense. In this case, communicating about the initiative of e-government is said able to give a positive impact on public trust level. Thus, this quantitative study anticipate to see the effect of communicating e-government in increasing citizen level of trust using attitude toward e-government as a mediating factor. This study use SMART-PLS as a software to analyze data gathered from the survey distributed to 110 respondents who have experience is practicing any of e-government services provided by the Malaysian government.

Keywords: Trust, Public Administration Communication, E- Government, Citizen attitude

Paper C1-03

**WOMEN'S PARTICIPATION IN POLITICS AND TARBIYAH (EDUCATIONS)
ACTIVITIES: THE CASE OF MUSLIMAT IN PARTY ISLAM SE-MALAYSIA (PAS)**

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This study aims to explore women's participation in political party and *Tarbiyah* (education) activities. The study focuses on women in Parti Islam SeMalaysia (PAS) or known as *Muslimat*. This research conducted in-depth interviews and participant observations for the data collection. The interviews has been done on 8 *Muslimat* and two men in PAS Pulau Pinang and the data had been collected from January 2018 to Februari 2019. Pulau Pinang was chosen because PAS was founded in Bukit Mertajam, Pulau Pinang in 1951. Thus, PAS in Pulau Pinang has long history in politics and *Tarbiyah* activities. Some of the findings ascertained that women are lack of participation and interested in politics. In other words, men are more likely to be politically active than women because they will engage in direct contact, collective types of actions and be (more active) members of political parties. Meanwhile, women are more likely to be involved in *Tarbiyah* (education) activities rather than men. This is because girls and women should be more religiously oriented because of the norm structures in Malaysia impose such expectation towards them. Based on the expectation, women are predicted to be more politically conservative than men because they are generally have lower levels of political activity and knowledge.

Keywords: women in PAS, Muslimat, politics, *Tarbiyah* activities, gender socialization.

Paper C1-04

**MAQASID SHARIA AS A PLANK OF THE MALAYSIAN GOVERNMENT'S ISLAMIC
POLICY: WHY NOT MAQASID AKHLAQ TOO?**

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ABSTRACT: Malaysia's Pakatan Harapan government has put forward the idea of Maqasid Sharia or higher objectives of Islamic law as one of the three precepts governing its Islamic agenda, the other two being the feasibility of a Malaysian model and the Rahmatan lil-'alamin (mercy to the worlds) emphasis. The so-called maqasidic approach to Islamic injunctions calls for a holistic reading of scriptural sources, in particular the Quran and Sunna, towards arriving at inclusive answers to modern societies of which Muslims form an integral part. While such an approach has demonstrated streaks of viability in extricating Islam from overly legalistic mores, it is epistemologically undetached from the sharia-centric paradigm that has so dominated the post-colonial Muslim intellectual make-up, so much so that sharia studies has emerged as the major plank of Islamic studies. This paper argues that proponents of Maqasid Sharia in Malaysia, in their enthusiasm in embracing the rejuvenated concept, might have overlooked the more urgent need for a morally based framework that evaluates human action not on the extent to which humans observe external law but rather to how sensitively do humans connect with God in the event of legal injunctions being adhered to, ignored or transgressed. What is needed in Malaysia instead is Maqasid Akhlaq or higher objectives of Islamic morality, whose origins are rooted in the Islamic spiritual tradition of tasawwuf or sufism.

Paper C1-05

THE COMMUNICATION TRADITION IN MADURESE CUSTOM WEDDING IN SANAHDAYA VILLAGE, INDONESIA

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ABSTRACT: One of the classical and very unique communication traditions in Madura island is the custom wedding. It happens in one of the villages; that is Sanahdaya Village, Pasean District, Pamekasan Regency, Indonesia. The wedding custom in the village has a particular uniqueness compared to other communities, in this case, this village is included to be a remote one, far from cities, and it strongly holds the heritage existence which the society may consider as a misguided community in this globalization era. The research objects encompass the forms and the background of the wedding, the effects of interpersonal communication in the wedding, the role of the opinion leaders in the wedding, the nonverbal communication in the communication tradition of Madurese custom wedding, which happen in Sanahdaya Village, Pasean District, Pamekasan Regency, Indonesia. The present study employed a descriptive-qualitative method with a symbolic interactionism approach, particularly in the dimensions of phenomenology. Results of the study revealed that in Sanahdaya Village, a wedding which upheld the ancestral tradition and local wisdom still happened, further, the opinion leaders were very strong to uphold the existence of the wedding tradition at Sanahdaya Village, Pasean District, Pamekasan Regency, Indonesia.

Keywords: Communication Tradition, Custom Wedding Indonesia, Sanahdaya Village Madura

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Paper C2-01

SOCIAL MEDIA ROLE IN NICOLA YOON'S NOVEL *EVERYTHING, EVERYTHING*

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ABSTRACT: Social media plays a significant role in today's communication. Social media can bring people together. This case happens to the protagonist's love in Nicola Yoon's novel *Everything, Everything* in which she uses media social to build love relationship. This study aims to discuss the role of social media in the novel. Descriptive qualitative approach is applied in this study. The relationship between protagonists and her lover is a result of the power of social media. Maddy and Olly get to know each other by means of text messaging—something that is a matter of course in today's society, but which has special import for this isolated couple. They use email as a communication tool to establish relationships. The relationship is threatened when Maddy's mother finds out and forbids Maddy to see her lover again and also fires her caregiver. However, the two continue to communicate, and they eventually plan to escape on a vacation to Hawaii (to which Olly agrees with the understanding that Maddy in on a medication that will overcome her illness and permit her to travel. It is found that although their relationship is opposed by the protagonist's mother, they continue to communicate via social media. Social media is very helpful for their love relationship. The finding shows that social media connects the two isolated lovers. In Conclusion, social media plays very important role in the protagonist's love.

Paper C2-02

THE EFFECTIVENESS OF TEACHING MATERIALS BASED SCIENTIFIC ON CRITICAL THINKING SKILLS FOR VII CLASS OF SMP AN-NIZAM

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ABSTRACT: The Teaching material based scientific is a teaching material which in its implementation is carried out in a laboratory to conduct experiments or investigations in finding concepts based on scientific steps. This study aims to determine the effectiveness of the use of scientific-based teaching materials on critical thinking skills of class VII students of SMP AN-Nizam. This research was a quasi-experiment using *one group pretest-posttest design*. The population comprised of class VII students of SMP AN-Nizam in their second semester of the academic year of 2017/ 2018. The sample was chosen 2 classes, namely VII class Hasan Albana (HA) as the Experiment class and Said Qutub Class (SQ) as the control class. The data were collected through testing of critical thinking skills. the results showed that the use of teaching materials based scientific was effective towards student's critical thinking skills where t count 3.43 was greater than t table 2.017. Besides that, it was also found that the control class post-test average was 56.7 and the experimental class post-test average was 76. Thus groups of students who use teaching materials based scientific have a higher average compared to groups of students who are in learning without using teaching materials based scientific.

Keywords: effectiveness, teaching material, scientific, critical thinking skills, and vii class

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Paper C2-03

DOES PRESCHOOL TEACHER KNOW WHO IS THE CEO OF THE BRAIN?

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ABSTRACT: Who is the Chief Executive Officer (CEO) of the preschooler's brain? A question that is worth of asking. The answer is Executive Function or EF. Acting like a CEO who makes major decisions and managing overall operations of the company, EF is doing the same thing. EF is a collection of higher-order prefrontal lobe's processes that manage cognitive, behavior, and emotional functions especially during purposeful and goal-directed activities. If a preschooler's EF in a good condition, means he or she is ready for the formal school as EF predict school readiness. Thus, if we truly know and understand about EF, our way of teaching towards preschoolers can be improved to the maximum level. But the question is, does the preschool teacher knows? There were 31 out of 41 teachers from various preschools never heard of this term before. This is a very interesting outcome and therefore, this qualitative research intended to uncover more in depth on this topic by selecting 3 preschool teachers as participants. Interview sessions and observations have been made in order to investigate their knowledge on EF and understand their principles of teaching methods; whether they have established EF enrichment activities. The results concluded that although these teachers never heard of EF before, but a small portion of their activities did reflect on EF training principles. But the true highlight of this study is the socio-emotional support given by them. Although they are lacking of EF knowledge, but the supports given made the preschoolers' EF at a healthy state.

Keywords: executive function, preschool, children, and preschool teachers

Paper C2-04

KNOWLEDGE OF INDONESIAN BANTEN LOCAL FOOD FOR SCHOOL STUDENTS THROUGH JABANREN MEDIA GAMES

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ABSTRACT: Banten's local food knowledge in Indonesia is still low, dominated by school students from elementary to high school levels. Banten local food produced, among others, comes from corn, milkfish, and sugar palm, these three food sources have many benefits and can be processed in various forms of food. Thus needed learning media for school students is fun, namely through interactive educational games called JABANREN, comes from the abbreviation of Corn, Milkfish and Aren. This research aims to find out how to increase BANTEN local food knowledge after being given JABANREN GAMES media. This GAMES media was designed in advance in accordance with the characteristics of school students and has been tested by experts. The research method uses quasi-experiment, which uses nonequivalent Pretest-Posttest Control Group Design research design. The instrument used is a multiple choice test. The population of this study were school students from the elementary school level to high school, with sample subjects taking several schools in Banten Province. Data is processed using inferential statistical tests. The results of this study indicate that the administration of JABANREN Educational Games increases the knowledge of local food students in BANTEN Province. Thus, it is recommended that this educational GAMES media be applied in schools as part of strengthening local food knowledge.

Keywords: JABANREN, Local Food, Banten, Games

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Paper C2-05

WORDS OF PERSUASION: BEST ADJECTIVES FOR PERSUASIVE TED TALKS

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ABSTRACT: As communication is a bridge connecting peoples in motivating changes, delivering ideas, influencing decision and create bonding; it is crucial to explore on the keywords that could help in persuading one's listener to accept the speaker ideas. The goal of this paper is to build a persuasive words model that could identify most frequent adjectives used by the TED Talk speaker to make a public speaking to be persuasive. The proposed solution consists of four steps, namely Data Collection (Dataset Extraction), Data Preparation (Preprocess & Cleaning), Text Processing (Tokenize, Lemmatization, POS Tagging, Stopword filter, Adjective Only Filter) and finally Extraction & Visualization of the words set. Case study on four different themes of talks: Technology, Global Issue, Science and Business were conducted based on the proposed model. Evaluation was carried out in two phases: internal validation and expert feedbacks were conducted to test the validity of the model's output. The output of the model comprising of WordCloud and Frequency Histogram that best describe each categories of talk used in the evaluations. Lastly, discussions of each theme was carried out to further justify the findings and challenges of the generated output.

Keywords: Text analytics, persuasive keywords, text extraction, ted talk.

Paper C3-01

AN INTELLIGENT AUTOMATED ATTENDANCE DATA MANAGEMENT SYSTEM BASED ON CASE BASED AUTHENTICATION

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ABSTRACT: Attendance is a state in which a person is present in the field. An attendance management system is used to administer attendance-recording process. There have been many systems proposed and implemented to replace manual methods of attendance recording with current trends shifting to NFC, RFID and biometric technology-based approaches. In this research paper, recent approaches implemented in attendance management systems will be explored and comparatively study its authentication aspect. A new framework of attendance system will be constructed to cater to different situations. The results shall present a prototype to stimulate the functionalities included to detect authentication from case-based situations. The research paper shall evaluate the proposed system's functionalities in comparison to the existing systems.

Keywords: Attendance authentication, Case-based, Automation, Data Processing, and Mobile

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Paper C3-02

DATA MINING APPLICATION TO FIND PATTERNS ASSOCIATION OF TRACER STUDY USING FOLD-GROWTH ALGORITHM

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ABSTRACT: Data mining is a series of processes to explore added value by looking for certain patterns or rules from large chunks of data (database) to get unknown information or new knowledge manually. Tracer Study is an approach that allows higher education institutions to obtain information about possible shortcomings in the education and learning process and can plan activities for future improvements. In student organizations, there has never been a tracer study, although tracking of graduate data has been periodic and web-based, but some data is still stored in excel form. During this time the tracer study search process is only carried out in each study program which that time will make an accreditation. This reasearch, we will focus on making an application of the association pattern with the Fold-Growth method in tracer study. Fold-Growth is one the methods of extracting association patterns using the SOTrieIT (Support Ordered-Trie Itemset). Data processing is done using the lift ratio method. Data is processed using lift ratios, the 6 data attributes used they are namely, age, duration of study period, value of GPA 2.75 - 3.50, first job waiting time period of 0.5-5.9 months and first salary <1,800,000 and suitability work with scientific fields.

Keywords: Data mining, Tracer Study, Fold-Growth, SOTrieIT, Lift ratio.

Paper C3-03

A FRAMEWORK FOR AUTOMATED GENERATION OF TEXTUAL INFOGRAPHIC FROM TOURISM REVIEW

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ABSTRACT: Reviews are an important source of information in making decisions for both consumers and service providers. In tourism domain, it has become essential for travelers to read travel reviews of other travelers about a place before planning the trip, whereas travel companies can utilize the travel reviews to improve their business strategies. However, it is challenging for both the travellers or companies to read and interpret every single review, especially when the numbers are high, and review length is long. Although the overall reviews based on ratings (e.g., excellent, very good, average, poor, terrible) are offered by most of the online websites, but there is lack of interpretation of the reasoning behind the reviews. Hence, in this work, our goal is to produce an overall reviews summary that focuses on textual hints. A comprehensive textual summary framework is proposed to cover both depth of opinion (entity and aspect levels) and coverage of opinion (i.e. suggestion, comparative, directory, time, fee, and guidance) for decision-making needs. The framework consists of four main text processing modules, i.e natural language processing, aspect & sentiment pair extraction, sentiment analysis and opinion type extraction. The proposed work has been validated with a working prototype and case studies on real data of two tourism spots (i.e. The Top Penang and Entopia).

Keywords: Tourism, text extraction, opinion mining, sentiment analysis

Paper C3-04

INTEGRATING MACHINE LEARNING AND BIG DATA FOR FORECASTING AGRICULTURE

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ABSTRACT: Agriculture plays a critical role in the world. In agriculture there are so many problems that have to be faced such as continuing to increase food deficits, slower rates of agricultural production, conversion of agricultural land to non-agricultural land, or unproductive land, efforts to expand difficult agricultural land and increasing population growth. Machine learning (ML) is an important approach for completing practical and effective solutions for this problem. ML with its rigorous learning competences have become a key method for solving different agriculture connected problems. In light of the above, using ML methods especially Neural Networks (NNs), ARIMA, and Holt-Winter, can be exploited to advance forecasts. ML have helped researchers to apply these methods in Forecasting Agriculture to support farmers and to governments. This paper focuses on explaining the concept Neural Network, ARIMA, and Holt-Winter algorithms and try to compare them. Data was taken from experimental drying process of seaweed drier and has optimized for forecasting analysis The data was collected from time of 8.00 am until 5.00 pm starting on 08/04/2017 to 12/04/2017. That is almost four days data. The performance of each algorithm was used in term of accuracy of prediction have compared.

Keywords: Machine Learning, Big Data, Neural Network, ARIMA, and Holt-Winter

Paper C3-05

DENGUE INFLUX MANAGEMENT AND ANALYSIS TOOLS (DIMAT) FOR PREDICTION MODELING AND SIMULATION

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ABSTRACT: Dengue virus infection is the most rapidly spreading disease in the world. The prevention and control of dengue has become great public health challenge for many countries. The main objective of this research is to provide a real-time dengue prediction modeling and simulation based on the current cases within Malaysia through web-based application. Users which can benefit from the application is the normal user and experts. With this aim, we propose Dengue Influx Management and Analysis Tools (DIMAT), a web-based to simulate dengue disease and its vector's dynamics that contains modeling and simulation which help us to understand epidemic dynamics and create scenarios to support planning and decision-making processes. Besides, DIMAT also features a real time dengue information for every state in Malaysia; daily monthly and yearly. Key advantage of DIMAT is that it is a user-friendly web application which developed to ease and assist the model configuration.

