



ICADEIS

International Conference on Advancement in
Data Science, E-learning and Information Systems 2019

February, 6th - 7th 2019
Eastparc Hotel Yogyakarta

PROGRAMME BOOK



Message from Dean

School of Industrial Engineering and System
Telkom university

Assalamualaikum w.b.t . and greetings to all,

Praises be to Allah, that School of Industrial Engineering and System (FRI) is organizing The International Conference on on Advancement in Data Science, E-learning and Information System 2019 (ICADEIS 2019). In Telkom university (Tel -U), FRI is responsible in leading the research areas of Data Science and Information System.

The main objective of ICADEIS 2018 is to provide an opportunity for academicians, engineers, scientists, researchers, industrial professionals and students from around the world to network and discuss on the latest developments in the fields of Data Science, E-Learning and Information System. ICADEIS 2019 provides a valuable opportunity for researchers, academicians, engineers, scientists, industrial professionals and students to exchange their ideas in the scientific and engineering areas.

The opportunity to organize is such a good privilege to promote our faculty globally. In addition, it shows how much our faculty committed in exploring the research of computing, technology and innovations.

I would like to thank the keynote speakers, and the oral presenters for contributing papers in this conference. I also would like to congratulate all the committee members of ICADEIS 2019 for organizing this International Conference. To all participants, it is my hope that this conference will strengthen our research collaboration and may ICADEIS 2019 afford brilliant ideas in the field of Sciences computing, technology and innovations.

Dr. Ir. Agus Ahmad Suhendra, MT

Dean of School of industrial Engineering and System
Telkom University





Message from ICADEIS 2019 Conference Chair

Assalamualaikum w.b.t . and greetings to all,

The first International Conference on Advancement in Data Science, E-learning and Information System 2019 (ICADEIS 2019) held in Yogyakarta, from 6th until 7th February 2019 gather the researchers, inventors, academicians, and students to experience the real opportunity to discuss new issues, tackle complex problems and find advanced enabling solutions that able to shape new trends in Information System and Engineering are

This year, we are honoured to have 3 distinguished keynote Speakers, Prof. Dr. Ir. Marijn Janssen from Delft University of Technology, Netherland; Prof. Dr. Mustafa Mat Deris from Faculty of Computer Science and Information Technology, UTHM, Malaysia. and Professor Dr Kazutsuna Yamaji, Director of Research Centre for Open Science and Data Platforms, National Institute of Informatics, Japan. We hope that the keynote sessions and the parallel session will add values to your knowledge and research.

The continuous support of computational science and engineering researchers has helped ICADEIS to become a firmly established forum in the area of scientific computing and engineering. This program book, spanning all the traditional as well as the emerging computational Science and engineering areas which come from countries all over the world including Malaysia, Netherland, Thailand, Iraq, Philippines, India, USA and etc. These papers cover areas such as Data Science, Information System, Open Data Government, E-Learning and Manufacturing will be published in selected cited indexed journal.

I am very grateful to our highly dedicated international steering committee and program committee, administrative board of School of Industrial Engineering and System (FRI), reviewers and volunteers for their tremendous support in putting this international conference together successfully. I sincerely hope that ICADEIS 2019 had provided a venue for knowledge sharing and established more research collaboration among us.

Thank you.

Deden Witarsyah Jacob Ph.D.
ICADEIS 2019 Conference Chair





KEYNOTE SPEAKER'S PROFIL



Prof. Dr. Ir. Marijn Janssen lectures the courses 'Design of Innovative ICT-Infrastructures and services', 'Business Processes Management and Technology' at the Delft University of Technology. He is teaching the module 'business process & technology' at the MBA Business & IT of Nyenrode Business University. Furthermore, he is the course manager of "Information Management & Design" Teaching Module 3 - information management - in the Master of Public Information Management (MPIM) of the Erasmus University, Rotterdam. He initiated a Massive Open Online Course (MOOC) in the field of 'open government' which attracted over 3500 subscribers. Prof. Dr. Ir. Marijn Janssen is a full professor in ICT & Governance. His research focused is on ICT-architecting in situations in which multiple public and private organizations need to collaborate, in which ICT plays an enabling role, there are various ways to proceed, and socio-technical solutions are constrained by organizational realities and political wishes. ICT-architecting provides principles, patterns and other instruments to guide organizations to design their infrastructure, applications, information, processes and organizations. As a full professor he is involved in society oriented technology foresight studies at The Netherlands Study Centre for Technology Trends (STT). This institute was established in 1968 by The Netherlands Royal Institute of Engineers (KIVI). STT is an independent non-profit foundation, funded by financial contributions from the Dutch government and industry and science (www.stt.nl).





KEYNOTE SPEAKER'S PROFIL



Mustafa Mat Deris received PhD from University Putra Malaysia in 2002. He is a professor of computer science in the Faculty of Computer Science and Information Technology, UTHM, Malaysia. He has appointed as the editorial board member for Journal of Next Generation Information Technology, JNIT, Korea, and Encyclopedia on Mobile Computing and Commerce, Idea Group, USA. He is also served as Guest editor of International Journal of BioMedical Soft Computing and Human Science for Special Issue on "Soft Computing Methodologies and Its Applications". He reviews several international journals such as IEEE Transaction on Parallel and Distributed Computing, Journal of Parallel and Distributed Databases, Journal of Future Generation on Computer Systems, Elsevier, Journal of Cluster Computing, Kluwer, and Journal of Computer Mathematics, Taylor & Francis, UK. He has served as a program committee member and co-organizer for numerous international conferences/workshops including Grid and Peer-to-Peer Computing, (GP2P 2005, 2006), Autonomic Distributed Data and Storage Systems Management (ADSM 2005, 2006, 2007), and Grid Pervasive Computing Security and organize workshop on Rough and Soft Sets Theories and Applications (RSAA 2010), Fukuoka, Japan, and Soft Computing and Data Engineering (SCDE 2010, 2011), Korea.





KEYNOTE SPEAKER'S PROFIL



Professor Dr Kazutsuna Yamaji is a Director of Research Centre for Open Science and Data Platforms, National Institute of Informatics, Japan. The mission of the Research Center for Open Science and Data Platform (RCOS) at National Institute of Informatics is to lay the foundation of open science in Japan by constructing a research data infrastructure on which research data from Japanese research activities can be managed, stored, and discovered. Scientific research is not the closed activity within the domain, country and region. A recent big wave of open science is now changing the research environment supported by government and major funding agencies. In this context, preparing the suitable infrastructure for research data management and research output repository is the responsibility for institutional and/or national level.





RUNDOWN

06 th February 2019		
Time	Activity	Event
8.00 – 8.30 am	Registration	Ballroom Foyer
8.30 – 9.00 am	Opening Ceremony and Indonesia Data Science Association Reinauguration	Ballroom 1
9.00 – 9.30 am	Photo Session and Coffee Break	Ballroom Foyer
9.30 – 12.00 am	Keynote Speaker 1 Prof. Dr. Ir. Marijn Janssen Delft University of Technology Keynote Speaker 2 Prof. Dr. Mustafa Mat Deris University Putra Malaysia Keynote 3 Prof. Dr. Kazutsuna Yamaji National Institute of Informatics, Japan	Ballroom 1
12.00 – 1.30 pm	Lunch	Eastparc Restaurant
1.30 pm 4.00 pm	Parallel Session 1	Session 1A Orchid Room Session 1 B Magnolia Room Session 1 C Caration Room Session 1 D Heliconia Room
4.00 pm – 4.30pm	Coffee Break	Ballroom 1
7.00 pm	Dinner, Door Prize, Local Art Performance, Best Paper	Ballroom 1
07 th February 2019		
Time	Activity	Event
7.30 – 8.00 am	Registration	Ballroom 1
9.00 – 12.00 am	Parallel Session 2	Session 2A Orchid Room Session 2B Magnolia Room Session 2C Caration Room Session 2D Heliconia Room
12.000 – 1.30 pm	Lunch	Eastparc Restaurant
1.30 pm 3.30pm	Parallel Session 3	Session 3 A Session 3 B





		Session 3 C Session 3 D
3.30 pm – 4.00pm	Coffee Break Closing ceremony Best Presentation Award	Eastparc Restaurant



ICADEIS'19





DETAILS SESSION PROGRAMME

Wednesday, 6th February 2019

Session 1A , 1: 30 – 4:00 pm			
Orchid Room, Third Floor			
Session Chair : Ir. Ahmad Musnansyah, M.Eng / Edi Sutoyo, S.Kom, M.CompSc			
No	Paper ID	Title of Paper	Author
1	82	DWT/ MFCC Feature Extraction for Tile Tapping Sound Classification	Jantana Panyavaraporn, Petcharat Limsupreeyarat and Paramate Horkaew
2	135	Effect of Chip Treatment Variables on Chip-based Feedstock Density in Direct Recycling of New Aluminium Scrap	Abdullah Wagiman, Mohammad Sukri Mustapa, Rosli Asmawi, Shazarel Shamsudin, Mohd Amri Lajis, Farazila Yusof, Waluyo Adi Siswanto, Mohd Shahir Yahya and Mohamad Hussein Rady
3	132	The Ability of Crystalline and Amorphous Silica from Rice Husk Ash to Perform Quality Hardness for Ceramic Water Filtration Membrane	Nur Saadah Zainal, Zaleha Mohamad, Mohammad Sukri Mustapa, Nur Azam Badarulzaman, Mohd Rasidi Ibrahim, Abdullah Zulfairis Zulkifli and Jayaprakash Murugesan
4	136	Effect of Heat treatment on Mechanical and Physical Properties of Direct Recycled Aluminium Alloy (AA6061)	Mohammed Hussein Rady, Mohammad Sukri Mustapa, Abdullah Wagiman, Rosli Asmawi, Shazarel Shamsudin, Mohd Amri Lajis, Mohamad Norani Mansor and Mohd Azhar Harimo
5	85	Multiple Sensor on Clustering Wireless Sensor Network to Tackle Illegal Cutting	Giva Andriana Mutiara, Nanna Suryana and Othman Mohd
6	17	Solving for an Optimal Batch Size for a Single Machine Using the Closed-form Equations to Minimize Inventory Cost	Athapol Ruangkanjanases and Nithiphong Vikitset
7	138	Effect of Tensile Properties under Elevated Strain Rates for Kenaf Fiber and Rice Husk Silica Reinforced Polypropylene Composites	Dr Noradila Abdul Latif, Nurul Farahin Mohd Joharudin, Farid Hilmi Ismail, Mohammad Sukri Mustapa, Kamarul Azhar Kamarudin, Mohd Fairuz Alias, Mohd Rasidi Ibrahim, Abd Khalil Abd Rahim and Mohd Shahir Yahya





Session 1B , 1: 30 – 3:00 pm			
Magnolia Room, Third Floor			
Session Chair : Muharman Lubis,B.IT.,M.IT., Ph.D.IT / Rokhman Fauzi, S.T., M.T			
No	Paper ID	Title of Paper	Author
1	31	Open Data for Evidence-based Decision-making: Data-driven Government Resulting in Uncertainty and Polarization	Ahmad Luthfi and Marijn Janssen
2	119	Contribution of Production-Based Learning, Student Engagement, And Locus of Control Towards Entrepreneurship Learning Outcomes in Engineering Education	Asmar Yulastri, Hendra Hidayat, Ganefri and Ifdil
3	90	Development and Validation of Enterprise Architecture (EA) Readiness Assessment Model	Surya Sumarni Hussein, Mohd Naz'ri Mahrin, Nurazean Maarop and Nur Azaliah Abu Bakar
4	123	Multi-objective clustering algorithm using particle swarm optimization with crowding distance MCPSO-CD	Batoul Alwatben Rashed, Hazlina Hamdan, Nurfadhlina Mohd Sharef, Mansir Abubakar, Md Nasir Sulaiman and Razali Yaakob
5	71	Digital Document Management System's Implementation Guidelines for Malaysia Public Sector: The Expert's Review	Azlina Ab Aziz, Zawiyah Yusof, Umi Mokhtar and Dian Indrayani Jambari
6	86	Information Security Management System Success Measurement Tool	Nurazean Maarop and Deden Witarsyah Jacob
7	34	Detecting Lesion Characteristics of Diabetic Retinopathy Using Machine Learning and Computer Vision	Alhadi Bustamam, Devvi Sarwinda, Bariqi Abdillah and Tesdiq Kaloka
Session 1C , 1: 30 – 4:00 pm			
Caration Room, Third Floor			
Session Chair : Irma Palupi, Ph.D / Alvi Syahrina, M.Sc			
No	Paper ID	Title of Paper	Author
1	16	Exploring Semantic Similarity by Measuring Dissimilarity of Formal Concept Analysis (FCA) Graphs	Hasni Hassan, Mokhairi Makhtar, Suhailan Safei and Rohana Ismail
2	20	Developing a Framework for Profiling International Students	Renugah Rengasamy, Suraya Hamid and Abdullah Gani
3	81	The role of trust to enhance the recommendation system based on social network	Muhammed E Abd Alkhalec, Deden Witarsyah Jacob, Mohd Farhan Md Fudzee, Shahreen Kasim, Azizul Azhar Ramli and Muharman Lubis
4	137	Effects of Non-chemical and Chemical Rice Husk Ash (RHA) on Mechanical Properties of Recycled Aluminium Chip AA7075	Nurul Farahin Mohd Joharudin, Dr Noradila Abdul Latif, Pm Dr Mohammad Sukri