Keywords: prediction analysis, prediction modeling, simulation, and web-based application

Paper C4-01

RELATIONSHIP BETWEEN SPIRITUAL SCORES WITH DEPRESSION LEVEL IN CHRONIC KIDNEY DISEASE PATIENTS THAT HAVE HEMODIAL THERAPY

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ABSTRACT: Chronic kidney disease resulted in an irreversible decrease of the kidney function that requires treatment in the form of kidney transplantation or hemodialysis. Patients with kidney disease who regularly undertake hemodialysis may have an influence on the loss of hope that affects the spiritual aspect. It could make the depression. To find the degree of the correlation between spiritual scores and depression levels in patients with chronic kidney disease undergoing hemodialysis at the Haji Public Hospital of Medan in 2018. Analytic method with cross sectional design was conducted on 30 chronic kidney disease patients undergoing hemodialysis at the RSU. Haji Medan in December 2018. Spiritual measurements were conducted by filling out the FACITSp-12 questionnaire and measurements of depression levels measured by The Beck Depression Inventory (BDI-II). The average spiritual score of 38.87 was obtained with mean score of the Meaning of life 13.07; Peace 11.87 and Faith 13.93. The highest level of depression falls into the mild depression category; 15 people (50%). Based on data analysis of Spearman Rank, the p value was 0.000, r value was <0.05. The alternative hypothesis was accepted. The results of data analysis between spiritual scores and depression levels showed a correlation coefficient (r) was -0.890 with a value of p = 0.000, statistically showing a very strong negative correlation. Spiritual scores and depression levels of the patients with chronic kidney disease who were undergoing hemodialysis showed a significant correlation.

Keywords: Spiritual, depression, chronic kidney disease, hemodialysis

Paper C4-02

THE EFFECT OF HOLISTIC CARDIAC REHABILITATION PROGRAM IN REDUCING ANXIETY AMONG POST ANGIOPLASTY PATIENTS: A PILOT STUDY

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ABSTRACT: The effective management of psychological health among post angioplasty patient is crucial and need to be started immediately after the procedure as part of cardiac rehabilitation program. The Holistic Cardiac Rehabilitation (HCR) program was developing by incorporate psycho education on depression and anxiety, breathing, relaxation technique and spiritual elements. To assess the effect of HCR program to reduce of anxiety among post angioplasty patients. Sixteen samples were involved in this one-month study. The HCR group was subjected to HCR program meanwhile the control group will involve in standard cardiac rehabilitation program, conducted using Hospital Anxiety and Depression Scale (HADS) and blood taking for serum cortisol. Paired t-test showed statistically significant reduction of anxiety level on HADS($p=0.02$) and serum cortisol level($p=0.04$) in HCR group and not significant reduction in control group. Independent t-test showed statistically significant reduction of anxiety level in HCR group compare to control group which HADS($p=0.052$) and serum cortisol($p=0.042$). The reduction of depression level was not statistically significant in both groups. Holistic Cardiac Rehabilitation statistically significant in reducing anxiety among angioplasty patient. A larger sample and quantitative study may prove the effectiveness of HCR program to improve health of post angioplasty patient.

Keywords: Hospital Anxiety and Depression Scale (HADS), Holistic Cardiac Rehabilitation (HCR)

Paper C4-03

RELATIONSHIP OF EMOTIONAL INTELLIGENCE WITH ANXIETY CONDITIONS IN FACING THE OSCE STUDENTS MEDICAL FACULTY OF THE ISLAMIC UNIVERSITY OF NORTH SUMATERA

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ABSTRACT: Exams are a set of issues, questions, exercises to determine someone level knowledge, abilities, talents or qualifications. Medical students as learners also can not be separated from the exam, one of the exam is OSCE. In the OSCE, participants go through several successive stations. OSCE make students have anxiety, to reduce the anxiety needed emotional intelligence that is useful for managing one's emotions. The ability to manage emotions is useful for dealing anxiety, including anxiety in OSCE. The purpose of this study is to determine the relationship of emotional intelligence with anxiety conditions in OSCE of medical student, Islamic University of North Sumatra. This research is analytical type with Cross-Sectional design. The population of this research is students of Medical Faculty of Islamic University of North Sumatera in OSCE November 2017. The sampling technique is Simple Random Sampling, with total sample 70 respondents. Respondents were asked to fill out two questionnaires, the emotional intelligence questionnaire and the T-MAS anxiety questionnaire. The emotional intelligence questionnaire contains 46 statements and the T-MAS anxiety questionnaire contains 50 questions. To find the relationship between emotional intelligence with anxiety condition, use Chi Square test. From Chi Square test results, it is known that $p = 0,000 < 0,05$, so H_0 is rejected and H_a accepted. The conclusion is that there is a significant correlation between emotional intelligence with anxiety condition in facing OSCE at student of Medical Faculty of Islamic University of North Sumatera.

Keywords: Emotional Intelligence, Anxiety Condition, OSCE

Paper C4-04

**ALLELLIC VARIATIONS IN THE GENES CODE FOR TRANSFUSION AND
TRANSPLANT DETERMINANTS: CHALLENGES FOR BLOOD AND ORGAN
RECRUITMENTS IN MALAYSIA**

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ABSTRACT: Malaysia is a multi-racial country with people of unique socio-cultural systems and genetic lineages. The country is populated by the Malays (50.1%), Chinese (22.6%), Indians (6.7%) and natives (29%) of Peninsular Malaysia, Sabah and Sarawak. Population structure in Malaysia has been inferred using various genetic markers including the ones relevant for forensics (autosomal, Y- and X- chromosome short tandem repeats and mitochondrial DNA) and code for transfusion (blood group, human platelet antigen and human neutrophil antigen) and transplant (human leukocyte antigen, cytokine and killer cell immunoglobulin-like receptor) determinants. In this paper, we highlight allelic spectra in the transfusion and transplant genes and challenges for blood and organ donor recruitment in Malaysia. Overall, data from these genes supported the highly diverse genepools of people in Malaysia and highly relevant for designing and management of donor recruitment strategies in the country.

Keywords: transfusion, transplantation, donor recruitment, ancestry, Malaysia

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Paper C4-05

**CULTURAL MANIFESTATION OF OBSESSIVE COMPULSIVE DISORDER
IN FEMALES: REPORTING AND EXPRESSION IN LAHORE PAKISTAN**

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ABSTRACT: The present research intended to document the pure cultural manifestation in term of reporting and expression of Obsessive Compulsive Disorder (OCD) in females in Pakistani society. This research proved the fact that the manifestation of human behavior is intimately associated with cultural and social realities in such a way which clearly provide individual differences as well as intra and inter cultural differences. This study was conducted with 10 Psychologist who were treating OCD females in the local hospitals of Lahore Pakistan. The sample was observed in the hospital settings while talking to their Psychologists and explaining their problem. The data was recorded and then analyzed using qualitative research approach grounded theory. Results of the study explained the perceptions of Pakistani population regarding OCD females, common types of OCD in females in Pakistan, vulnerability factors, cultural specific expression and cultural specific reporting style of the OCD females. Psychologists reported that stigmatization is very common phenomenon in Pakistani culture to degrade and demoralize the treatment procedure and patient as well, which should be stopped. Psychologists emphasized on the need for the psyche education for the understanding of this disorder and dealing with the OCD patient appropriately in Pakistani society.

Keywords: Human behavior, stigmatization, cultural specification, obsessive compulsive disorder.

Paper C5-01

**DOES EDUCATION-AUGMENTING LENGTH OF SERVICE AFFECT EARNINGS:
EVIDENCE FROM THREE AGGREGATE SECTORS IN INDONESIA**

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ABSTRACT: This study is aimed at investigating the effects of workers' educational attainment augmented with length of service by comparing three aggregate sectors of the economy as well as urban-rural differences. Using 2017 Indonesian National Labor Force Survey dataset, the results of simple regression estimation we show that education-augmenting length of service has positive effects on earnings of workers in all three sectors: agriculture, manufacturing, and services. The magnitudes of the effects are also more or less equal across sectors. However, there are no differences in earnings regardless of the location of workers residence. This explains why the length of service reinforces the positive effect of workers' educational attainment on productivity in the aggregate economy, and hence earnings of workers. While urban-rural differences have no effect on earnings. This implies that the length of employment service - which reflects improvement in knowledge and skills at work - always supplementary to educational attainment of workers. Therefore, more investments by the government in education at any level will pay off, in the sense that it improves aggregate productivity. It also suggests that retaining long-serving workers and constantly improving their knowledge and skills at work benefit both workers and employers.

Keywords: education-augmenting length of service, earnings, agriculture, manufacturing, services

Paper C5-02

WOMEN AND THE ECONOMY: CONCEPTUAL MODEL OF PSYCHOLOGICAL CHARACTERISTICS OF SUCCESSFUL ENTREPRENEURS

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ABSTRACT: Firms owned by women entrepreneurs is a growing phenomenon around the world today. Women entrepreneurs provides economic independence for families and in many cases, especially in the rural areas, contribute towards the reduction of poverty. From a broader perspective, women entrepreneurship has been recognized as a key element for today's economy to attain its competitive and dynamic character. The existing theoretical understanding that described women's micro and small entrepreneurs (MSE) need to be expanded to better explain the uniqueness of women entrepreneurship. However, very few studies have been conducted to analyse these fundamental characteristics of women entrepreneurs especially among the micro and small businesses. Understanding their characteristics can be useful for developing successful women's entrepreneurship policies at the national level. Based on the review of the existing literature, this study proposed four domains that must be analysed to better understand the characteristics of successful women entrepreneurs namely entrepreneur resilience, psychological women empowerment, innovative behaviour and social competence. In view of this, this paper will provide a coherent conceptual framework to analyse the psychological characteristics of successful women entrepreneurs and to analyse the different attributes of these successful women entrepreneurship. The discussion describes the necessary actions to be taken for women development goals to be realised and how women entrepreneur can survive in dealing with massive uncertainties that they will have to face especially in the Industrial Revolution 4.0. In so doing, the proposed conceptual framework acts as a theoretical underpinning that describe the underlying women entrepreneurship.

Keywords: Women entrepreneurial success, psychological characteristics, entrepreneur resilience, psychological women empowerment, innovative behaviour, social competence.

Paper C5-03

SERVANT LEADERSHIP AND AFFECTIVE ORGANIZATIONAL COMMITMENT AMONG MALAYSIAN POLICE OFFICERS

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ABSTRACT: The purpose of this paper is to examine the relationship between servant leadership and affective organizational commitment. The independent variable, servant leadership, is formed by agape love, empowerment, humility, altruism, visionary and trust while the dependent variable is affective organizational commitment. A total of 186 questionnaires were obtained from the police officers, working in a few Malaysian Police Department, which yielded a response rate of 46.5 %. The results reveal that the five variables of the servant leadership which is agape love, empowerment, altruism, trust, and visionary are significantly related to the organizational affective commitment. Theoretically, this paper contributes to the literature on servant leadership and organizational commitment. Practically, top management of Police Department of Malaysia should consider trainings and courses on leadership, value, and charisma that boost leadership and affective commitment of their employees. In conclusion, this paper reveals the importance of agape love, empowerment, altruism, trust, and visionary as factors of servant leadership in affecting organizational commitment of police officers in Malaysia.

Keywords: Leadership, Affective Commitment, Police Officers, Malaysia.

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Paper C5-04

**THE EFFECTS OF PROFIT MARGIN, THIRD PARTY FUNDS, CAPITAL ADEQUACY RATIO (CAR), NON PERFORMING FINANCING (NPF), AND FINANCING TO DEPOSIT RATIO (FDR) ON MURABAHAH FINANCING
(STUDY OF SHARIA BANKING COMPANIES LISTED ON THE INDONESIA STOCK EXCHANGE IN 2014-2017)**

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ABSTRACT: This study aims to determine the effect of Profit Margin, Third Party Funds, Capital Adequacy Ratio, Non Performing Financing, and Financing to Deposit Ratio on Murabahah Financing in Sharia Banking Companies Listed on the Indonesia Stock Exchange in 2014-2017. This study includes a type of quantitative research using secondary data as a data source. The sample used in this study were 10 Islamic banking companies listed on the Indonesia Stock Exchange in 2014-2017. The analytical tool used is descriptive statistical analysis, classic assumption test, multiple linear regression test, t test, F test, and coefficient of determination, using the SPSS version 18 for Windows. The results of the F test show that in this study the variable Profit Margin, Third Party Funds, Capital Adequacy Ratio (CAR), Non Performing Financing (NPF), Financing to Deposit Ratio (FDR) simultaneously affect Murabahah Financing in Sharia Commercial Banks. The results of the t test showed partially that profit margins, third party funds, and financing to deposit ratios affect the Murabahah financing. While the capital adequacy ratio and non-performing financing did not affect the Murabahah financing. The coefficient of determination shows that in this study, all independent variables contribute 94.1% to the dependent variable. The remaining 5.9% is influenced by other variables that do not exist in this study such as SWBI, BI Rate, Inflation, Debt to Equity Ratio (DER), and Return On Assets (ROA).

Keywords: Profit Margin, Third Party Funds, Capital Adequacy Ratio (CAR), Non Performing Financing (NPF), Financing to Deposit Ratio (FDR), Murabahah Financing.

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Paper C6-01

**UNDERSTANDING TAIWAN'S UNIVERSITY-INDUSTRY COLLABORATIONS MODEL:
A CASE STUDY OF A PRIVATE UNIVERSITY**

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ABSTRACT: Chung Yuan Christian University (CYCU) in Taiwan has established its innovation and incubation centre in 1997 and then its patent licensing centre in 2003 and followed by its Industry-Academia Operation Headquarters in 2009. CYCU ranks number one in Taiwan's private university and its industry-academia cooperation achievement has been increasingly catching up with National Tsing Hua University (NTHU), one of Taiwan's elite public universities. In 2005, CYCU ranks top 100 universities in receiving US patents in the world, and as No. 1 among private universities and No.4 among all universities in Taiwan. The paper has three major objectives. First, to explain the government's intervention through institutional arrangements and its effect and funding the development of university-industry collaborations in Taiwan in general, and CYCU in particular. Second, to elaborate the Executive Operation Office for Industry-Academia Cooperation (EOOIA) at CYCU as a case study and to explain its achievements. Third, to explore key influential factors from five in-depth case studies in university-industry collaborations from EOOIA. The paper provides some implications for the theoretical development of knowledge management, and policy implication for more effective and advance level of knowledge transfer in university-industry collaborations.

Keywords: University-industry Collaborations, Knowledge Management, Taiwan, Chung Yuan Christian University

Acknowledgment: Taiwan Fellowship, Ministry of Foreign Affairs Taiwan (MOFATF20190063).

Paper C6-02

RITUAL BASED SETTLEMENT STRUCTURE CASE STUDY OF SAHU COMMUNITY - HALMAHERA - NORTH MALUKU PROVINCE

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ABSTRACT: Indonesia has a unique variety of cultures, ethnics and distinctiveness. Rituals are the most important part of the traditions of one ethnic. Diverse ritual colors are one of the characteristics Indonesian cultural diversity. North Maluku is one part of the ritual color, having 28 inhabiting tribes, one of which's the Sahu tribe. The sahu tribe is one of the tribes that inhabit the western Halmahera Islands, precisely the Sahu District area. Orom Sasadu is a traditional ritual of the Sahu tribe, that's identical to the long history of the formation the Sahu community settlement at this time. This study aims to identify residential spaces caused by Orom Sasadu rituals. This research uses phenomenology method by describing ritual activities in forming settlement structures based on Orom Sasadu rituals. Empirical data is obtained from the field by photographing community activities in the ritual. Structured interviewing techniques are needed to strengthen empirical data obtained from traditional leaders and Sahu community. From this study, it was identified that there were two settlement structures, based on the opening and closing of the Orom Sasadu ritual. First, the settlement space structure moves towards the center of settlements. Second, the moving residential structure spreads and will then return to the center of the settlement.