			Mustapa, Dr. Fazimah Mat Noor, Ts. Mahmod Abd Hakim Mohamad and Dr. Shipun Anuar Hamzah
5	95	Performance analysis and validation of modified singular spectrum analysis based on simulation torrential rainfall data	Shazlyn Milleana Shaharudin, Norhaiza Ahmad and Nursyarafina Mohamed
6	130	A Triple-Band Dipole Antenna with Harmonic Suppression Capability	Shipun Anuar Hamzah, Fauziahanim Che Seman, Shaharil Mohd Shah, Khairun Nidzam Ramli, Mohd Shamian Zainal, Mohamad Md Som, Mohamad Sukri Mustapa, Mazlina Esa and Nik Noordini Nik Abd Malik
7	15	Classification of Hadith Al-Bukhari Text in Bahasa Indonesia using Back Propagation and Sastrawi Stemming Analysis with Information Gain for Selection Feature	Mahendra Dwifabri Purbolaksono, Feddy Dea Rekyadita, Arief Fatchul Huda, Arie Ardiyanti Suryani and Adiwijaya

Session 1D , 1: 30 – 4:00 pm

Heliconia Room, Third Floor

Session Chair : Dr. Irfan Dharmawan/ Dr. Tien Fabrianti Kusumasari

No	Paper ID	Title of Paper	Author
1	88	Factors Influencing the Adoption of Open Government Data in Public Sector: A Systematic Literature Review	Siti Isnaine Haini, Nor Zairah Ab.Rahim and Norziha Megat Mohd. Zainuddin
2	113	Mobile Devices: Older People's Learning Experiences	Muna Azuddin and Dr. Sofianiza Abd Mali
3	67	Development of Rule-Based Feature Extraction in Multilabel Text Classification for Bukhari Hadith in Indonesian Language Translation	Gugun Mediamer, Adiwijaya and Said Al Faraby
4	105	Observing the Performance of the TextRank Algorithm on Automatic Text Summarization for Bahasa Indonesia	Dani Gunawan, Amalia Amalia, Abdurrohman Abdurrohman and Romi Fadillah Rahmat
5	155	Planning of LTE-Apro Network using Licensed Assisted Access combining Spectrum Licensed 1800 Mhz and Unlicensed 5 Ghz	Arif Mubarak and Uke Kurniawan
6	37	Exploring the Issues of Open Government Data Implementation in Malaysia Public Sectors	Mimi Nurakmal Mustapa, Suraya Hamid and Fariza Hanum Md Nasaruddin
7	72	A Comparison on Classical-Hybrid Conjugate Gradient Method under Exact Line Search	Nur Syarafina Mohamed, Mustafa Mamat, Mohd Rivaie and Shazlyn Milleana Shaharuddin





Thursday, 7th February 2019

Session 2A , 9: 30 – 12.00 pm			
Orchid Room, 3 rd Floor			
Session Chair : Ir. Ahmad Musnansyah, M.Eng / Edi Sutoyo, S.Kom, M.CompSc			
No	Paper ID	Title of Paper	Author
1	1	The Design of Technology Components' Readiness Level Measuring Device – Technoware, Humanware, Inforware, Orgaware – on The Transfer Technology Process (case study: CV. Maju Karya, yogyakarta)	Iwan Inrawan Wiratmadja, Wawan Tripiawan and Augustina Asih Rumanti
2	26	Epileptic Seizure Detection in EEG Signal using EMD and Entropy	Inung Wijayanto and Achmad Rizal
3	33	Determination of Parameters for Production Process using Raw Used Paper for Producing Quality Fancy Papers	Rosad Ma'Ali El Hadi, Ari Yanuar Ridwan and Wawan Tripiawan
4	94	Design and Investigate of Flushing System for Electrical Discharge Machining (EDM) Application	Haris Rachmat and Mohd. Rasidi Ibrahim
5	60	Control System for Analysing Precision Motion of EDM Machine	Rino Andias Anugraha and Mohd Rasidi Ibrahim
6	98	The Influence of Graphitization Catalyst Electrode in Electrical Discharge Machining of Polycrystalline Diamond– Finishing Condition	Rino Andias Anugraha, M. Zulafif Rahim and Rasidi Ibrahim
7	4	Evaluating An Engineering Framework for Services Computing Systems through An Acceptance Model	Novianto Budi Kurniawan, Suhardi, Yoanes Bandung, Yuli Adam Prasetyo and Purnomo Yustianto

Session 2A , 9: 30 – 12.00 pm			
Magnolia Room, 3 rd Floor			
Session Chair : Muharman Lubis, B.IT., M.IT., Ph.D.IT / Rokhman Fauzi, S.T., M.T			
No	Paper ID	Title of Paper	Author
1	5	Modified Balanced Random Forest for Improved Prediction of Imbalanced Data (Case Study : Customer Churn Prediction)	Zahra Putri Agusta and Adiwijaya Adiwijaya
2	146	Research in Industrial Marketing: Issues and Opportunities Classification	Qurtubi Qurtubi and Elisa Kusrini
3	21	The Effects of ERP on Firm Performance: A Survey of Indonesian Shipping Company	Anik Hanifatul Azizah, R Wahjoe Witjaksono and Guema Galganya Antonio Soares
4	24	E-learning Content Design using ADDIE and SECI: Case of Shelving Activity in Research Organization	Dyah Kusumastuti, Rayinda Pramuditya Soesanto, Amelia Kurniawati and Mochamad Teguh Kurniawan
5	29	A Guide to E-Learning: Content Visualization Rubrics of E-Learning Video	Anisa Putri Ambar Serayu, Mifthahul Fathia, Devi Pratami and Muhammad Azani Hasibuan





6	63	Development of DRC Service Level Agreement Negotiation Based on Resource Allocation	Adityas Widjarto, Muharman Lubis, Fachrul Hijriah Usman and Ahmad Almaarif.
7	45	CUDA GPU-Based Parallel Computing on The K-Means Algorithm for Two-Phase Biclustering: Implementation with Diabetic Retinopathy Gene Expression Data	Alhadi Bustamam, Gianinna Ardaneswari and Titin Siswantining

Session 2A , 9: 30 – 12.00 pm

Caration Room, 3rd Floor

Session Chair : Irma Palupi, Ph.D / Alvi Syahrina, M.Sc

No	Paper ID	Title of Paper	Author
1	3	Implementation of Driver Drowsiness Detection System Using Dlib Method	Galih Prihartanto, Agus Virgono and Casi Setianingsih
2	57	Assesment of spatial water quality observation of Citarum River Bandung Regency using multivariate statistical methods	Ahmad Musnansyah, Anton Kamil, Linda Marlina, Endang Widayati and Zulfakriza
3	126	Geo-Business Intelligence A Literature Review on Framework and Practice	Mouli De Rizka Dewantoro, Agus Achmad Suhendra and Anton Abdulbasah Kami
4	92	Performance Analysis of Process Mining Algorithm in Process Cube: a Case Study	Rachmadita Andreswari and Ismail Syahputra
5	46	Asynchronous Non-blocking Algorithm to Handle Straggler Reduce Tasks in Hadoop	Arwan Khoiruddin, Nordin Zakaria, Hitham Alhussian and Nashihun Amien
6	131	Comparison of the Effects Stemmer Porter and Nazief-Adriani on the Performance of Winnowing Algorithms for Measuring Plagiarism	Alam Rahmatulloh, Irfan Darmawan and Deden Witarasyah Jacob
7	27	Classification Of Regional Development Disparities with Fuzzy-Klassen Methods	Muhammad Nasir Azis, Tb. Ai Munandar, Riyan Naufal Hay'S, Harsiti, Wahyudin and Agus Setyawan

Session 2A , 9: 30 – 12.00 pm

Heliconia Room, 3rd Floor

Session Chair : Dr. Irfan Dharmawan/ Dr. Tien Fabrianti Kusumasari

No	Paper ID	Title of Paper	Author
1	25	Software Application Development for Maintenance Policy Using Reliability Centered Maintenance and Reliability Centered Spares	Judi Alhilman and Fatwa Basanta.
2	62	Project Performance Analysis Using Earned Value Management Method in Telecommunication Project	Adelia Widiningrum, Devi Pratami and Imam Haryono
3	64	E-Government Readiness Model Development for Successful ICT Adoption at Provincial Government Institution in Indonesia	Soni Fajar Surya Gumilang, Heru Nugroho, Muharman Lubis and Deden Witarasyah





4	107	Means of Engagement Towards Online Da'wah and Student Perception in Malaysia: Principal Component Analysis	Muharman Lubis, Arif Ridho Lubis and Deden Winarsyah
5	48	Analysis of Scalable Features in Hadoop / Map-Reduced by Internet Traffic Management	Muhammed E Abd Alkhalec, Deden Winarsyah Jacob, Mohd Farhan Md Fudzee, Azizul Azhar Ramli, Shahreen Kasim and Muharman Lubis
6	140	The Effect of Leadership on Employee Performance with Total Quality Management (TQM) as a Mediating Variable in A Indonesian Petroleum Companies	Wagimin Wagimin, Elisa Kusriani, Juhari Ali and Vembri Noor Helia
7	112	The Contribution of Internal Locus of Control and Self-Concept to Career Maturity in Engineering Education	Hendra Hidayat, Boy Yendra Tamin, Susi Herawati, Zadrian Ardi, Eril Syahmaidi, Anggarda Paramita Muji and Muhammad Sahna

Session 3A , 1: 00 – 3:00 pm

Orchid Room, 3rd Floor

Session Chair : Ir. Ahmad Musnansyah, M.Eng / Edi Sutoyo, S.Kom, M.CompSc

No	Paper ID	Title of Paper	Author
1	51	PowerDoW: Video Content-Adaptation (VCA) Profiling in Smartphone Devices for Energy Efficiency	Muhammad Hanif Jofri, Muharman Lubis, Mohd Farhan Md Fudzee, Shahreen Kasim, Mohd Norasri Ismail and Deden Winarsyah Jacob
2	38	Development of Wireless Vibration Detector System for Manufacturing Production Floor	Tatang Mulyana and Ariffuddin Joret
3	101	Design of remote temperature monitoring system on automatic filling R125 Shinva machine using LM35 sensor and Arduino uno microcontroller	Agung Kurniawan, Fransiskus Tatas Dwi Atmaji and Judi Alhilman
4	103	Implementation of Wireless Data Communication Protocols Using Store-and-Forward Method	Rini Handayani, Simon Siregar and Ressay Aryani
5	97	Part Design for Geometric Dimensioning and Tolerancing	Haris Rachmat and Ibrahim Masood.
6	99	The Effect of Drill Reamer Tool on Cutting Force and Temperature when Machining with Different Parameters and Cutting Condition	Haris Rachmat and Noor Hakim Rafai
7	96	Simulation Study of Wind Turbine System for Electric Powered Vehicle	Rino Andias Anugraha and Sofian Moh