Keywords: Sahu tribe, Orom Sasadu, space of structure and Settlement

Acknowledgements: Finance Department - Government of the Republic of Indonesia

Paper C6-03

KHAMR DRINKING IN THE MALAY SOCIETY: A MALAYSIA CONTEXT

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ABSTRACT: *Khamr* drinking is part of social tradition in all over the world. Does drinking is part of the Malay's tradition as well? *Khamr* also part of British historical legacy to Malay Peninsular which affects the sociocultural of the Malaysian Malays massively. Also, since the Malay is Muslim, how drinking is seen in the Malay culture? Therefore, this paper aims to illustrate the scenario on *khamr* drinking in the Malay society that begin with the timeline of pre and during the time of western colonization in the Malay world. The Malaysia scene is discussed with the time during and after the British ruling. The data was collected through library research and interviews with related persons and agencies to collect information about the problems and issues regarding drinking in Malaysia and the cases that involved the Malays. The main finding is, drinking culture among the Malay is inherited by the local culture (pre-Islamic Malays tradition) and widely influenced by western due to business and colonization effects. After the arrival of Islam, drinking is seen as social deviance in the Malay culture and officially written in laws and handled Muslims drinking issues as one of the *shari'ah* crime under the Islamic departments for each state. The Malay drinkers are involved upper, middle and lower classes. This scenario illustration is considered as essential key points in order to study the background profile of the Malay drinkers and social factors that lead them committing drinking.

Keywords: *Khamr*, Drinking, Malay, Muslim, Malaysia

Paper C6-04

**COMMUNICATION STRATEGY OF FAMILY PLANNING SERVICES,
WOMEN EMPOWERMENT AND CHILD PROTECTION (DKBP3A) IN
SERANG REGENCY RELATED TO PREVENTION OF VIOLENCE ACTION
ON WOMEN AND CHILDREN**

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ABSTRACT: In 2017, Banten province ranks 9th in cases of violence on women and children from 34 provinces in Indonesia and reaches 52.7% spread over Regency / Municipality. With the majority happened in Lebak District, Pandeglang Regency, and Serang Regency. The main problem in Serang Regency is that the birth rate is high among the poor so that it leads to poverty and unemployment rates. It is conducted of an increase in physical, psychological, sexual violence, economic exploitation and early marriage. One of the government official that handling cases of violence is Family Planning, Women Empowerment and Child Protection (DKBP3A) has recorded that from 2015 until now has reached 284 cases. The cases of violence increased because the victims have started to dare to report. Therefore it is necessary to scrutinize and educate the public about the acts of violence, its dangers, prevention and the flow of reporting of such acts of violence. It is hoped that communication strategy done by DKBP3A on family functions, education functions, the value of faith and the handling of victims of violence can quickly help reduce violence in women and children. In addition, Banten Province has adapted the Regional Regulation No. 9 of 2014 concerning Protection of women and children against acts of violence in many areas.

Keywords: acts of violence, poverty, unemployment, communication, family functions, DKBP3A, Serang Regency

Acknowledgements: Postgraduate Studies Sultan Ageng Tirtayasa University

Paper C6-05

TEXT ANALYTICS ON COMPANY REVIEWS IN JOBSTREET

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ABSTRACT: During a job searching process, the condition of a company is always one of the considering factors to assist job seekers in their job selection process. Basically, job seekers are interested to know about the company environments, benefits as well as problems. In the old days, this information can only be obtained from company's employees if by any chance the job seekers know anyone in the company. Nowadays, the job seekers can also get to know the company environment through the reviews posted by company's employee. However, reading long reviews may be time consuming. Hence in this work, a text analytics pipeline (including cleaning, lemmatization and mining) is proposed to develop quick visuals solutions for job seekers to gain a quick insight about companies as well as making a quick comparison between companies if needed. Specifically, this study focuses on review contents of "the good things" and "the challenges" which represented positive and negative reviews about the company respectively. For evaluation, job reviews from three multinational companies were used. Feedbacks from the respective company's employees were obtained to verify whether the presented outcomes from the visuals are accurate and informative in representing positive (good things) and negative (challenges) about their companies.

Keywords: Text mining, n-gram, job reviews, information extraction, and decision making

Paper C6-06

DATAISM AND INTERNET ALGORITHMS IN MALAYSIAN EVERYDAY LIFE

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ABSTRACT: The fourth industrial revolution (IR4 or Industry 4.0) not only offers us advances in technology but has also led to the emergence of a new ideology, dataism. Dataism is an ideology which is centred on Artificial Intelligence (AI) and computer algorithms; it sees human beings as biochemical algorithms and our preferences, choices, experiences, likes and dislikes accumulated in our usage of internet services – such as social media platforms and search engines – as data patterns. The main aim of this research is to explore the role of internet algorithms and discuss how it influences social actors' everyday life in three aspects: economics, social and politics. The outcome of current research is a result derived from a pilot study. It employed secondary data analysis of online items namely hashtag (#) in Twitter and Instagram attainable from January 2019 to June 2019. The collected data were organised in Nvivo 12 Pro and analysed through thematic analysis. From the finding, it shows that hashtag usage is an important internet algorithm item. It influences a person's everyday consumerism, social connection, and political support – as an individual or a group – through its trending and viral abilities.

Keywords: dataism; computer algorithms; consumerism; IR4

Paper C7-01

URBANISATION IS TENDING TO FOCUS DEVELOPMENT AND EFFORTS ON LARGE CITIES, WHERE DOES THE FUTURE LIE FOR THE SMALL AND INTERMEDIATE URBAN CENTRES

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ABSTRACT: A so-called sustainable development with inclusive growth figure is just a dream unless & until the meaning of planned development which considers both local and more wide spread needs has been understood by government, and until such a time when government at all levels address the issue of small and intermediate urban centres, the dream of a sustainable society will be a mirage. This research highlights everyday hazards faced by residents of Ore south western Nigeria, the study also seeks to know whether the people are aware of the risks posed to their existence by these hazards. And government awareness of the risk posed by these hazards? The result shows that the people are aware of these hazards, but cannot link it with some of the disasters that are prevalent in the town. The research also shows that the government though aware of these risks but do not consider the impact too high to be classified as a disaster. It is hoped that the research will provide data to show the government that these everyday hazards are causing more damages and thus deserve to be put on the front burner instead of focussing all attention on the large cities.

Keywords: Sustainable development, everyday hazards, planned development, risks

Paper C7-02

INFORMATION COMMUNICATION AND TECHNOLOGY (ICT) ON SERVICE DELIVERY IN SARAWAK LOCAL AUTHORITIES

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ABSTRACT: Service delivery in local authorities is services provided by the local authorities to meet their local needs and interest. This paper discusses on Information Communication and Technology (ICT) in service delivery performed by local authorities in Sarawak. Bureaucratic barrier of service delivery in local authority has been controversial because it makes organization uncompetitive in this fast-changing world. This initial perception fails to consider that the government has improved public service delivery by using ICT in service delivery to all public agencies. The use of ICT to deliver services in the local authorities in Sarawak started in 1995. ICT unit have been set up by the Sarawak Government under the Chief Minister's Department which is Sarawak Information System Sdn Bhd (SAINS), pioneered the operations of ICT in Sarawak. Local authorities are recognized by the government as a vital entity in providing services to the citizens. Hence, online services need to be improved especially at the local government level so that they will not be left behind in delivering their public services. It is a new way to distribute services and interact with the citizens without time and space constraints.

Keywords: ICT, Service delivery, Sarawak, Local authorities

Paper C7-03

THE PATTERN OF COMMUNITY PARTICIPATION ON THE VILLAGE'S LAND UTILIZATION COMMUNALLY

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ABSTRACT: Sustainable development will affected level of participation. The condition can be seen on the local wisdom that have allocated some village's land for livestock pens area. The purpose of study is to explore a role model or pattern of participation while develop the pens, to know financial model of the farmers organization and kind of buildings function on the land. The exploration model has used and questionnaire spread out to all respondents who have use the Bayan's land. The research result shows that construction process of the pens has done with "gotong-royong pattern" by all farmer in sequential, cost and materials have to prepare by the owner of pens. According the Village's regulation number 03/2007, there are only livestock pens and supplementary facilities allowed on the area. The area have been develop now with a primary school, warehouse, meeting room, and biogas installation. Participation pattern passed through discussion process with stakeholders, so that formalize a partnership between village government and farmers in the village's land management. However, the land management system and determination of building function does not involve more residents in decision making process. The level of participation on Bayan's land management was 16.6%.

Keywords: Participation, Village's land, Local wisdom, Partnership, Gotong-royong

Paper C7-04

**“IN WITH THE OLD”: COMMUNITY PARTICIPATION IN HERITAGE
PRESERVATION IN PETALING STREET, KUALA LUMPUR**

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ABSTRACT: The adaptive reuse of pre-war buildings as tourist attractions have become a recent trend, especially in Petaling Street, Kuala Lumpur. Many such heritage buildings have been rejuvenated to feed a hipster aesthetic as well as to attract tourists from around the world. Simultaneously, Petaling Street also features existing historical buildings which have been established since the inception of Kuala Lumpur as a tin mining city in Malaya. These two examples are indicative of the trend of tangible cultural heritage preservation through community participation in Kuala Lumpur, the capital city of Malaysia. This paper compares two forms of community participation – the former a Chinese clan association, Chan See Shu Yuen Kuala Lumpur and Selangor (CSSYKL), whose members continue to preserve both its tangible and intangible forms of cultural heritage for the benefit of its members as well as for tourism; and the latter the market demand for heritage-style hipster cafes and locales. This observation supports the case for adaptive reuse of heritage buildings and the preservation of unique heritage aspects of the developed city. Through ethnographic fieldwork in Petaling Street's Chinatown, I demonstrate that these two co-existing forms of community participation successfully adds value to the cultural identity of Kuala Lumpur in the era of super-diversity.

Keywords: Chinese clan associations, Petaling Street Kuala Lumpur, cultural heritage preservation, community participation, super-diversity

Acknowledgements: This research work is supported by the Ministry of Education of Malaysia under Grant Number FRGS/1/2018/WAB12/UKM/02/1 (Superdiversity Networks: Cantonese Clan Associations in Malaysia as Transnational Social Support System).

Paper C7-05

**DEFINING YOUNG PROFESSIONALS' HOUSING AFFORDABILITY FACTORS:
RESIDUAL INCOME APPROACH**

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ABSTRACT: Housing affordability issue vastly deliberated based on varied income groups instead of observing into various generations. Ironically, the young generation in the present circumstance considered receiving adversely affected by this pressing issue. The purpose of this study was to define housing affordability factors amidst young professional with weight in the household expenditure and housing cost, by employing the residual income approach. Transportation cost is rarely given focus in numerous prior studies, therefore it as to bridge the research gap. The proposed hypotheses were analysed and confirmed via binary logistic regression. This study involves the cross-sectional of data collection, which respondents were selected from four professional bodies namely the Institution of Engineers Malaysia (IEM), Malaysian Institute of Architects (MIA), Malaysian Institute of Planners (MIP), and Board of Quantity Surveyors Malaysia

(BQSM). Empirically, the study found that occupation such as engineer and quantity surveyor (QS), housing cost, transportation cost, distance home-to-office, household expenditure, and household income have a relationship to the housing affordability. Meanwhile, the presence of children, occupation such as architect and urban planner, monthly education cost and highest education were vice versa. Discussions on issues associated with housing affordability factors are offered, comprising benefit of residual income approach in defining housing affordability. The study advocated applying the residual income approach in measuring housing affordability as it accomplished to involve transportation cost that rarely discussion empirically as well as other household expenditure and other related attributes.

Keywords: Housing, Housing studies, Housing affordability, Affordable house, Young Professional

Paper D1-01

ENHANCING POWER GENERATION AVAILABILITY IN NIGERIA USING COMBUSTIBLE WASTE AS ENERGY SOURCE FOR OFF-GRID APPLICATIONS

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ABSTRACT: The application of combustible waste as energy source provides an alternative energy option to enhance electrical power generation for off-Grid applications. The integrated alternative energy sources identified are energy stored in metropolitan waste, energy stored in wood residue, and palm kernel residue. The framework studied the available quantities of these energy sources and developed a model to convert the energy options into electrical energy. The generating plant unit comprises Steam Generator, Steam Turbine, Steam Condenser, Pumps and Alternator with their ancillaries. The steam generator, a miniature low pressure externally fuel-fired water tube type consists of boiler, furnace, superheater, air-heater, stack, forced- and induced draught fans. The steam turbine is of the impulse-type whilst the condenser is a surface type. A software was also developed using visual Basic to run the Power Plant Model, the software utilized for the validation of boiler efficiency is Kane International calculator and for steam consumption in turbine whilst Katmar software was used for boiler efficiency. The simulated efficiency is 38.722 % and calculated result is 35.69 % for boiler performance whilst for steam turbine consumption is 3.22 kg/s and 3.123 kg/s. This model is suitable for off- Grid communities that are close to one another. It is recommended that colour coded waste bins be introduced at waste collection centres, incentives to farmers to bring waste to collection centres should be introduced and government should also invest in the production of the plant.

Keywords: Combustible waste, Renewable Energy, Off-Grid, Simulation, Power plant

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Paper D1-02

INTELLIGENT SELF-DEFENCE DEVICE (InSeD)

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ABSTRACT: In the 2016 crime index by Number, it has shown that Malaysia is ranked at a jaw-dropping top 15th in World. Peoples are feeling unsafe due to increasing crimes. Intelligent self-defence device or InSeD upholds the principle of improving and solving the problem related to self-defence device among peoples especially in Malaysia. We proposed a quick responding mechanism that helps people during trouble. The device was designed with emergency buttons where user can press when they feel threatens and sends the location information as Short Message Service (SMS) alert to emergency. In this study, SMS is sending by using normal Nano Sim card with a Global System for Mobile (GSM) SIM900A module. This GSM module enables the user to send message, receive message, make call and hang up call. A Global Positioning System (GPS) Neo6M2 module is installed inside our product so that the user can send the location to user's emergency contact number. The GPS size is small and user friendly so it won't take space in product's prototype. Safety mode and GPS location SMS is sending to inform the user has reached the destination safely. An Arduino Uno is used as a microcontroller. C++ code is used to set the emergency contact number and the pin number for the user.

Keywords: Self-defence, quick respond mechanism, global positioning system, global system for mobile, and arduino uno

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Paper D1-03

AUTOMATIC BACKWASH SAND FILTERING OF HILL WATER RETENTION POOL FOR THE USE OF VILLAGERS USING GREEN TECHNOLOGY

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ABSTRACT: A clean and safe water supply for daily used for people in the rural area has always been a challenge in developing country. Malaysia is no exception where a few rural areas do not have access to the public water supply, for example, Kampung Siput at Baling District, Kedah solely depend on water stream from nearby hill for daily use of water. The raw and unfiltered fresh water is contaminated and risks to the health of the villagers. Hence, this paper proposes a possible solution on project under Corporate Social Responsibility (CSR) between the Micron Sdn Bhd and USM Engineering Campus to supplying clean water to the villagers. This project using automatic backwash process and sand filtering at the hill water retention pool. This is achieved by using a microcontroller for automatic filtering processes in which otherwise require an operator to manually operate the sand filter regularly. This project involved transdisciplinary of engineering area, i.e, School of Electrical and Electronic Engineering designed the microcontroller to control the mechanical part of the motor. The Pelton Wheel motor designed to supply electricity of green technology

to run the microcontroller. Meanwhile, the feasibility studies of the suitable filter are made by the School of Chemical Engineering and School of Materials and Mineral Resources Engineering. The retention pool structural to support the automatic backwash is proposed by the School of Civil Engineering.

Keywords: backwash sand filter, water treatment, rural area water supply, green technology

Acknowledgements: Micron Technolgy Foundation II Inc. (304/PELECT/6050394/M143)

Paper D1-04

EFFECT OF ACTIVATED CARBON AND GRAPHITE ON THE DIELECTRIC AND MICROWAVE PROPERTIES ON NATURAL RUBBER-BASED COMPOSITES

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ABSTRACT: The effect of activated carbon and graphite has been studied in view of their applicability as functional filler in microwave breast phantom fabrication. The activated carbon was produced from rice husk chemically treated with 0.5M hydrochloric acid (HCL) followed by carbonization process at 400 °C. Lead pencil was used as the source for graphite. Microwave properties were investigated using two types of fabricated sensors, insulated monopole and open-ended coaxial in the frequency range between 1 and 20 GHz. Results show that both activated carbon and graphite exert influence both on dielectric constant and reflection coefficient of the studied composites. The dielectric constant increased with the presence of activated carbon and graphite in the rubber composites as the frequency increased. Reflection coefficient also show higher values when activated carbon and graphite were mixed into the rubber composites.