Session 3B , 1: 00 – 3:00 pm			
Magnolia Room, 3 rd Floor			
Session Chair : Muharman Lubis,B.IT.,M.IT., Ph.D.IT / Rokhman Fauzi, S.T., M.T			
No	Paper ID	Title of Paper	Author
1	77	Design of project schedule in telecommunication projects using critical path method (cpm) method	Indri Alvi Kusumadarma, Devi Pratami, I Putu Yasa and Wawan Tripiawan
2	108	Integration the 6th category Business Excellence Framework, the 8th clause ISO 9001:2015 and the 6th category KPKU Indonesia Framework	Sri Widaningrum, Musli Bin Mohammad and Mohd Rasidi Bin Haji Ibrahim
3	121	Competency Profile for Software Development Team that Support Project Success	Tien Kusumasari, Bambang Riyanto Trilaksono, Atya Nur Aisha and Fitria Fitria
4	30	Project Management Plan Design for Developing E-learning Content	Ketmanto, Devi Pratami, Muhammad Azani Hasibuan and Deden Witarsyah Jacob
5	93	The Proposed Dashboard Model for Measuring Performance of Small-Medium Enterprises (SME)	Taufiq Immawan, Annisa Indah Pratiwi and Winda Nur Cahyo
6	132	Maintenance Policy Application Using Overall Equipment Effectiveness And Reliability Centered Maintenance	Judi Alhilman, Damanhuri Nurul Huda and Budi Laksono Putro
7	142	Lean Service Approach For Consulting Services Company	Elisa Kusrini, Fathia Nisa and Vembri Noor Heli
Session 3C , 1: 00 – 3:00 pm			
Caration Room, 3 rd Floor			
Session Chair : Irma Palupi, Ph.D / Alvi Syahrina, M.Sc			
No	Paper ID	Title of Paper	Author
1	61	Graduation Level Prediction by Using Classification Algorithm: Case Study of E-Learning in Telkom University	Fikli Perdana, Muhammad Azani Hasibuan, Rachmadita Andreswari, Muharman Lubis and Deden Witarsyah
2	75	Data-Based Maintenance Strategy Analysis using Operational Excellence Approach in Engineering Asset Management	Winda Nur Cahyo, Haryo Prawahandaru, Bayu Agung Swasono, Riza Said Isyak Raben, Riyan Tri Sutartono and Taufiq Immawan
3	91	Combination of Program Evaluation and Review Technique (PERT) and Critical Path Method (CPM) for Project Schedule Development	Hamzah Abdul Ba'its, Ika Arum Puspita and Achmad Fuad Bay
4	49	The Electronic Information and Transaction (ITE) Implementation in Indonesia: Text Mining Analysis Approach	Lukmanul Hakim and Muharman Lubis





5	36	Degree Implementation Lean Production Using Fuzzy Logic Approach	Said Salim Dahdah, Deny Andesta and Awang Setiawan Wicaksono
6	152	Vulnerability Assessment and Penetration Testing (VAPT) Framework: Case Study of Government's Website	Ahmad Almaarif and Muharman Lubis
Session 3D , 1: 00 – 3:00 pm			
Heliconia Room, 3rd Floor			
Session Chair : Dr. Irfan Dharmawan/ Dr. Tien Fabrianti Kusumasari			
No	Paper ID	Title of Paper	Author
1	78	Business Process Reengineering of Credit Loan Approval based on BPMN	Irmayanti Syam and Rachmadita Andreswari.
2	70	Key Performance Indicators Of Indonesia State-Owned Enterprise – A Model Using BSC and MBPE	Budi Sulistyono and Riandi Aditia Darmayana.
3	23	Zakat Management System: Designing Effective Approach through Knowledge Management System	Muharman Lubis.
4	56	Framework Investigation of Security Monitoring System for Production Line on IR 4.0	Muhamad Fadillah and Tatang Mulyana
5	79	Enhance Dynamic Convolutional-NN to Increase Contextuality Understanding of Product Review to Produce Effectiveness Product Recommendation	Hanafi Hanafi
6	117	Proposed Framework for Assessing the Maturity of Information Technology Risk Management	Rokhman Fauzi, Suhono Harso Supangkat, Muharman Lubis and Deden Witarasyah
7	154	Measuring the Satisfaction in Blended Learning System (BLS): The Literacy Mediated-Discourses	Muhammad Azani Hasibuan, Muharman Lubis, Rachmadita Andreswari and Wahjoe Witjaksono.





LIST OF ABSTRACT

Paper ID	Author / Title of Paper	Abstract
1	Iwan Inrawan Wiratmadja, Wawan Tripiawan and Augustina Asih Rumanti. <i>The Design of Technology Components' Readiness Level Measuring Device – Technoware, Humanware, Inforware, Orgaware – on The Transfer Technology Process (case study: CV. Maju Karya, yogyakarta)</i>	Small and Medium-Sized Enterprise (SME) is an important part in the economic sector in Indonesia. The case study in this research was conducted in CV. Maju Karya, Yogyakarta which is engaged in the manufacture of leather puppets. The purpose of this research are to design a measuring device and measure the technology components' readiness level on the transfer technology process in CV. Maju Karya. The research was conducted in this SME because CV. Maju Karya doesn't have a technology components' readiness level measuring device when the technology keeps to evolve and more modern. The measuring device used in the form of a questionnaire consisting of 5 criterion for technoware technology component, 6 criterion for humanware technology component, 4 criterion for inforware technology component, and 7 criterion for orgaware technology component. Each criterion is divided into several sub-criteria that there are a total of 56 statements. The result of the measurement of technology components' readiness level on the transfer technology process in CV. Maju Karya are; technoware technology component is in second stage with a score of 3.278, humanware technology component is in third stage with a score of 3.569, inforware technology component is in first stage with a score of 1.409, and orgaware technology component is in second stage with a score of 3.163.
3	Galih Prihartanto, Agus Virgono and Casi Setianingsih. <i>Implementation of Driver Drowsiness Detection System Using Dlib Method</i>	Based on ntmc.polri.info in 2015 there were 646 accidents during homecoming season, most of accidents occurred due to driver's exhaustion and lack of sleep, and it causes drowsiness. Some technologies utilize brain wave sensors or motion sensors to detect sleepiness. The system consist of infrared cameras as input, the application of the dlib method and deepgaze in Raspberry Pi as input processors, can be used to determine drowsiness status based on the driver's head pose. The system is able to detect drowsiness without urge the driver to use a wearable device such as a helmet or eye glasses with sensors. The system is able to detect drowsiness in 3.1 seconds delay and 73.3% of accuracy rate within dark conditions with a light unit value between 0 to 4 lux. While in luminous conditions within a light unit value between 1110 to 1666 lux, the average delay time to detect drowsiness is 2.9 seconds and 83.3% of accuracy rate
4	Novianto Budi Kurniawan, Suhardi, Yoanes Bandung, Yuli Adam Prasetyo and Purnomo Yustianto. <i>Evaluating An Engineering Framework for Services Computing Systems through An Acceptance Model</i>	The gap between business services and IT services becomes a major concern in services computing. As an approach for service-based IT solution, services computing systems are promised to be able to bridge the gap between these services. The implementation will require an engineering framework as a guide to building the systems. The framework needs to be evaluated to provide important feedback to the framework development. This paper outlines the evaluation of SCSE framework through an acceptance model. The study develops an