Keywords: activated carbon, graphite, rubber composites, dielectric and microwave properties

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Paper D1-05

FUNCTIONALIZATION OF MICA SURFACE USING POLY-L-LYSINE (PLL) FOR EFFECTIVE ATTACHMENT OF GOLD NANOPARTICLE (AuNP)

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ABSTRACT: Mica has been functionalized using different molecular weight (MW) of Poly-L-Lysine (PLL) to make the surface positively charged for effective attachment of negatively charged gold nanoparticle (AuNP). Poly-L-Lysine surface functionalization was designed to improve particle attachment as well as to obtained smooth surface (lower roughness or rms values) for high topographical resolution images. Both 0.01% PLL of 70-150 kDa and 150-300 kDa MW give almost the same Rq/Rrms value which is below 1. However, PLL of 150-300 kDa MW obtained higher number of particle attachment on functionalized mica. Smaller value of surface roughness is necessary to promote flat, clean and smooth surface for effective attachment of AuNP.

Keywords: Atomic force microscopy (AFM), Gold Nanoparticle (AuNP), Poly-L-Lysine (PLL), surface functionalization, surface roughness.

Paper D2-01

MYTOXAPP: A MOBILE SYSTEM OF TOXICOLOGY EMERGENCIES THROUGH IMAGE PROCESSING

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ABSTRACT: Most of us live with potentially dangerous chemicals which can be found in our home; kitchen cabinets, hallway closets, living rooms and bathrooms. If do not properly stored or used, these products could cause minor like illness to serious as death and even life-threatening health problems. Therefore, National Poison Centre (NPC) has proposed an idea to develop an application of household chemical identification. The system is developed in two types of application which are web and mobile. Web application is mainly for admin like centre's officers to manage the household chemical database. Mobile application is used by public users and medical professions. The main objective of this system is to help and educate people on knowledge of toxic chemical in household products. Besides, this system can help NPC to gather the number of poison cases in Malaysia by receiving from users reporting toxic case. The reporting action can encourage users to contribute their data for NPC indirectly. This system acts as a household chemical identifier system for public users to search household chemical information easier. There are two ways of input receiver; user typing and the use of Optical Character Recognition (OCR) technology. OCR will analyse the scanned-in image, and then translate the character image into searchable data for better conveniences. With this system, the main expected result is to decrease the number of poison case to at least half compared to previous years.

Keywords: Optical Character Recognition (OCR), toxicology, household chemical, poison.

Paper D2-02

FUZZY MULTIPLE SEQUENTIAL HEURISTICS INCORPORATE WITH MUTLI-AGENT SYSTEM FOR COURSE TIMETABLING PROBLEM

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ABSTRACT: Seqeuntial constructive algorithm was designed to assign events based on their difficulty value. The main three sequential heuristics solving timetabling problems are: Largest Degree (LD), Largest Enrolment (LE) and Saturation Degree (SD). In order to improve the effectiveness of the algorithm, a framework integrates with fuzzy logic to consider more than one sequential heuristic was proposed to obtain events' difficulty value. There are three different combinations of sequential heuristics generated from previous work: Fuzzy LDLE, Fuzzy SDLE and Fuzzy SDLD. All theses fuzzy multiple sequential heuristics are able to produce very good quality of timetable in both exam and course timetabling problem. This paper presents a multi-agent framework to allow all fuzzy multiple sequential heuristics to work together for course timetabling problem. Basically, a course timetabling problem is to assign a set of courses into timetable subject to a set of hard and soft constraints. All the hard constraints must be solved because they are the key factor of generating a feasible solution. While soft constraints are not necessary to be solved but it is highly desirable to reduce the violation of soft constraints as much as possible in order to improve the quality of the solution. The experiments are conducted with real world and benchmark datasets. The experimental results show that the proposed framework is able to produce competitive results compared to some of the results in the literature. Besides, it is also able to develop a very good quality of timetable for real world problem.

Keywords: Multi-Agent System, Fuzzy Methodology, Sequential Constructive Algorithm, Course Timetabling Problem

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Paper D2-03

ACCIDENT MANAGEMENT IN THE CAMPUS THROUGH OCCUPATIONAL SAFETY AND HEALTH MOBILE APPLICATIONS

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ABSTRACT: The problem of poor accident management may cause major reputational damage or loss of university functions or operations. Due to the importance of safety management at campuses, this study focuses on applying the occupational safety and health management system to campus through mobile devices. The system provides for a structured investigation of accidents and incidents, from which investigations can be done. It covers all aspects of occupational safety such as physical, mental and social health and safety in the workplace. The main objective is to manage and investigate incidents quickly and effectively. The real-time feature of sharing photos for accident reporting allows the university community to lodge reports immediately. The web platform provides a dashboard view for administrators to conduct an investigation and monitor progresses. In overall, the developed system is potentially a very strong management tool for the university to address non-conformance, mitigate hazards, and reduce risk in keeping the campus environment safe and healthy.

Keywords: Occupational Safety and Health (OSH), Accident Reporting, Accident Investigation, Risk Assessment

Paper D2-04

A COMPARATIVE STUDY ON VARIOUS EDGE PRESERVING FILTERS FOR VESSEL SEGMENTATION OF MRA IMAGES

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ABSTRACT: Image processing algorithm play critical role in cerebral small vessel disease (CSVD) research where the pre-processing stage is the most vital component. Edge preserving algorithms filters used to smooth an image, while preserving the edges and its information. They are nonlinear in nature; making it very demanding in computer vision. Median filter, anisotropic diffusion filter, mean shift filter, sigma filter and bilateral filter are among the algorithms used for medical images. These models effectively reduce image noise while preserving the objects' edges. Their equation exhibit high-order nonlinearity and tend to be highly powerful particularly for medical image segmentation including magnetic resonance angiography (MRA) dataset. Over the past decades, numerous researches about edge preserving solvers have been published. However, these solvers are frequently accompanied by a phenomenon known as over-smoothing and coinciding with the classical method. The classical image filter methods shall bring about the problems of blurry images and poor tracing results of small vessels. This research focuses on identifying the best edge preserving algorithms and aims to build the foundation of a powerful image processing algorithm for a better image analysis in CSVD research domain which will be constructed in the partitioned framework. To illustrate the efficiency, results of segmentation on large anonymous datasets consisting of individual patients with CSVD will be qualitatively assessed by experts from CSVD and comparative analysis will be done to assess the stability of performance of the new proposed image processing algorithm.

Keywords: image processing, edge preserving filter, cerebral small vessel disease (CSVD), blood vessel segmentation

Paper D3-01

**POTENCY OF JATROPHA CURCAS SEED CRUDE EXTRACT IN CONTROLLING
GREEN STINK BUG NEZARA VIRIDULA (HEMIPTERA: PENTATOMIDAE)
A PEST OF SOYBEAN**

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ABSTRACT: Green Stink Bug *Nezara viridula* (Hemiptera: Pentatomidae) caused soybean yield losses moreover decreasing of seed quality. Controlling this insect by using chemical insecticides might cause a variety of negative impacts. Hence, using of botanical insecticides is an alternative. *Jatropha curcas* seed crude extract contains bioactive component that can affect insects. The purpose of this study was to know the effect of seed crude extract concentration of *J. curcas* against Green Stink Bug *N. viridula*. Two serial laboratory studies were done as crude extract applied as residual toxicity and oral toxicity method, respectively. The study was arranged as Completely Randomized Design (CRD) and seed crude extract of *J. curcas* concentrations as the treatment viz. Control (water); 0,015%; 0,0312%; 0,0625%; 0,125%; 0,25% and 0,5%. Result showed that the concentration of *J. curcas* seed crude extract affected significantly on *N. viridula* mortality, number of egg and nymph. The crude extract showed high effect as residual toxicity because the highest mortality (95-100%) of *N. viridula* occurred at 0.5, 0.25% and 0.125% concentration and no egg and progeny produce when applied at 0.5, 0.25 and 0.125% of concentrations. Whilst, when applied as oral toxicity, 100% of insects mortality at 0.50, 0.25 and 0.125% of crude extract concentration and at 0.125% there was still produced egg and nymph. Insect mortality when applied of *J. curcas* seed crude extract as residual toxicity showed rapid effect than oral toxicity. *Jatropha curcas* seed crude extract was potent to control *N. viridula*. It need more study to know the effect on soybean field.

Keywords: *Jatropha curcas*, crude extract, *Nezara viridula*, residual toxicity, oral toxicity

Acknowledgements: This research was funded by Direktorat Riset dan Pengabdian Masyarakat, Direktorat Jenderal Penguatan Riset dan Pengembangan Kementerian Riset, Teknologi, dan Pendidikan Tinggi Republik Indonesia.

Paper D3-02

**HABITAT MANAGEMENT TO SUPPRESS PEST POPULATION
ON POTATO CULTIVATION**

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ABSTRACT: Potato Tuber Moth (*Phthorimaea operculella* Zeller), leafminer (*Liriomyza huidobrensis* L.) and Green peach aphid (*Myzus persicae* Sulzer) are the major insect pest causes seriously damage on Potato (*Solanum tuberosum*) in Karo District, North Sumatera. The objectives of the current study were to characterize the best habitat which can suppress pest populations on potato cultivation. Habitat management is carried out by intercropping, organic farming systems and planting time arrangements. This study design by Split plot design with main plot are agricultural systems (conventional and organic) and the subplot are the design of cropping system (monoculture potato; potato-cabbage; potato-mustard; potato-celery; potato-cabbage-mustard; Potato-cabbage-celery; potato-mustard-celery; potato-cabbage-mustard-celery). First planting time done at April to June and the second at July to September. The sampling method was carried out purposively. Population of pest was observed using a adhesive yellow trap. For larval and aphid densities were observed in the plant sample of each treatment. The data was analyzed by ANOVA and Tukey test. The result showed that planting season from April to June as well as the planting season from July to September showed that in organic farming systems, pest population was higher when compared to conventional farming systems. The design of cropping system significantly affect the pest populations. In organic farming with polyculture potato-cabbage-mustard, potato-mustard and potato-cabbage-mustard-celery, found the lowest populations of pest. Combined analysis of the first and second planting season showed that population of pest more higher at first planting season than second planting season.

Keywords: habitat, Pest, Potato

Acknowledgements: Direktorat Riset dan pengabdian Masyarakat-DRPM DIKTI Indonesia

Paper D3-03

**EFFECTIVENESS OF ENDOFIT AS AGENT BIOLOGICAL CONTROL
(*Colletotrichum gloeosporoides*) ON RUBBER PLANTS (*Hevea Brasiliensis* Muell Arg)**

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ABSTRACT: Biological control by using antagonistic microorganisms is an alternative that is currently being carefully studied and used as a control of plant diseases. Endophytic microorganisms also play an important role in controlling plant diseases which are induction-resistant Endophytic antagonist fungi have high activity in producing enzymes that can be used to control pathogens. The purpose of this study was to determine the effectiveness of rubber plant endophytic fungi as biological agents against fungi *C. gloeosporioides* in Rubber plants (*Hevea Brasiliensis* Muell Arg). This study was conducted at the Sei Putih Rubber Research Center, Galang, Deli Serdang, North Sumatra Province in February to March 2019. The design used was Factorial Randomized Block Design with 3 replications and Combinations with 5 duplication. The results of the test on the effectiveness of endophytic fungi from rubber leaves with 10^4 spore treatment and secondary metabolites resulted in different endophytic ability to fall fungi leaf of *Colletotrichum*. Endophytes can improve the plant's defense mechanism against deciduous leaves of *Colletotrichum*, in addition it also produces antibiotic substances that can inhibit growth.

Keywords: defense, spores, metabolites, pathogens

Paper D3-04

**ANALYSIS OF POTENTIAL AND DEVELOPMENT OPPORTUNITY OF
RED ONION IN NORTH SUMATRA**

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ABSTRACT: Red Onion has a strategic role in the economy of North Sumatra. Red Onion is one of the main commodities as a contributor to inflation. However, the Province of North Sumatra is still deficit. Demand for red onion will continue to increase from time to time. This is because red onion is the main commodity for the people in processing food. The purpose of this study was to see the development of red onion production, identify red onion's production centers, and analyze investment opportunities for red onion farming in North Sumatra Province. The data used in this study are primary data and secondary data. The data in this study were analyzed using quantitative descriptive methods, Location Quotient (LQ) methods, and financial analysis (R/C ratio, B/C ratio, Break Event Point and sensitivity analysis). The results showed that the productivity of red onion reached 7.705 tons / ha with a harvest area of 2,090 ha. The center of red onion production includes Karo district (5,038.6 tons), Simalungun district (4,462.8 tons), Dairi district (2,569.3 tons) and Samosir district (2,569.3 tons). Financially, red onion farming is financially profitable. Red Onion farming income Rp. 73,450,000 per Ha, R / C ratio of 2.58, B / C ratio 1.58. The price of break-even point in farming red onion reaches Rp. 7,758 / Kg.

Keywords: Red Onion, Production, Location Quotient.

Paper D3-05

GENETIC DIVERSITY OF NORTH SUMATRA UPLAND RED RICE GENOTYPE ON MORPHOLOGICAL AND MOLECULAR MARKERS

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ABSTRACT: Germplasm or genetic resources (GR) is a very important biodiversity and is the basic capital needed in developing the agricultural industry including in creating new varieties for increased production in support of food security and sustainable agriculture. Rice (*Oryza sativa* L.) or rice is a very important food crop as the main staple food for the people of Indonesia. One type of upland rice in North Sumatra that is widely planted by the community is the upland red rice. In order to avoid the extinction of this GR extinction and can be more empowered it is necessary to do a more dynamic way of conservation such as *in situ* conservation (onfarm conservation) and *ex situ* conservation. The purpose of this study is to obtain information and data; Agronomic, morphological, and molecular characteristics. The research was conducted beginning with exploration activities in several districts in North Sumatra from early 2015 to December 2016 through literature study, interview and direct visit to Farmer field. Characterization of upland red rice was conducted in Experimental Garden and Laboratory of Faculty of Agriculture UISU Medan and UNAND Padang. Results obtained; (1) Acquired 19 upland red rice cultivars and most cultivars were found in areas of moderate to high altitude, with flat topography, bumpy to hilly; (2). All upland red rice cultivars have a good diversity from agronomy, harvest age and production (3). Based on grain and seeds local upland red rice, North Sumatra is grouped into 3 groups while based on molecular analysis are grouped into 9 groups.

Keywords: biodiversity, characterization, food security, red rice, sustainable agriculture

Paper D4-01

INTENTION TO PURCHASE HALAL BAKERY PRODUCTS: FROM THE LENS OF THEORY OF PLANNED BEHAVIOUR

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ABSTRACT: Bakery products have emerged as one of the fast growing food industries in Malaysia. Nevertheless, the halal issues related to the products, including origin of ingredients used in the bakery products, are raised. To date, consumers are concerned with the sources of ingredients used in food production, hence influencing their purchase decision. Consumers' consciousness, perception, and willingness to accept the halal concept have greatly proven its influence on halal food purchasing. Therefore, this study assessed the correlations of the attributed embedded in the Theory of Planned Behaviour (TPB), namely attitude, subjective norms, and perceived behavioural control, with purchase intention towards halal bakery products among consumers in the Petaling district, Selangor. The most influential factor for purchase intention towards halal bakery products had been determined in this study. A set of validated questionnaires was distributed to 500 respondents who had purchased bakery products at selected bakery outlets situated within the vicinity of Petaling district, Selangor. Out of the 500 distributed questionnaires, 476 questionnaires were usable and subjected to data analyses using SPSS software version 24. The outcomes showed that all the TPB attributes significantly and strongly influenced consumer's purchase intention ($p < 0.05$), with attitude ranked as the most influential factor that predicted consumers' intention to purchase halal bakery products. The outputs of this empirical study can be applied by food manufacturers to develop effective strategies in emphasising all the TPB attributes so as to enhance consumer's purchase intention towards halal bakery products.

Keywords: Halal, bakery product, Theory of Planned Behaviour, Consumer, Purchase Intention

Paper D4-02

SAVING DETERMINANTS AMONG CAREER WOMEN IN PRIVATE SECTORS IN PENANG

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ABSTRACT: This study focuses on saving characteristics among career women in Penang. It is important to have a better understanding on the saving characteristics among women, in our case, career women in private sectors because studies indicate that women are likely to have lower income and wealth on average compared to men. As such, their livelihood after retirement may be jeopardized given the escalating prices of necessary items and healthcare expenses. This research analyzes the saving characteristics which involves socio demographic comparisons and types of saving or investment instrument used by career women in Penang in order to save for their future. An identification of investment instruments, the level of savings and women's tendency to save for the future and for rainy days will help them to prepare for the uncertainties that life has to offer. This is because women have lower rate of participation in retirement plans as compared to men and are more likely to be living in poverty during retirement. Findings from this study can be beneficial to many quarters apart from the women themselves because they are too dependent on their spouse in planning for their retirement. Saving characteristics such as types of saving, percentage of monthly saving and the tendency to save will be taken into consideration in analyzing and having a better understanding on the saving characteristics of the career women. In this research quantitative method has been conducted. Questionnaires were distributed to women working in service and manufacturing industries which are the two most dominant industries in Penang. For this research, sample sizes of 500 respondents are selected and were asked to fill in the questionnaire. From the total of 500 respondents selected for this research, 339 respondents are from the service industry and the remaining 161 respondents are from the manufacturing industry. By having a clear look on the saving characteristics among career woman it helps to increase awareness about the importance for women to start saving for their future. At the same time, it helps to educate them with the possible instruments that they might use as a medium for saving. Moreover, by improving their financial literacy, women especially career women will be more involved in monitoring and managing their own savings. This is because, many women tend to hand over their financial security and planning to their spouses and be dependent to their spouses in term of saving for their future. The findings from this research shows that demographic characteristics, awareness and financial literacy significantly influenced saving among career women in the private sectors.

Paper D4-03

A CROSS LEVEL OF GREEN LEADERSHIP, GREEN CLIMATE TOWARD EMPLOYEE GREEN BEHAVIOR

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ABSTRACT: Organizations that have strong green policies generally benefit from increased sales and brand recognition ((Wee & Quazi, 2005; Yang, Hong, & Modi, 2011) as desired by workers (Salem, Hasnan, & Osman , 2012) Most efforts to reforest organizations depend on "voluntary" employee participation or voluntary green behavior (D'Mello, Ones, Klein, Wiernik, & Dilchert, 2011). Organizational behavior adjusts and changes with the development of organizations to change inputs, process, and output in the direction that supports or achieves environmental sustainability. This study aims to examine the relationship between organizational behavior namely green leadership, and organizational climate with individual behavior, namely personality in influence on employee green behavior in organizations that implement green management. Participants in this study are employees who work at PT X a manufacturing company that has received ISO 14001 certification. The cross level model is tested by analyzing data collected from employees and leaders of each department. Random coefficient modeling (RCM) is used to test cross-level hypotheses (Raudenbush and Bryk 2002). The results state that green leadership and organizational climate have a positive influence on employee green behavior at the group level and personality has a positive influence on employee green behavior at the individual level.

Keywords: Green Leadership, Personality, Organizational Climate and Employee Green Behavior

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Paper D4-04

THE READINESS OF THE ACCOUNTANCY PLAYERS FOR THE IMPLEMENTATION OF ARTIFICIAL INTELLIGENCE

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ABSTRACT: Artificial Intelligence (AI) is a conventional innovation by A.M. Turing. It is widely used in engineering automation and robotics area since 1950 while Industry 4.0 has been widely developed since 2013 in western country especially in Germany and United States. Industry 4.0 is known as a subset of the Fourth Industrial Revolution. It is also referred to “smart factory” where cyber physical systems monitor the real time physical progress of the factory and it is able to decentralize decisions. However, in Malaysia, its fast-moving development has been only introduced in the 20th century. Malaysian government has granted numerous tax incentives for the year of assessment 2019 - 2021 for companies involved in Industry 4.0. The study aims to address the readiness of accountancy players; determine the internal strengths and weaknesses as well as external promising opportunities and underlying challenges towards users for adaption dan adoption of Industry 4.0; and identify the significant changing of accounting players’ roles. A focus group discussion and a series of interviews were conducted with six top audit firms which were top management that enable authorize AI implementation. Majority of them are ready to practice AI technology. There were more advantages as AI enhances functional effectiveness and efficiency which able to deal with million data, thus leads to cost saving. Nonetheless, some argued that it failed to meet user’s expectations, unable to detect discrepancies, and high cost commitment. Some significant changes of the accountants’ roles arose when jobs were replaced.

Keywords: artificial intelligence, e-commerce, mid-tier audit firms, focus group discussion, big data

Paper D5-01

E-HAILING SERVICES IN MALAYSIA: CURRENT PRACTICES AND FUTURE OUTLOOK

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ABSTRACT: The e-hailing industry in Malaysia is set to grow exponentially, especially in urban areas connecting the first mile and last mile intervention in commuting and transit. The inefficiency of public transportation systems spurs the growth of e-hailing services. Perceptively as disruptive, and accepted by the consumer, e-hailing characterised itself as on-demand vehicles acquisition, through internet network dependency and use of the digital application. This research is to investigate the adoption of e-hailing services from its first initial inception, issues and the direction of e-hailing in Malaysia. A qualitative approach was taken, where comprehensive document analysis was employed as the primary research foundation. A systematic literature review of literature related to the e-hailing industry was studied. The data is then, screened for relevancy using the wordcloud technique and then coded using Atlas .ti 8 software to create linkages among the emerging themes. Themes that were identified, the adoption of e-hailing, issues about the regulatory framework of e-hailing, competition and also the future direction of e-hailing in Malaysia. Findings indicate e-hailing is accepted by the consumer citing conveniences as the primary factor connecting destination, especially in urban areas. The legalisation of e-hailing in Malaysia has spurred the growth of the industry with the introduction of the locally made e-hailing application. The growth projected indicating that e-hailing will continue to be part of the Malaysian transportation sectors. E-hailing disruptive nature in its early implementation years is now gradually accepted. It opens up the industries as it can be regulated to ensure that every stakeholder will benefit from this inclusion. Local Apps is a positive sign that e-hailing will continue to flourish. The industry will remain competitive and now considered as a complement to the existing public transportation system.

Keywords: E-haling, Future Outlook, Malaysia, Shared Mobility, Transport Network Companies (TNCs)

Paper D5-02

ABILITY OF ORANG ASLI ENGAGEMENT IN ENTREPRENEURSHIP PROGRAMS: ECONOMIC DEVELOPMENT PROGRAMS

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ABSTRACT: Traditionally, the Orang Asli in West Malaysia, who still depend on natural environment, animal hunter and fishermen for live. In Peninsular Malaysia, Orang Asli is minority groups and separated into three groups includes Negrito, Aboriginal Malay and Senoi. Statistic depicts that 1000 Orang Asli involve in entrepreneurship activities and this amount includes 100 Orang Asli who involve in entrepreneurship in Perak. Several efforts have been taken by the government to improve the economic condition of Orang Asli especially through economic development programs and support. This is to encourage the involvement of Orang Asli in entrepreneurship. The Malaysian government, through Department of Orang Asli Affairs has implemented several entrepreneurship Programs for Orang Asli under the Economy Development Programs. This program is one of the programs under Socioeconomic Development Programs for Orang Asli in Malaysia. Thus, the objective of study is to see the ability of Orang Asli to engage in entrepreneurship program and its impact on their economy. Thus, the study used combined methodology of qualitative and quantitative approaches for data analysis. A total of 300 families from RPS Air Banun, RPS Ulu Kinta and RPS Legap were involved in this study for quantitative perspective and 15 Orang Asli for interview. The qualitative study focus to ability of Orang Asli in entrepreneurship and quantitative study to concern of perception Orang Asli. The findings that the RPS was less successful to help improve the Orang Asli community, and RPS was different result and community were still under the poverty line income.

Keywords: Entrepreneurship, Orang Asli, ability, Entrepreneurial behaviour

Paper D5-03

AN ETHNOGRAPHIC RESEARCH ON MALAY WOMEN TRADERS IN BALIK PULAU, PENANG

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ABSTRACT: This article describes the ethnographic research methodology. It includes the data collection techniques combined in the fieldwork which are in-depth interviews, participants observations and document data sources. This article also provides justification for the methods employed. The advantages of qualitative approaches as compared to quantitative approaches have been described in this article as well. The use of qualitative approaches can provide a comprehensive overview of a social phenomenon or problem studied (Othman, 2009). This study describes the activities of women traders, the form of their business activities and the category of the elements of competitiveness of Malay women traders in Balik Pulau, Penang.

Keywords: Qualitative Research, Ethnographic studies, In-depth Interview, Observation

Paper D5-04

‘BECOMING ENTREPRENEURS’: THE ROLE OF SOCIAL CAPITAL AMONG BANGLADESHI MIGRANTS

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ABSTRACT: This paper addresses the importance of social capital in the economic activities attributed to the Bangladeshi migrants in Penang, Malaysia. This study is based on the social capital theory theoretical framework which implies that social capital promotes assistance, moral support, security, sources of information and more. All these facilitate the Bangladeshi migrants in their economic activities. The involvement of Bangladeshi migrants in entrepreneurial is a recent phenomenon as compared to their involvement in other economic sectors. The inflow of Bangladeshi migrants to Malaysia began in the mid-1980s and primarily concentrated in the construction, plantation and services sectors. The open door policy towards foreign workers at that time was due to the need for foreign workers to fill severe labour shortages in various sectors in Malaysia. While most of the Bangladeshi migrant workers engaged in the sectors permitted by the government, some have ventured into other economic activities such as business and trading. The engagement of Bangladeshi migrants in business activities is in tandem with migrant survival strategies. Based on ethnographic research and in-depth interviews conducted among Bangladeshi migrants, the finding indicates that social capital has been identified as a form of survival strategies used by the migrants to secure business opportunities and as a result, help to develop migrants entrepreneurial niche in this country.

Keywords: Social capital, Bangladeshi migrants, entrepreneurs, social networks, business

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Paper D5-05

IRREGULAR MIGRATION IN MALAYSIA: AMNESTY AND VOLUNTARY REPATRIATION

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ABSTRACT: This paper suggests that “self-deportation” is a rational approach to handle the crisis of irregular migration in Malaysia. Deportation has been the cornerstone of Malaysia’s migration control measure in the unmaking of irregular migration. In addressing the root cause of irregular migration, deportation efforts may be unsustainable as long as the whole ecosystem in Malaysia provides a fertile grounds in breeding illegality. Migration has become an industry with the involvement of various actors making money off migrants. Self-deportation, may serve as an alternative measure, in strengthening interior enforcement, to achieve the state’s declared aim of zero irregular migrants by the year of 2020. This migration control measure may be effective provided that the employment of an unauthorised alien is subject to strict enforcement measures and the probability in obtaining employment is driven to zero.

Keywords: deportation, irregular migration, repatriation, undocumented migrants

Paper D6-01

KING'S LETTERS AND LETTERS OF LAW: SOCIAL AND ECONOMIC REALITIES IN KEDAH, 1882-1940

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ABSTRACT: This study aims to examine the socio-economic of the Malays in Kedah based on the collection of the King's Letters (famously known as Surat Raja-Raja) and Letters of Law (famously known as Surat Undang-Undang). The collection of correspondence are the written record of the administration of the Kedah state during the reign of Sultan Abdul Hamid Halim Shah, the 26th *Sultan* of Kedah. These collection of records are very unique since it covers various aspects of the Malays civilization of the late nineteenth century until the beginning of the 20th century. The time frames from 1882 to 1940 is chosen because the Malays were directly involved in the development of the Kedah state economy. During that period, the Kedah government always emphasized the development and progress of the state although Kedah was under the protectorate of Siam and then British government. However, the Malays are still far behind from the current development and modernization, besides they were also plagued by poverty and are often stuck with various social problems in life. In fact, with the new rules and laws introduced through the State Council and the changes of government policy has had a major impact on the lives of the people of Kedah, especially the Malays. The SRR and SUU collections are seen as local sources that can provide new information on the social and economic realities of the Malays which which were not discussed in the previous studies and official reports issued by the British.

Keywords: subordinate, social realities, economic realities, living, government policy

Paper D6-02

THE CONCEPT OF SPECIAL JUDICIAL INSTITUTIONS IN DISPUTE RESOLUTION OF VILLAGE HEADS

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ABSTRACT: The idea of village head dispute resolution through the Special Judicial Institution began with anxiety over Law 6 of 2014 concerning Villages, Government Regulation number 6 of 2014 concerning Implementation of Village Laws, and Minister of Home Affairs Regulation No.112 of 2014 concerning Guidelines for Election of Village Heads, which has not yet regulated the village head election supervisory institutions and dispute resolution institutions for village head elections. The institutions that are required to complete based on these rules are Regents/Mayors with a period of 30 days. Regents/Mayors are political positions which also have many political interests. The existence of this decision had an impact on one of the candidates for the village head. The current practices for resolving disputes over village head elections through the District Court and the State Administrative Court. Are the objects of the disputed village head election the regional authority? Research using a normative juridical approach with a statute approach, history approach and conceptual approach. The results of the study state that this research is by establishing a special independent judicial institution based on local wisdom by prioritizing the principle of kinship and consensus building. The main task of the institution is to assist the regional head in providing alternative legal services, to serve and protect the rights of the parties in seeking truth and justice, and to settle according to a predetermined time, to try to examine and decide on cases of village head election disputes.

Keywords: Special Judicial, Village Head Election, Dispute

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Paper D6-03

THE ELEMENT OF NATIONALISM ABDUL HADI AWANG AND ITS IMPACT ON NEW MALAYSIAN POLITICAL CULTURE

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ABSTRACT : Abdul Hadi Awang is a President of The Malaysian Islamic Party (PAS) from 2003 until now. He is known as a charismatic leader, firmness and has a nationalism element in each of his speeches and political statements. This study justifies the element of nationalism in the context of Malay language, the description of the Malays and the honor of the state and religion. The question arises is whether there is an element of nationalism in Abdul Hadi Awang's political speech and statements that could have an impact on the New Malaysian political culture?. To answer the question, the researcher will describes the element and his stand on the ideology of nationalism. To questions, the data will be conducted through an analysis of annual assembly (*Muktamar*) presidential speech texts, journals, press reports and media statements of the President of PAS by using qualitative methods. The preliminary findings found that Abdul Hadi Awang's nationalism element was his assertion of the position of Malay language which was part of his speech in the Malaysian Islamic Party (PAS) Annual Assembly (*Muktamar*) from 2003 to 2018.

Keywords: Abdul Hadi Awang, Nationalism, and New Malaysian Politics

Paper D6-04

MEN IN MINANGKABAU CUSTOMARY LAW IN HAMKA'S NOVEL *MERANTAU KE DELI*

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ABSTRACT: This study aimed at finding the position of men in Minangkabau customary law through the novel *Merantau ke Deli* by Hamka. Hamka through the novel tells about Minangkabau ethnic group and its customary law which adopts matrilineal system. This research was conducted by applying gender theory by Megawangi (1999) using descriptive qualitative method proposed by Cresswell (2013). The focus of this study was about the position of men in Minangkabau customary law as a bachelor, as a husband, and as a father. The result showed that as a bachelor, man runs the tradition of migration to the other village outside nagari. As a husband, man is leader or head of a family who has responsibility on fulfilling the needs of his wife and children. A married man of Minangkabau ethnic group lives in his wife's house. However, according to the tradition adopted, the man is considered as a lodging room tenants called as *urang sumando* which means guest. As a father, man could not freely decide the future of his children. It could be seen especially when his daughters will be married off. Married man holds quasi-obligations in his household. He has to sacrifice and participate a lot in the environment he come from. However, Men in Minangkabau ethnic group are impossible to escape from family ties of mother or his sisters based on the matrilineal system they adopted.