		<p>acceptance model based on the experiences of a group of engineers as the framework users after using the framework. A survey involving 54 systems engineers with various engineering backgrounds was conducted to assess the experiences of the engineers in using the framework. The results of the acceptance model show that both perceived ease of use, represented by the level of agreement (u_1) and perceived usefulness, represented by the level of importance (u_2) deliver good results almost for the entire stages of the proposed framework. In addition, the user experiences of using the proposed framework are in the acceptable levels. The contribution of this paper is an enrichment of the engineering methodologies for the service-oriented system from the perspective of services computing.</p>
5	<p>Zahra Putri Agusta and Adiwijaya Adiwijaya. <i>Modified Balanced Random Forest for Improved Prediction of Imbalanced Data (Case Study : Customer Churn Prediction)</i></p>	<p>Customer churn prediction is a method that companies use to anticipate loss in revenue. Some data mining classification techniques can be used to predict customer churn. However, these techniques could become less optimal when faced with imbalanced data conditions. Customer churn data has imbalanced data characteristics, so a process that can handle imbalanced data is required. There are two approaches that can solve these problems, namely sampling method (distribution of training data is modified so that two classes of data can be balanced) and algorithm approach (algorithm process is modified to handle imbalanced data). This paper used the algorithm approach because the consistency of original data distribution will be kept the same as the training data. This will provide more valid data and prediction results that can better represent real conditions. In line with this, we proposed a Modified Balanced Random Forest (MBRF) algorithm as a classification technique to address imbalanced data. The MBRF process changes the process in a Balanced Random Forest by applying an undersampling strategy based on clustering techniques for each data bootstrap decision tree in the Random Forest algorithm. The proposed MBRF method yielded better performance compared to the Balanced Random Forest (BRF) and Random Forest (RF) algorithms, with a sensitivity value or true positive rate (TPR) of 88%, a specificity or true negative rate (TNR) of 94%, and the best AUC accuracy value of 91.65%. Moreover, MBRF also reduced process running time.</p>
15	<p>Mahendra Dwifabri Purbolaksono, Feddy Dea Rekyadita, Arief Fatchul Huda, Arie Ardiyanti Suryani and Adiwijaya. <i>Classification of Hadith Al-Bukhari Text in Bahasa Indonesia using Back Propagation and Sastrawi Stemming Analysis with Information Gain for Selection Feature</i></p>	<p>The second fundamental source of law for Moslems is the Hadith. The Hadith can be used to explain Quranic texts. However, Hadith still needs to be categorized to easily understand its meaning. This research uses Hadith translated into Bahasa Indonesia and classifies it into three classes: Obligation, Prohibition, and Information. From previous research, the Back Propagation Neural Network (BPNN) showed good performance in classifying hadith text. Therefore, BPNN was used to solve the problem of hadith text classification in this study. However, the dataset has a huge number of varied bag-of-words, which are features that will be used in the classification process. Hence, Information Gain (IG) was utilized to select influential features, and as the sequential process before the classification process. To measure the performance of this system, Macro F1-Score was used. The F1-Score enables one to observe exactness from precision and completeness from recall. The Macro F1-score is also needed for the performance evaluation of more than two classes.</p>





		Based on the experiment conducted, the system was able to classify hadith text using BPNN, IG, and without stemming, yielding the highest F1-score of 84.63%. However, the system performance that included the stemming process yielded an F1-score of 80.92%. This shows that the stemming process could decrease classification performance. This decreasing performance is due to some influential words merging with more non-influential words
16	Hasni Hassan, Mokhairi Makhtar, Suhailan Safei and Rohana Ismail. <i>Exploring Semantic Similarity by Measuring Dissimilarity of Formal Concept Analysis (FCA) Graphs</i>	A technique called Modified Concept Based Lattice Mining (M-CBLM) is proposed in conjunction with a hybrid technique to extract key terms were used in an experiment involving Al-Qur'an English translated text. Using the hybrid key terms extraction technique, a set of key terms from text were extracted using term frequency (tf) technique and Natural Language Processing patterns modified using A Nearly New Information Extraction (ANNIE) component in General Architecture for text Engineering (GATE) software. The extracted key terms were then used as input into a Formal Concept Analysis (FCA) tool to extract the formal concepts. Galicia, a free tool for FCA was used to produce the output concepts. The corresponding adjacency matrices were then extracted and used to measure the similarity of the FCA concept graphs based on M-CBLM. It was discovered that by using Galicia to produce the output concept lattices; similarity between graphs were actually measured based on their dissimilarity, ie. graphs with similar concepts will have more nodes since the nodes indicate subsets that represent shared attributes of the graphs under comparison. Therefore, the more similar two graphs are, the more nodes they will have; hence indicating higher similarity. Results from the experiment indicate that the proposed technique serves as a possible solution to concepts based matching that can be further be used either in question answering or information retrieval systems
17	Athapol Ruangkanjanases and Nithiphong Vikitset. <i>Solving for an Optimal Batch Size for a Single Machine Using the Closed-form Equations to Minimize Inventory Cost</i>	Batch sizing strategy in the manufacturing system has significant impacts on the production performance. In the previous research studies, researchers proposed complicated techniques such as optimization models, simulation, queuing theory, and complex algorithms to solve for the optimal batch size. Using those techniques are difficult for plant managers to calculate for the optimal batch size. Therefore, the closed-form optimal batch size equations are proposed to minimize inventory cost of 2 models. The first model is illustrated when the inventory cost is associated with holding cost but without setup cost. The second model is illustrated when inventory cost is associated with both holding cost and setup cost. Besides the optimal batch size calculation, the value of λ , which is the shadow price of the available setup time, is also solved for sensitivity analysis purpose. Application of the closed-form equation is provided with various parameters applied to different products. The results show that the proposed closed-form equations approach performs well and verifies the effectiveness of the approach
20	Renugah Rengasamy, Suraya Hamid and Abdullah Gani. <i>Developing a Framework for Profiling International Students</i>	The tertiary education shows significant growth over the years. It is estimated that the enrolment of the international student will skyrocket to 7.2 million in 2025 from 1.8 million in 2000. Thus, the Malaysian Ministry of Higher Education has envisioned the institutions recruiting about 200,000 international students by the year 2020. Though Malaysia has been in the top ten recruiters of international





		<p>students, the real intention of these international students coming to study in Malaysia is still at diffident. Also, there is no specific approach in practice that could understand these international students' intention of coming to Malaysia. To address this, we propose a detection manner of international students in Malaysia via social network analysis and sentiment analysis from the enormous information that available through the diverse type of social media. This proposed method is expected to detect the non-genuine international students during the application stage and also could be employed periodically if any issues are raised involving these international students in the country</p>
21	<p>Anik Hanifatul Azizah, R Wahjoe Witjaksono, Guema Galganya Antonio Soares and Muharman Lubis. <i>The Effects of ERP on Firm Performance: A Survey of Indonesian Shipping Company</i></p>	<p>Implementation of Enterprise Resource Planning (ERP) in Indonesian companies has become developed in several big companies. ERP system has integrated all company's business operations that create an effective company business process. Some companies have implemented ERP for several years and experienced the big effect to increase company revenue. Some of them are still on early stage of development. But, a lot of Indonesian companies also face some problems while trying to develop an ERP system. Such as, infrastructure adequacy problems, financial problems, user acceptance problems and benefit problems. The last problems is the most often faced problem so far. In Indonesian shipping company, ERP system are still on early development stage. To prevent the ERP project failure, any analysis on several stage is needed. The objective of this research was to analyze the influence of ERP system on employees and company performance. This study showed how to analyze system effectiveness using Information System Success Model to know its influence on employees and company as net benefit. The shipping company named PT. Jalur Nugraha Ekakurir (PT JNE) is one of the biggest shipping company in Indonesia. This company are still on early adoption stage on using ERP system. The evaluation of the system is urgently needed to know the effect of ERP system usage. This research was an explanative research with data analysis technique using PLS (Partial Least Square). Data obtained comes from respondents who are employees of PT JNE, data obtained by distributing the questionnaires directly. The primary data sources came from the questionnaires using Likert scale with 5 alternative answers. The result of this study indicated that not all of the factors influence employee and company performance. From the total 9 hypothesis, 5 of them are accepted and 4 of them were rejected. Based on the data analysis the following results were obtained: Factor quality system and service quality has positively affect towards user satisfaction, while information quality didn't positively affect toward user satisfaction. Factors of information quality, service quality and system quality didn't affect to use. Factors use (usage) and user satisfaction have positive effects on employee and company performance.</p>
23	<p>Muharman Lubis. <i>Zakat Management System: Designing Effective Approach through</i></p>	<p>Zakat is the pivot approach in Islamic teachings to encounter social problem such as poverty in society by sharing the percentage of wealth to relevant recipients as the obligation to the person who affordable. The collaborative research conducted by Badan Amil Zakat Nasional (BAZNAS) and Institut Pertanian Bogor (IPB) estimated the</p>





	<i>Knowledge Management System</i>	potential of zakat collection in Indonesia could reach about Rp 217 trillion every year that has not been achieved yet. This study attempts to investigate the problem and challenge occurred in adopting knowledge management system based on KMSLC with addressing Indonesia issues. The purpose of the study is to discover conventional approach within zakat staff's institution and at the same time provide the other suggestion especially in KM in order to improve their task by the fastest and the smartest way. Since this paper is exploratory research to develop framework, thus it utilizes qualitative method as it employs empirical support within historical background and interview.
24	Dyah Kusumastuti, Rayinda Pramuditya Soesanto, Amelia Kurniawati and Mochamad Teguh Kurniawan. <i>E-learning Content Design using ADDIE and SECI: Case of Shelving Activity in Research Organization</i>	Knowledge sharing considered an important role in an organization, especially in an organization that is focused on research activity such as research organization. Research Organization is an organization that focused to provide scientific information in the various form of collection. The collection often used as a reference for many researchers. The collection saved in organization library service section and displayed by the types and classified to ease the finding process (shelving). In the shelving process, there are some employees who take a different way to do the process besides the shelving procedure and gain new knowledge through experience from it in the form of knowledge. The problem occurred when the turnover of the employee is high because of the job role rotation. It is needed a way to preserve the experience from the previous employee of shelving process so when rotation occurred, the learning time of new employee can be reduced. E-learning is one of the solutions that can help the learning process. ADDIE is used as the model for the content of the e-learning. The purpose of this research is to design the e-learning content for the shelving process by converting previous tacit knowledge using SECI method. The output of this paper is the best practice for shelving activity that is used as the content of e-Learning. Its final goal is to make the knowledge in shelving activity could spread and exist, even if the first source of knowledge isn't at the same position anymore. Future research can be done to develop the present application by evaluating the weakness and enhancing the feature for improvement.
25	Judi Alhilman and Fatwa Basanta. <i>Software Application Development for Maintenance Policy Using Reliability Centered Maintenance and Reliability Centered Spares</i>	Software application has been built for machines maintenance policy, it was based on Reliability Centered Maintenance (RCM) and Reliability Centered Spares (RCS) methods. The application has been validated against real failure data from two different sources, resulting in satisfactory application. The programming language used is C#. The output of this software is maintenance policy and availability of spare parts policy, including the schedule and type of task, the number and types of spare parts required. This software is very helpful and will simplify the process of analysis and calculation of RCM and RCS that can be used on various machines.
26	Inung Wijayanto and Achmad Rizal. <i>Epileptic Seizure Detection in EEG Signal using EMD and Entropy</i>	Epilepsy is a disease caused by abnormal electrical activity in the brain. One of the techniques for diagnosing epilepsy is by analyzing electroencephalogram (EEG) signals. Various techniques were developed by researchers to analyze epileptic seizure on EEG signals. Because of the nonlinear, non-Gaussian, and nonstationary nature of EEG signals, methods such as empirical mode decomposition (EMD)