Keywords: customary law, matrilineal system, gender, bachelor, husband, father

Paper D6-05

**THE STRESS AND WAYS TO DEAL WITH STRESS OF STUDENTS AT
RAJAMANGALA UNIVERSITY OF TECHNOLOGY SRIVIJAYA, SONGKHLA
CAMPUS BY USING CONTEMPLATIVE EDUCATION PROCESS**

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ABSTRACT: The purpose of this research is to investigate the stress conditions of students at Rajamangala University of Technology Srivijaya. The 400 samples were randomly divided by the stratification. The instrument was a stress questionnaire. The research revealed that the basic data questionnaire can be summarized as follows: Gender factors found that females had higher frequencies of stress than males at 60.8 percent and 39.3 percent. The age factor was the highest-low percentage. The students from the Faculty of Business Administration and the Faculty of Architecture had highest stress. The Buddhist students got the highest stress. Factors related to marital status, father-mother was the highest percentage. Career factors of agriculture and fishery got the highest stress. The factor of receiving personal expenses approximately 2,001-4,000 baht per month was the highest percentage. Fair income factors were a high percentage. Average family income factor was highest average per month 10,001-20,000 baht. The highest financial factor of the family is the fair. The highest extracurricular participation factor is participation in extracurricular activities.

Keywords: Stress, Ways to Deal with Stress, Students at RUTS, Contemplative Education and Process

Acknowledgements: Faculty of Liberal Arts, Rajamangala University of Technology Srivijaya (Fiscal Year 2018)

Paper D6-06

**BRITAIN'S STONEWALL STRATEGY TOWARDS THE SUBVERSIVE ATTACKS ON
SABAH IN 1968**

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ABSTRACT: A series of unprecedented subversive attacks on Sabah by Filipino invaders after the Corregidor incidents in March 1968 had raised various responses from foreign countries. As a newly-established government, the security of Malaysia's boundaries was highly vulnerable and the nation therefore had to rely on assistance in terms of defence from the great powers. Bounded by the Anglo-Malaysian Defense Agreement (AMDA), the British government had to revise their role to provide defense assistance to Malaysia since they also had to maintain cordial relations with the Philippines. Thus, this study aims to examine the slick diplomacy and stonewall strategy used by the British government to make sure that they were not accused for not fulfilling their side of promise in AMDA whilst at the same time, preserving their favourable relations with the Philippines. The findings revealed that among others, the British government had not taken sides while they tried to minimise the defense assistance to Malaysia and avoided from giving any statement that may harm their diplomatic relations with the Philippines. This research was conducted based on historical documents such as reports, agreements, correspondence, newspapers, government gazettes, memoranda, speeches and official government publications. Extensive reference was also made to the British's records such as the Colonial Office (CO), Foreign Office (FO), Foreign and Commonwealth Office (FCO) records and others. These primary and secondary sources were analysed using a diplomatic historical approach.

Keywords: Stonewall, subversive, diplomatic, relations, strategy

Acknowledgements: Short-term Research Grant, Universiti Sains Malaysia (304/PJJAUH/6315271)

Paper D7-01

THE STRATEGY AND EFFECTIVENESS IN COUNTERING VIOLENCE-EXTREMISM IN INDONESIA 2008-2018

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ABSTRACT: This article examines the strategy and effectiveness of the Indonesian government in countering violent extremism in 2008-2018. Referring to *the Global Terrorism Database* (2017), of a total of 769 acts of terrorism in Indonesia recorded from 1970 to 2016, over 90% of acts of terrorism occurred during the years of the democratic era (after 1998). Since the Bali Bomb I that killed 202 people until 2013, dozens suicide bombings have taken place. The radical group known as Jemaah Islamiah (JI) is regarded as the party most responsible for most of the waves of terror in post-reform Indonesia. After the decline of JI, the new waves of attacks has been launched by jihadist cell's affiliated to ISIS or Daesh, like JAD and MIT. The militants of JAD involved in many fatal terror attacks: 2016, 2017, and 2018. More than 500 hundreds jihadist have been jailed and dozens of terrorist killed since the last four years. Based on the statement of the Indonesia government around 500-700 Indonesian people have gone to Syria and Iraq since 2014. After the fall of ISIS, dozens jihadist and their families want to go back to their home in Indonesia. It is still unclear how the government will handle the ex-jihadists and their families. At the same time, the effectiveness of repressive methods or hard actions in countering terrorism often seems to be questionable. The story of de-radicalization also contains more failure than success

Keywords: Strategy, Effectiveness, Countering, Violent-Extremism

Acknowledgements: The Minister of Religious Affairs. The Republic of Indonesia.

Paper D7-02

REMO: THE CULTURAL TASTE OF WEST MADURA BLATER

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ABSTRACT: General community, according to Kuntowijoyo, contains community structures called *abangan*, *kyai*, and *priyayi*. But in fact there is another specific group of people which refers to themselves as *Blater*. *Blater* is the term used for someone who is feared and respected by the West Madurese community. *Blater* follows the *remo* tradition to be visible in the surrounding community. *Remo* itself is a gathering party for feared people or *Blater* in Bangkalan and Sampang, (Wiyata, 2006). In the Remo tradition, *Blater* give away money (known as *buwuan*) to the host with the amount of around 500,000 to 2,000,000 per person depending on their position in the group. The literature review used is Bourdieu's Distinction theory of consumption tastes and class in Madura. Bourdieu's ambition is to explain cultural practices in consumption tastes which are determined by capital ownership in various social classes (Fashri, 2014). The methodology used is qualitative research with phenomenology methods. The techniques of collecting data are in-depth interviews at key informants, observation and documentation. The result of this study indicates that there is a separate class in West Madura community (Bangkalan and Sampang) with distinctive consumption taste and behavior that is formed by social levels, and thus characterizes a lifestyle that differs from the other community groups. The *Remo* tradition still exists to this day despite the influence of modern culture.

Keywords: Remo, Madura Blater, Taste

Acknowledgements: Indonesian Endowment Fund for Education, Ministry of Finance of Republic of Indonesia

Paper D7-03

CONSTRUCTION OF MILLENNIAL GENERATION COMPETENCIES IN ELECTRONIC BASED PUBLIC SERVICES

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ABSTRACT: The millennial generation phenomenon in the One Stop Integrated Service and Investment Service (DPMPSTP) of Sidoarjo Regency, East Java, Indonesia is a productive generation. Millennials here experience a gap between the baby boomer generation which seems stiff, less familiar with information and communication technology and the use of social media in their daily work activities. The purpose of this study was to explore the construction of millennial generations' competencies in the implementation of electronic-based services at the Sidoarjo Regency Investment and Integrated One-Stop Service. The research method used is qualitative. Informants were all employees of the One Stop Investment and Integrated Services Office of Sidoarjo Regency who were less than 37 years old (millennial generation) as many as 8 informants. The results of the millennial generation's construction research in work are achievement, appreciation, responsibility, honesty and cooperation. So, the construction of independence of the millennial generation has self-potential that is in accordance with the different characteristics of the baby boomer generation in providing public services in the licensing sector. So that in providing public services the millennial generation has competency values that have been internalized within individual employees.

Keywords: Construction, Independence; Millennial Generation

Acknowledgements: Indonesian Endowment Fund for Education, Ministry of Finance of Republic of Indonesia

Paper D7-04

FUNCTION CONTROL OF OMBUDSMAN OF THE REPUBLIC OF INDONESIA (ORI) IN PUBLIC SERVICE

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ABSTRACT: This study aims to determine pelaksanaan oversight role and function of the Ombudsman of the Republic of Indonesia in overseeing public services in the city of Makassar. The principal problem of the Implementation Oversight Role And Fungsi Ombudsman Republik of Indonesia (ORI) Against the Implementation of the Law of the Republic of Indonesia Number 25 of 2009 in the City of Makassar. The research used is qualitative then presented descriptively, namely by parsing, explaining, and describing according to what actually happened in the field. The results of this study are based on data from the Ombudsman Institute of the Republic of Indonesia Representative Sula Selatan. That the role and function of the ombudsman in improving the quality of service by receiving reports from the public, who report 679 and 486 cases were resolved so that it is said that 60% of the total public reports and 40% are still in the process of follow-up, the Ombudsman Supervision in improving the quality of public services in Makassar City can be said to be quite maximal. The implications of this study ombudsman clicking right efforts to prevent maladministration among other things: (1) Seek pencegahan maladministration by performing community empowerment through a form of socialization, *talk shows*, interactive dialogue, gatherings, lectures and other public and conducting investigations. (2) Handling public complaints in the field of public services through investigation, clarification, mediation and monitoring. And the follow-up to the recommendations of the Ombudsman in an effort to improve public services in the city of Makassar to provide certainty about the status of the report, namely there are several classifications in the form of (1) not fulfilling formal requirements, (2) Reporting revocation, (3) Not authorized, (4) Clarification, (5) investigation, (6) advice, and (7) recommendations.

Paper D7-05

COLLEGE STUDENTS SYNERGY AND POLITICAL DEVELOPMENT OF SINJAI DISTRICT YEAR 2007-2017

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ABSTRACT: This research is about the Synergy of Students with the Government in Political Development in 2007-2017. This study aims to find out how the role of students in Helping the Political Development of Sinjai Regency in 2007-2017 and to explain how the pattern is built between students and the government so that later they can synergize more in building Sinjai district. The type of research used is qualitative research which describes events or events, people's behavior or situation in a particular place in a detailed and in-depth narrative form. The primary data collection method in this thesis uses interview methods and observation methods, while secondary data uses documentary methods and literature review methods. Data analysis method used is descriptive analysis from the results of interviews, researchers will describe and analyze based on the theoretical framework used in this study. The results of the study show that Sinjai students took part in the process of helping the political development of Sinjai district, both in terms of monitoring the implementation of policies and in terms of evaluating public policies. In addition, this study also shows that the lack of synergy between students and the Sinjai government is seen from the many rules that are considered as inefficient students. For example, Regent Regulations concerning Procedures for Providing Educational Funding to District Students. Sinjai and Regional Regulations concerning Regional Property Usage Retribution.

Paper E1-01

INDUSTRIAL REVOLUTION 4.0: LEADERSHIP STYLES AND WORK-RELATED ATTITUDES AMONG SOCIAL SERVICES EMPLOYEES IN PENANG, MALAYSIA

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ABSTRACT: This study associates the leadership styles and work-related attitudes play an important role among employees in organizations toward the context of the Industrial Revolution 4.0 (IR4.0). Leadership styles have been identified as a major factor in determining the success or failure of organizations. On the other hand, the work-related attitudes, namely job satisfaction, career satisfaction, and organizational commitment, had an impact from the leadership styles. Moreover, the emergence of IR4.0 will give no exception to employees in various organizations in facing its wave. Thus, the objective of this study is to illuminate the relationship between leadership styles and work-related attitudes among social services employees in Penang, Malaysia on their behavior in the context of IR4.0. Quantitative research using questionnaires were employed. Employees in the social services had been contacted and given the questionnaire for them to respond. The leadership styles are based on the Leadership Behavior Development Questionnaire (Form XII) and the work-related attitudes had been based on the various scholars. This paper had proposed several implications of IR4.0 on the leadership styles and work-related attitudes among social services employees in Penang, Malaysia.

Keywords: Leadership styles, work-related attitudes, Industrial Revolution 4.0, social services employees, Malaysia

Acknowledgements: Universiti Sains Malaysia (1001/PJJAUH/8016077)

Paper E1-02

THE FACTORS THAT EFFECT ON THE INTEGRITY TO PREVENT FRAUD: EVIDENCE IN INDONESIA

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ABSTRACT: Integrity plays an important role in preventing and reducing fraud. Even though integrity consists of many elements, integrity or roundness is always maintained as a result of a strong reciprocal relationship between the elements. The purpose of this study to investigate the factors that influence integrity in preventing and reducing fraud in Indonesia, especially in North Sumatra Province. This research was conducted in the Government of North Sumatra Province by distributing questionnaires to all heads of departments, official secretaries and section heads who were respondents in this study. This study found that resources, independence, transparency, accountability, integrity mechanisms, public education, cooperate with public and private sector, reduce fraud risk by safeguarding integrity in public procurement, and treaty of integrity has a significant effect on integrity. This research has implications for policy makers in generating integrity in Indonesia.

Keywords: Government, Integrity, Fraud

Paper E1-03

MOSQUE FINANCIAL MANAGEMENT PRACTICE BASED ON ISLAMIC WEALTH MANAGEMENT: CASE STUDY OF MASJID GEDHE KAUMAN, YOGYAKARTA

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ABSTRACT: A mosque is a sacred place for Moslems to do worship. A mosque usually gathers donors from the congregations to finance the mosque's activities. Hence, the mosque administrators should have proper financial management to be responsible for the congregations. This study aims to analyze the financial management of Masjid Gedhe Kauman (Great Mosque Kauman) Yogyakarta Indonesia based on Islamic Wealth Management which is one of the oldest mosques in Yogyakarta. It also has copious historical values in a long history of the development of Islam in Java. It is located surrounding Kraton Palace, one of the Javanese biggest kingdoms in the past. The concept of Islamic Wealth Management comprises wealth creation, wealth accumulation, wealth protection, wealth purification, and wealth distribution. The data are gathered by interviewing the mosque administrator, documenting the financial report, and observing the activities. The result shows that Masjid Gedhe Kauman Yogyakarta has not yet fully applied the Islamic Wealth Management concept on its financial management. The wealth accumulation and wealth purification are still lack of attention from the mosque's administrators. Status of authority, government policies, and ownership are the main obstacles to develop mosque financial management. Most of Masjid Gedhe Kauman Yogyakarta fund is obtained from the alms. The fund is prioritized for the mosque's activities. The finding also reveals that financial management is lack of transparency because the financial report is not disclosed to the congregation whereas the idle fund is over a billion rupiahs.

Keywords: Mosque, Islamic Wealth Management, and Financial Management

Acknowledgements: Department of Islamic Economics, Faculty of Islamic Studies, Universitas Islam Indonesia

Paper E1-04

THE IMPORTANCE OF INNOVATIVE BEHAVIOR TOWARDS EMPLOYEE'S JOB PERFORMANCE IN THE ERA OF INDUSTRIAL REVOLUTION 4.0

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ABSTRACT: The industrial revolution 4.0 focuses heavily on the important of automation usage and data exchange that limits the usage of human skills and capacity. Thus, the role of human capital need to be feasible and relevant in the context of industrial revolution nowadays. This phenomenon has impacted the SMEs organization which therefore affected the capacity of SMEs employees. Hence, the SMEs need to be prepared for this challenges by providing a feasible and relevant employees who are innovative and creative. As such, this study tend to focus on the important of innovative behavior among employees. This study aims to investigate the relationship between innovative behavior and job performance of the SMEs employees. Sample of respondent was selected among SMEs employees working in electrical and electronic sector. The study used 201 questionnaires obtained from SMEs employees and the data was analyzed using PLS-SEM. The finding of this study showed a positive relationship between innovative behavior and job performance. This study provides useful information for researchers and practitioner in understanding the importance of innovative behavior towards the employee's job performance.

Keywords: Innovative Behavior, Job Performance, and SME

Paper E1-05

IMPROVEMENT STRATEGY OF BUSINESS CATTLE IN DELI SERDANG

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ABSTRACT: The cattle business has a significant opportunity in increasing income because of the increase in the amount of beef consumption in Deli Serdang. The purpose of this study was to determine the feasibility of cattle business to find out the strategies taken in improving cattle products. Determination of the study area was done purposively. The method of determining the sample is a census with a total sample of 37 breeders. Data analysis methods used were Business Feasibility Analysis (R / C) and SWOT analysis. The results showed cattle business in the study area can be said to be feasible where the value of R / C > 1 was 1.89 obtained from depreciation costs of Rp 3 287 552, variable costs of Rp 5 403 108, revenue of Rp 111 414 865 and income of Rp 52 724 205. The right strategy to increase the production of cattle business in the study area lies in quadrant I, which is Aggressive or SO (Strengths and Opportunity) strategies which include forcing the availability of labor and forage feed to increase implementation patterns of integration of livestock with plants, beef quality can be supported by the condition of livestock that is protected from disease so that the availability of local cattle products in the market is sufficient to meet the high demand for beef. The experience of livestock can broaden knowledge in developing livestock business supported by technological developments.

Keywords: Improvement Strategy, Cattle Business, and Feasibility

Paper E2-01

DETERMINATION OF DPA(DIPHENYLAMINE) IN GUN PROPELLANTS BY ULTRA HIGH PERFORMANCE LIQUID CHROMATOGRAPHY (UHPLC) USING TWO METHODS, SOXHLET EXTRACTION WITH DICHLOROMETHANE (DCM) AND ULTRASONIC EXTRACTION (USE) WITH METHANOL

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ABSTRACT: In this research, we determine diphenylamine (DPA) in gun propellants by Ultra High Performance Liquid Chromatography (UHPLC).and compared two method of extraction which are soxhlet extraction and ultrasonic extraction. Diphenylamine (DPA) is a substance commonly used as a stabilizer in the gun propellant during storage or ageing, there are slow but constant decomposition of nitrocellulose based propellant happened to the propellant. The decomposition of nitrocellulose will cause autocatalytic decomposition and ignition of the propellant. In this case, stabilizer were added to the propellant to ensure bullets were in stable condition. Determination the concentration of stabilizer in the gun propellant is very important in determining the life of a bullet. There are various ways to extract the propellant for the determination of its stabilizers. This research focused on two method in determination the stabilizer contents in gun propellant. One is soxhlet extraction method by using dichloromethane (DCM) as its solvent extraction. Another one is ultrasonic extraction method by using 8% acetonitrile (CAN) in methanol. The concentration of diphenylamine (DPA) will be measured by using UHPLC (ultra high performance liquid chromatography). Comparative study was made to identify the advantages and disadvantages of the two methods of extraction propellant. It was observed that ultrasonic extraction method is an alternative method that has potential to get a better result in short time of extraction using non chlorinated solvent.

Keywords: Propellant, Diphenylamine, Soxhlet Extraction, and Ultrasonic Extraction

Paper E2-02

FIRST PRINCIPLES THEORY OF HYPERFINE INTERACTIONS IN GUANINE NUCLEOBASE

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ABSTRACT: The computational methods were employed to investigate the electronic structure and the muonium hyperfine interactions in guanine nucleobase by using the unrestricted Hartree-Fock cluster procedure in combination with 6-311+G(d,p) basis set. The effect that muonium has on the planar shape of the guanine nucleobase when trapped at different sites were reported in this study. Non-planar characteristic of guanine base was observed for muonium trapped at C4, C5, and C6 atoms. For the trapping sites at C2, C8, N3, N7, and O6 atoms, guanine base retains its planar geometry when muonium is attached. The hyperfine interaction for all possible muonium trapping sites was observed to have the range of -31.3 MHz to 366.3 MHz. Based on the minimum potential energy, the location of muonium trapping site is predicted to locate at C8 atom. The theoretical value of Fermi contact interaction for guanine nucleobase is in reasonable agreement with the μ SR data obtained from guanine nucleobase polycrystalline sample.

Keywords: DNA, guanine, Hartree-Fock, muonium and hyperfine interactions

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Paper E2-03

STUDY OF THE PROPERTIES ZINC OXIDE (ZnO) MATERIAL BY VARYING THICKNESS AND THE BAND GAP USING NUMERICAL ANALYSIS (SCAPS) FOR WINDOW LAYER PURPOSE IN CIGS SOLAR CELLS

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ABSTRACT: In this paper, an investigation of the zinc oxide (ZnO) material in particular about the role as the window layer purpose in CIGS Solar Cell has been addressed. The simulation using numerical simulation tool, Solar Cell Capacitance Simulator (SCAPS) software has been conducted. It was performed using different window layer thickness and the band gap values of Zinc Oxide (ZnO), in order to study the performance of CIGS solar cell device by varying those parameters. The ranges of the layers thickness were varied from 100 nm to 500 nm, and the band gap values were varying from 3.1 to 3.4 eV. Device parameters such as fill factor (FF), open circuit voltage (Voc), short circuit current density (Jsc) and efficiency (η) were determined from the current density-voltage (I-V) characteristics. By implemented this window layer parameters on the CIGS solar cells devices the results shows that the open circuits (Voc) were improved without significantly sacrificing the short circuit current density (Jsc). In addition, the Quantum efficiency (QE) was about 93% in visible range. Finally were found from this simulation study the optimum efficiency of CIGS solar cell were obtained of 17% when the thickness of the window layer were set at 100 nm and the band gap at 3.1 eV.

Keywords: Zinc oxide, CIGS solar cell, SCAPS, Window layer

Paper E2-04

SO₂ CAPTURE IN FLUE GAS OUTLET FROM FLUE GAS DESULPHURIZATION (FGD) OPERATION AT SUB CRITICAL BOILER FOR DIFFERENT TYPES OF SUB BITUMINOUS COAL

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ABSTRACT: Thermal coal fired power plants are the backbone of the power generation industry in Malaysia in ensuring sustainable electricity power supply to the national grid system to cater for the ever growing demands of a developing country. Till the date, coal is the preferred primary fuel in the power generation sector due the lower price when compared to other fuels such as distillate, medium fuel and natural gas. The coal global coal demand reached a peak of 946.3 million tons as of August 2015. Indonesia is the largest producer of coal, followed by Australia, Russia, Colombia, South Africa, China and the USA. However, one of the major downside of combusting coal to produce electricity is that the flue gases (exhaust gases) produced has high concentration of contaminants such as SO₂ and NO_x, which has various negative impacts on the environment. The Flue Gas Desulphurization (FGD) plant is designed to remove SO₂ from the flue gas, which is a byproduct of combusting coal. This study analyses the effective SO₂ reduction achieved by the FGD system. Several types of sub bituminous coal with different specification are used for combustion in the boiler. The results of this study clearly shows that the different types of sub bituminous coal lead to varying percentage of SO₂ removal. Besides, the study shows the relative correlation between sub bituminous SO₂ content and the SO₂ emission at the stack.

Keywords: Thermal Power Plant, Sub-bituminous Coal, Sulphur Dioxide, and Flue Gas Desulphurization

Paper E2-05

THE SYNTHESSES OF FUSED CYCLIC 5/6-MEMBERED RING LACTAMS VIA ENAMINE HYDROGENATION

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ABSTRACT: The enamines hydrogenation is essential towards the construction of fused bicyclic 6,5- and 5,5-lactams. This report demonstrate the synthetic pathway utilizes prior synthesized of highly substituted 2,3-pyrrolidinedione which firstly undergoes the conversion of keto-enol tautomer into imine and enamine derivatives, followed by heterogeneous hydrogenation and the intramolecular cyclisation. The solvent effects on the selectivity of enamine derivative's hydrogenation of the pyrroles are also emphasized.

Keywords: Bicyclic fused, Enamine hydrogenation, and Lactam

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Paper E3-01

A THEORETICAL REVIEW OF INDICATORS FOR MEASURING COMPETITIVENESS AMONGS STATES IN MALAYSIA

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ABSTRACT: As with many other developing countries in the world, Malaysia is focusing on economic growth to achieve the status of a high income. Among the steps taken and continues to be the focus is the efforts to attract foreign investors into the country, which depend very much on the competitiveness of the Malaysian economy. Many studies have been conducted to assess the level of competitiveness of Malaysia as a country in comparison with other countries in the world. However, within the country itself, the level of competitiveness between the states varies. States also compete to attract investment both from the local as well as foreign investors. In view of this, this paper develop a tool to access the level of competitiveness of the states in Malaysia. Given that the concept of competitiveness is complex and multidimensional, the main challenge of this study is to determine the tools and indicators that can be used to measure these competitiveness and then to rank it accordingly. The index of competitiveness developed shall complement the competitiveness index developed by the Economic Planning Unit (EPU) namely the Malaysia Quality of Life Index (MQLI) as well as the Malaysian Urban-Rural National Indicators Network for Sustainable Development (MURNInets) by PLANMalaysia (Department of Urban and Rural Planning). Thus, the competitiveness index can be described as a measurement that provides a summary of informative information regarding specific issue. This paper serves as a review of the theoretical framework of indicators used to measure the competitiveness based on past studies that have been conducted in this area in comparison with MQLI and MURNInets.

Keywords: Competitiveness, Indicators, Quality of Life Index (MQLI), Malaysian Urban-Rural National Indicators Network for Sustainable Development (MURNInets), and Theoretical Framework.

Paper E3-02

FACTORS AFFECTING THE COMPANY'S VALUE THROUGH SUSTAINABILITY REPORTS IN THE INDONESIA STOCK EXCHANGE

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ABSTRACT: The company's financial performance that demonstrates the success of the company is a matter of interest to the public. While the Sustainability Report is a non-financial report that is beginning to draw public attention today. This study aims to examine how the influence of financial performance on corporate value through Sustainability Report that can be used as a Reference for User Financial Statements in the decision of the right decision. The sample of this study are Companies listed in Indonesia Stock Exchange in 2016. Independent variables in this research are Profitability Variables, Liquidity Variables, Leverage Variables measured using Financial Ratios, Mediation Variables in this study is Sustainability Report measured by using Index Disclosures derived from the Global Initiative Reporting (GRI) and Dependent Variables are Corporate Values measured using Tobins'Q. This study uses secondary data obtained at Indonesia Stock Exchange. The results of this study indicate that net profit margin, current ratio and leverage (X) have no significant effect on both sustainability reporting (Z) and the dependent variable of firm value (Y). The results of this study also proves that only the sustainability reporting (Z) mediation variable has significant effect on the dependent variable of firm value (Y).

Keywords: Profitability, Liquidity, Leverage, Sustainability Report and Corporate Value

Acknowledgements: Indonesian Endowment Fund for Education, Ministry of Finance of Republic of Indonesia

Paper E3-03

EFFECTS OF ECONOMIC GROWTH IN MODERATING THE RELATIONSHIP OF RUPIAH EXCHANGE RATE WITH FINANCING OF ISLAMIC BANKING IN INDONESIA YEAR 2010-2017

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ABSTRACT: The main function of banking is to channel public funds to various financing sectors, can run optimally if the economic conditions are in a favorable situation. The purpose of this study is to analyze how economic growth moderates the relationship between the rupiah exchange rate and financing. This study uses secondary data as a whole taken from official sources in monthly form starting from January 2010 to December 2017. Data on financing is obtained from the Statistics of Bank Indonesia Sharia Banking and the exchange rate is obtained from the official website of Bank Indonesia. While the Industrial Production index data as a proxy for economic conditions data is accessed from the official website of the Indonesian Central Bureau of Statistics. The data analysis technique in this study uses a dynamic model. The dynamic model that is widely known is one of them is the Error Correction Model (ECM). The results of the study found that the rupiah exchange rate had a negative and significant effect on Islamic banking financing, while economic growth was able to moderate the relationship between the exchange rate against Islamic banking financing in Indonesia.

Keywords: Economic Growth, Islamic Banking and Exchange Rate

Paper E3-04

TOURISM ENTREPRENEURSHIP: AN ANALYSIS OF LOCAL COMMUNITIES ENGAGEMENT AND PERCEPTION TOWARDS SOCIOECONOMIC IMPACT

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ABSTRACT: The purpose of this study is to examine the level of local communities engagement in tourism activities, as well as to analyze its socioeconomic impact among the community of Pulau Perhentian. The study used quantitative method involving 150 respondents comprising local communities working as tour operators. The sample were chosen by using both purposive method and snowball sampling procedures. The results revealed that the majority of tourists operators were male, aged between 25 to 44, with secondary level of education and married. Most of the operators have been managing their business for 16 to 20 years and have earned an estimated monthly income of RM1001.00 to RM2000.00. Overall, the main obstacles faced by them were marketing, capital and financial, business management and infrastructure problems. This study concluded that the development of the tourism sector in Pulau Perhentian have contributed towards: a) reducing the unemployment rate, b) providing employment opportunities for women and single mothers, c) contributed towards the involvement of local communities in tourism entrepreneurship, e) generated income to communities, f) attracted foreign investment, and g) the reduction of the poverty rates. However, the local communities are also affected by the negative impacts of the development of the tourism sector such as: a) rising prices of goods and services, b) rising cost of living, and c) the increased value of real estate and rental rates.

Acknowledgements: Sustainable Tourism Cluster (1001/PTS/ 8660011)

Paper E4-01

IN SILICO VISUALIZATION AND MODELLING OF CXCR 2-RECOMBINANT ANTIBODY (ANTI-CXCR2 FV) COMPLEX

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ABSTRACT: The infamous CXCR2-CXCL8 axis, now trending for high tissue expression during tumorigenesis and chemoresistance, led to the discovery of various antagonist compounds with varying efficacies. Undeniably, they are challenging to manipulate and pose toxic effects due to non-specificities. Therefore, the antibody is chosen for its specificity demonstrable minimum off-target effects. Albeit various antibodies available commercially, almost none disclosed variable region for verification. Here, we visualised the interaction of receptor-antibody/ligand by generating in silico models. HY29-1 IgG (VH&VL) sequences sourced from a patent while the CXCR2 receptor sequence was taken from UniProt web. For comparison, the structure of monomeric IL8 obtained from the RCSB PDB web was included. All modelling of complexes was done using Schrödinger software suite: molecular docking was done on 'Glide' while 'Bioluminate' was used to perform visualisation and prediction of the interacted residues. From the models, we identified the interacted residues between HY29-1/CXCR2 and CXCL8/CXCR2 complexes. Although both HY29-1 and IL8 mostly bind on N-terminal CXCR2, differing residues may result in antagonism/agonism effect on CXCR2 receptor. This finding will guide us towards the development of targeted therapy against various cancers.

Keywords: CXCR2, scFv, IL8, molecular modelling, and in silico

Acknowledgements: Universiti Sains Malaysia Short Term Grant (304/PJJAUH/6315185)

Paper E4-02

FORENSIC DNA PROFILING IN GHANA: CURRENT DEVELOPMENTS, CHALLENGES AND FUTURE DIRECTIONS

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ABSTRACT: Ghana is one of nine African countries, the only one in West Africa that uses DNA profiling in criminal investigations. Forensic DNA analysis has proven effective in the identification of crime suspects while exonerating innocent suspects. It appears that DNA profiling has been effective in deterring offenders and reducing crime in Ghana. The Forensic DNA Laboratory (FDNAL) of the Ghana Police Service (GPS) is the only mandated DNA profiling institution that conducts crime-related DNA profiling in the country since its inception in 2011. However, development of this area of expertise has been stalled due to technical, financial and legal issues which include accreditation, the enactment of a DNA law and establishment of a DNA database. This paper seeks to depict the current status of forensic DNA technology in Ghana and provides suggestions towards making the FDNAL achieve its maximum best thereby fulfilling its mandate of serving the forensic DNA needs of the country and the sub-region as a whole.

Keywords: Ghana, Crime Indices, Criminal Investigation, Forensic DNA profiling

Acknowledgement: Ghana Education Trust Fund grant 304/PPSK/6150145/G112

Paper E4-03

HEAVY METALS (LEAD AND CADMIUM) CONCENTRATIONS IN FROZEN, SMOKED AND CANNED FISH IN KADUNA NORTH LOCAL GOVERNMENT AREA, NIGERIA

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ABSTRACT: Heavy metals concentrations (Lead and Cadmium) in Frozen, Smoked and Canned fish was investigated in Kaduna North Local Government Area of Nigeria. A total number of 180 fish samples comprising of 60 frozen, 60 smoked and 60 canned, were purchased from the fish vendors at the three major markets in Kaduna North L.G.A (Kawo Market, Abubakar Gumi market and Unguwar Rimi market). Sampling was done once weekly. Heavy metal analysis was done using wet digestion method. Levels of lead and cadmium in digested fish samples were determined using Atomic Absorption Spectrophotometer (AAS). The distribution of maximum residue limit of the metals were cadmium 35(58.3%) in smoked fish, 23(38.3%) in frozen and 20(33.3%) in canned fish. Lead (Pb) had 47(78.3%) in smoked fish, 36(60%) in frozen fish and 42 (70%) in canned fish were above safe limit. The findings of this work showed a potential threat to health and safety of the public. It is therefore recommended that the levels of Heavy Metals in frozen, smoked and canned fish should be appropriately monitored.

Paper E5-01

AFTER 4 DECADES OF PRIVATISATION, WHERE ARE WE HEADING?

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ABSTRACT: Privatisation was hailed as the saviour for the ailing public enterprises when it was first introduced in the early eighties. It was argued that privatisation would bring efficiency to the public enterprises. Efficiency would therefore result in profitability. It was argued that this can be achieved because privatisation would instil the private sector behaviour into the conduct of the public enterprises. This was used as the main economic argument to promote privatisation despite the lack of theoretical support for it. Apart from that, it was also argued that privatisation would reduce the size of government by reducing the size of the public sector employees as well as promoting the private sector involvement in the economy. Nonetheless, when privatisation was then introduced, many of the enterprises that became the first target of privatisation were profitable enterprises especially the public utilities. However, after almost four decades, it was clear that such was not really the case. Many of the privatised enterprises, despite retaining their monopoly power, failed to produce the desired results. Apart from that, all these economic arguments disguised the political reasons behind the introduction of privatisation namely the need and desire of the government to curb and limit the power of the labour union. This is especially true when assessing the privatisation policy in the UK. This paper therefore seeks to address some of the issues surrounding the privatisation programs and share some cases of success and failures of the privatisation policy drawing examples both in Malaysia as well as abroad.

Keywords: Privatisation, Efficiency, Public Enterprises, Size of Government, and Private Sector Behaviour

Paper E5-02

ECONOMIC VALUE ADDED (EVA) AND MARKET VALUE ADDED (MVA) METHOD OF FINANCIAL PERFORMANCE IN THE COSMETICS SUB-SECTOR AND HOUSEHOLD NEEDS LISTED ON THE BEI

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ABSTRACT: Assessment of financial performance is an activity that is very important for companies, especially investors as a material consideration in making investment decisions. The methods used to measure financial performance include the Economic Value Added (EVA) and Market Value Added (MVA). The purpose of this study is to determine of financial performance using EVA and MVA method in the cosmetics sub-sector and household need listed on the BEI and what factors cause negative EVA and MVA values in the company. The analysis technique used is quantitative descriptive analysis with samples of 3 companies. The results of the study indicate that PT. Akasha Wira International Tbk has a negative EVA value for 2013-2015 year and positive value for 2016-2017 year. Whereas, MVA is positive value for 2013-2016 year and negative value in 2017 year. PT. Martina Berto Tbk has EVA and MVA which are negative value during the study period, namely 2013-2017 year. PT. Unilever Indonesia Tbk has EVA and MVA which are positive value during the study period, namely 2013-2017 year. EVA is negative value because the rate of return on net operating profit after tax (NOPAT) is less than capital charges. Whereas, MVA is negative value because value of the company is less than invested capital.

Keywords: Economic Value Added (EVA), and Market Value Added (MVA).

Paper E5-03

EAST JAVA AGRICULTURAL SECTOR AND SUBSECTOR LOCATION QUOTIENT ANALYSIS 2010-2017

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ABSTRACT: Indonesia, which is known as an agrarian country, should rely on the agricultural sector as a source of economy and as a support for development. The role of the agricultural sector in economic development is very important, because most members of Indonesian society depend their lives on the agricultural sector. Growth sector agriculture in an area is basically influenced by the competitive advantage of a region, regional specialization and agricultural potential possessed by the area. The existence of agricultural potential in an area does not have a meaning for the agricultural growth of the area if there is no effort to utilize and develop agricultural potential optimally. Therefore, the utilization and development of all potential agricultural potentials must be a top priority to be explored and developed in implementing regional agricultural development as a whole. This study uses the method *Location Quotient* to obtain a base sub sector in the agricultural sector, so that the results can be used as material for consideration of export specialties. This study uses East Java GDP data and as a comparison using Indonesia's GDP in 2010-2016. The results in this study indicate that the food crop and livestock sub-sector has advantages compared to other sub-sectors and becomes a base sub-sector, so that these two sub-sectors can be used as export products for East Java.

Keywords: Location Quotient, Agriculture Sector, and Agricultural East Java.

Acknowledgements: Indonesian Endowment Fund for Education, Ministry of Finance of Republic of Indonesia

Paper E5-04

EFFECT OF FREE CASH FLOW AND PROFITABILITY ON INVESTMENT DECISION: EVIDENCE FROM INDONESIA COUNTRY

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ABSTRACT: The purpose of this study: analyze the effect of free cash flow and profitability to investment decisions by involving variable control Data and sample: this study uses a quantitative approach with secondary data obtained on the Indonesia Stock Exchange. Research Object is the financial data of state-owned enterprises 2009-2016 period. The sample of research using purposive sampling that is complete financial report of BUMN Indonesia and disclosure of annual report. Research Methodology: This study used multivariate regression, independent variable Free Cash Flow and Profitability with variable control Firm size and Debt Equity Ratio. The result showed that Free Cash flow (FCF) and profitability have positive effect on investment decision, P value <0.05 or 0.000 <0.05, and correlation result of control variable Firm size and Debt Equity Ratio ($r = 0.57$, $p = 0.000 < 0.05$) and ($r = 0.24$, $p = 0.012 < 0.05$).

Keywords: Free Cash flow, Profitability, and Decision Investments

Acknowledgements: Indonesian Endowment Fund for Education, Ministry of Finance of Republic of Indonesia

Paper E6-01

EDUCATION FOR THE 4TH INDUSTRIAL REVOLUTION: LIBERAL ARTS AS THE WAY FORWARD

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ABSTRACT: Liberal Arts education, which encompasses the arts, humanities, social sciences and natural sciences generally stresses on an undergraduate study that is broad instead of specialized subjects like law and engineering. There is however, a demand that education be technically and vocationally focused in order to produce a workforce relevant to the fourth IR which requires experts emerging technologies such as robotics, artificial intelligence, genomics and biotechnology. However, the questions educators and policy makers need to ask is: What should be the underlying purpose of higher education? Should it be to supply suitable workforce or should there be a higher purpose, i.e. the development of the whole person? This paper argues that the goal of higher education is to make young people better. "Better" implies "to have habits of the mind to adjust their knowledge to the societal context". In a broader context, the goal of higher education should be to ensure that the workforce that is produced are able to not only utilize their expertise in science and technology to earn a living and to provide solutions to global issues, but to do so responsibly and compassionately towards the environment, towards mankind, towards society and towards individuals. Policy makers and designers of higher education of developing countries have a social responsibility to design multidisciplinary curriculum that will ensure the future workforce have ethical reasoning and are able to interpret, analyse and solve problems with ethical methods. Liberal Arts Education with its broad and transdisciplinary curriculum is advocated as the way forward in creating young people who are relevant, responsible and ethical in the face of the impact that the fourth Industrial Revolution and subsequent ones will produce.

Keywords: Liberal Arts, education, ethical, transdisciplinary curriculum, responsible

Paper E6-02

UNVEILING A NEW TAXONOMY IN SYED MUHAMMAD NAQUIB AL-ATTAS'S SCHOOL OF THOUGHT

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ABSTRACT: Taxonomy is a set of hierarchical models that is applied to classify educational learning goals or objectives into certain level of complexity. Many models have been developed and implemented to suit educational settings of schools or educational institutions all over the world. Realising the importance of educational taxonomy, the purpose of writing this paper is to explore the function and role of the taxonomy framework used in education especially through the lense of Bloom, Anderson and SOLO's (Structure of the Observed Learning Outcome) framework. In addition, this concept paper also aims to formulate a more holistic alternative taxonomy based on the concept of Syed Muhammad Naquib al-Attas. Research on the Bloom, Anderson and SOLO taxonomies is not intended to deny the role and contribution of existing taxonomies, but to provide an alternative and space in creating a balanced system of cognitive classification of students either through teaching and learning as well as in the evaluation system.

Keywords: Taxonomy, Education Syed Muhammad Naquib Al-Attas, Holistic

Acknowledgements: This study was supported by Research and Innovation Management Centre, UTeM

Paper E6-03

SOCIAL ASPECTS IN ANDREA HIRATA'S NOVEL *SIRKUS POHON*

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ABSTRACT: The purpose of this study is to analyze the social aspects in Andrea Hirata's novel *Sirkus Pohon*. This study uses sociology approach of literature where this study describes an understanding of literary works by considering its social aspects (Ratna in Endraswara: 2011). The social aspects studied here cover social structure, culture, social institutions, and social stratification. This study was conducted by using library research and data analysis. The results of the analysis of the social aspects in the novel show that based on the social structure, in Belitung community, especially in Ketumbi village, there is a dominant social group, namely indigenous people/Malays, and there are also immigrant communities who come from Lampung and some cities in East Java, who inhabited the island. The culture found in the society includes the customs of Belitung Malay girls, the custom of naming, dubbing someone, custom of application and marriage. Moreover, it also contained social institutions such as family, education, political, legal, health, cultural and religious institutions. Social stratification can also be found in Belitung community, namely the stratification of the upper, middle and lower classes.

Keywords: Social aspects, social structure, culture, social institution, and social stratification

Paper E6-04

EDUCATION WORLD: HOW DO WE FACE THE CHALLENGES OF THE FOURTH INDUSTRIAL REVOLUTION?

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ABSTRACT: The fourth industrial revolution is impacting everyone in certain aspects. Entering the digital age in this 21st century, digital literacy appeared to be an advantage to suit better in this era especially for an engineer with the background of computer science or electrical and electronic engineering. Yet, in Malaysia, for educators especially teachers in primary and secondary schools, it might be a bit challenging for them. The Design and Technology subject, as the replacement for Integrated Living Skill subject, is hoped to get the younger generation ready for challenges in the fourth industrial revolution. The Standard Document for Curriculum and Assessment of the Design and Technology subject uses Magnetcode as main tool for programming and system control. A Magnetcode Kit includes Carrot Project Board as processor with other electronic components. This enables educational-background students to learn basic programming as well as interfacing among sensors, controllers and actuator during the development of projects such as automatic gate and automatic hand wash system. Thus, the aim of this study is to investigate the capability and readiness of non-engineering-background university students in facing the era of fourth industrial revolution via project development. The subject of this study is final year undergraduate students under the program of Agricultural Science and Home Economics. Formative assessment is used to evaluate the output.

Keywords: Educators, Fourth Industrial Revolution, Magnetcode

Acknowledgements: The study is supported by the funding from Engineering Technology Department, Faculty of Technical and Vocational, Sultan Idris Education University.

Paper E7-01

MEANING OF *PODA NA LIMA* IN MANDAILING ETHNIC

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ABSTRACT: In Mandailing ethnic there are two philosophies of life; 1) individual, termed *Poda na Lima* 2) and community, *Dalian na Tolu*, involving *Mora*, *Kabanggi*, *Anak Boru*. Both are supposed to be understood by the Mandailing ethnic. However, the reality has gone digressed as the individual philosophy is getting fader. *Poda na Lima*, having five pieces of advice, teaching concept of cleanliness inclined to health as well as closeness to God. inherited from time to time, consists of 1) *paias rohamu*, 2) *paias pamatangmu*, 3) *paias parabitoimu*, 4) *paias bagasmu*, dan 5) *paias pakaranganmu*, all of which are to be revealed through this study supported by descriptive qualitative method, tied to social phenomena and concept of local wisdom, a guidelines to obtain and maintain harmony among all social institutions and members of community. Harmony in all lines of human life is to be flourished to be adjacent to the welfare of people in whole, a key both to worldly and spiritual happiness. Through philosophy of life, every single part of actions is done based on truth, giving perspective on the real meanings and purposes of life. By this, human life is well directed as well as organized and any type of conflict could be overcome wisely. Any individual or community goes wild, risking wandering and responding to uncertain information or stimuli without philosophy of life.

Keywords: philosophy of life, advice, welfare, community

Paper E7-02

ELDERLY ASPIRATION TOWARDS ACTIVE AGING

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ABSTRACT: In the face of people's aging and challenges, WHO has implemented the Active Aging Policy in 2002 relating to the elderly's health so that the elderly "will remain active in old age." According to WHO (2002) active aging is a process for optimize health, participation and safety opportunities in order to improve the quality of life of the elderly. There are three main trends in active aging, namely the participation, health and safety of the elderly. In addition, there are six determinants of Active Aging policy which are the determinants of health and social service systems, attitudes, personal determinants, determinants of the physical environment, determining social environment and economic determinants. There is a cross-determining of culture and gender in the basic framework for understanding active aging. Values and cultural traditions determine the majority of society in the process of aging and it greatly influences the behavior of the health and health care of the elderly. Gender determinants indicate that the policy should take into account the effects on the well-being of a male or female elderly.

Keywords: elderly, health, and active aging

Paper E7-03

**SYEIKH ABBAS BAKAR RAFIEE: HIS CONTRIBUTION AND REFORMATION OF
MADRASAH INSTITUTE IN PENANG, 1922-1957**

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ABSTRACT: Initially, the Islamic education system in Malaya was based on pondok institutions, but the institution deteriorated following the rapid growth of the madrasah-based Islamic education system as a result of the idea of the Middle East and British occupation. The focus of this study was on the contribution of Syeikh Abbas Bakar Rafiee as the next principal in bringing the Madrasah al-Mashoor's turnover which was previously pioneered by Syed Syeikh al-Hadi in Islamic education especially in Penang. The objective of this study is to examine the contribution of Syeikh Abbas Bakar Rafiee in bringing his idea into the Islamic Education system in Madrasah al-Mashoor al-Islamiah. He founded madrasah for women as well as various co-curricular activities in order to build the credibility of the students in order to advance the Muslim community. This study uses qualitative research methods based on primary and secondary sources. Primary sources for this study are private letters, Madrasah al-Mashoor souvenirs books and these resources are analyzed using historical approaches. In addition, secondary sources used are articles, journals, books, papers and theses to obtain information as references. The result of the study found that there were various contributions made by Syeikh Abbas Bakar Rafiee in highlighting this madrasah so well-known and attracted the attention of students not only in Malaya but outside Malaya. This is a consequence of the influence of the Middle East that has been implemented by the principal of this madrasah to ensure that such thought is continuously evolving and appreciated among the Malay Muslim community.

Keywords: Islamic Education, Reformation, Madrasah, Contribution, and Syeikh Abbas Bakar Rafiee

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Paper E7-04

ACTIVE AGEING IN MALAYSIA: CASE STUDY IN GEORGETOWN

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ABSTRACT: This study intends to analyze the travel patterns of elderly in Georgetown. Therefore, this study attempts to analyse the travel patterns of elderly in Georgetown. Specifically, the objectives are to assess the mobility of elderly, to analyse the impact of socio-economic and demographic factors on the mobility of elderly as well as to examine the impact of travel choice on active ageing and age-friendly city of Georgetown. This study is a quantitative research and a structured questionnaire was developed to collect the information of the respondents by using cluster sampling of 255 elderly (60 years old and above) in Georgetown. The study found that the majority (52.2%) of elderly in Georgetown are female and most of them (45.5%) are in the Middle Old age category (65 to 75 years). In terms of ethnicity, the majority (52.9%) of the elderly are Malays and most elderly (44.7%) have educational backgrounds up to primary school. The majority (67.1%) of the elderly were retired and 50.6% of them received a monthly income of RM1000 to RM4000. The findings show that age, gender, ethnicity and physical capacity have no significant relationship with the elderly to make any travel. While variables such as education level, current employment, monthly income and mobility have significant relationships with elderly's decisions to make any trips. Results of this study would help policymakers to design appropriate policies and programmes for elderly travelling and to promote active ageing.

Keywords: Active ageing, travel patterns, and elderly.

Acknowledgements: Active Ageing in Malaysia? Travel Patterns of Elderly in Malacca and Georgetown (1001/PSOSIAL/80164014)

Paper E7-05

3D SUBSURFACE SOIL DEFORMATION DATA MODEL

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ABSTRACT: Different terrains yield different hydrological processes. Prolonged and continuous precipitation in hillslope areas contributes to the probability of slope failures. Water has the ability to shape the land where soil deformation can occur with the presence of water. Thus, the interaction between subsurface soils with water that has infiltrated the soils should be given adequate attention. This paper will introduce a new data model that integrates an environmental (hydrology and landslide), 3D Geographic Information System (3D GIS) and programming (JAVA) known as 3D Soil water Gravitational Dynamic Flow (3D-SGD Flow) data model. The 3D-SGD Flow data model combines these three main data sets as a foundation in order to provide a better simulation of soil water movement in subsurface soil, which can be used to simulate movement of terrain changes (landslide) in three-dimensional (3D) form. This paper differentiate and combines the past and present approaches and posits the newly modified approach that can be used in the future, when the drawback of each approach is improved and upgraded to fulfil the criteria to build a data model for 3D subsurface soil deformation. The deformation of soil from solid dry soil into semi-rigid wet soil due to rainfall represent in form of 3D model. The deformation process happen when soil change in volume and shape that lower soil's strength, reduce its cohesion and adding weight to the soil that lead to landslide.

Keywords: subsurface soil, soil deformation, data model, 3D GIS, 3D-SGD Flow

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