		are often used for analysis on EEG signals. The intrinsic mode function (IMF) of the EMD is believed to provide different information for normal EEG and seizure signals. Some features are taken from the IMF such as statistical features and spectral features. One of the differences between normal signals and abnormal signals is signal complexity where one of the metrics for measuring them is entropy. So in this study entropy was used as a characteristic of each IMF produced from EMD for the classification of epileptic seizure EEG. Entropie used were Shannon entropy (ShEN), spectral entropy (SE), Renyi entropy (RE), and permutation entropy (PE). The highest accuracy produced by RE in eight IMF uses quadratic support vector machine (SVM) as classifier. The accuracy of 97.3% with sensitivity of 97% and specificity of 99.75 % was achieved for classification in three data classes. The developed method is able to produce high accuracy with a relatively small number of features.
27	Muhammad Nasir Azis, Tb. Ai Munandar, Riyan Naufal Hay'S, Harsiti, Wahyudin and Agus Setyawan. <i>Classification Of Regional Development Disparities with Fuzzy-Klassen Methods</i>	Development inequality is a situation in which there are differences in development achievements between one region and another. There are many approaches to measure and to classify development inequality, but there is no focus on measuring inequality based on distance between data of development achievement, such as using data of Gross Regional Domestic Product (GRDP). This research aims to classify regional development inequality based on distance between data of development achievement using Fuzzy-Klassen approach. Analysis data sample is GRDP of West Java in 2015 and 2016. The result of this research shows that there are 89% of regencies/cities included in rapid-developing category (K1), 7% are in the category of developed but depressed (K2), while 4% of them are in the category of underdeveloped regions (K4).
29	Anisa Putri Ambar Serayu, Mifthahul Fathia, Devi Pratami and Muhammad Azani Hasibuan. <i>A Guide to E-Learning: Content Visualization Rubrics of E-Learning Video</i>	The rapid changes of technology and internet has made a huge impact in education field. It has developed learning to the next point where anyone can learn anything from anyone else at any time. E-learning systems have become an important part of delivering the modern university curriculum. There are many shapes or forms of e-learning, one common form that everyone known is a video-learning. Video is a powerful medium to deliver knowledge or information to others because it can present the information or knowledge in an consistent and attractive kind of way. However, not all video-learning succeed to deliver the information to students given the lack of knowledge educators have of which kind of video that brings students' interest more. This study focuses on how a video-learning can increase students' performance and what criteria of video should be applied in video-learning in order to acquire high students' engagement and to increase students' retention of the material.
30	Ketmanto, Devi Pratami, Muhammad Azani Hasibuan and Deden Witarasyah Jacob. <i>Project Management Plan Design for Developing E-learning Content</i>	E-learning is considered as a better learning that provides technology assistance to support learning. While e-learning gives more flexibility toward learning, the creation of e-learning content needs more attention. The purpose of the paper is to provide project management plan based on Project Management Body of Knowledge or PMBOK in short, to the creation of e-learning content. The creation of something that produces product, service or result is considered as a project. In other words, the e-learning content creation is one of the definitive project. However, 71% of the projects were failed or challenged and





		<p>one of the top reasons why project failed is bad estimates of planning in the project. Even more challenging, e-learning project suffers more than the failure rate of information system. Just having a plan and poor planning may lead to failed project. Nevertheless, the e-learning project needs project management plan. Rather than as a methodology of the research, the project management plan can be considered as a guide to carry out the work in the project. The study found that the project management plan gives a helpful view for the project team to deliver the project. This research will be useful for those who concerned in creating project management plan. Thus solution to the e-learning project failure lies in creating project management plan which includes scope, schedule, cost, stakeholder, communication, and risk management.</p>
31	<p>Ahmad Luthfi and Marijn Janssen. <i>Open Data for Evidence-based Decision-making: Data-driven Government Resulting in Uncertainty and Polarization</i></p>	<p>Over the last decade, more and more data are collected and opened. Governments actively stimulate the opening of data to increase citizen engagement to support policy-making processes. Evidence-based policy-making is the situation whereby decisions made are based on factual data. The common expectation is that releasing data will result in evidence-based decision-making and more trust in government decisions. This study aims to provide insight into how evidence-based policy based on open data can result into uncertainty and even polarize the policy-making process. We analyze a case study in which traffic and road utilization datasets are used and model the decision-making process using the Business Process Model and Notation (BPMN). The BPMN model shows how the government and business organizations can use the data and give different interpretations. Data-driven decision-making might potentially create uncertainty, polarization and less trust in decisions as stakeholders can give different meanings to the data and arrive at different outcomes. In contrast to the common belief, we found that the more data released, the more discussions happened about what is desired according to the data. The various directions derived from the data can even polarize decision-making. In other words, the more data opened, the more people can construct their own perception of reality. For further research, we recommend understanding the types and role of data to create an evidence-based approach.</p>
33	<p>Rosad Ma'Ali El Hadi, Ari Yanuar Ridwan and Wawan Tripiawan. <i>Determination of Parameters for Production Process using Raw Used Paper for Producing Quality Fancy Papers</i></p>	<p>Garbage is a consequence of human activities, every human activity must produce waste, the amount or volume of waste is proportional to the level of human consumption of goods/materials used daily. Likewise, with the type of waste, it really depends on the type of material consumed, therefore waste management cannot be separated from the management of people's lifestyles. Waste problems have become a major topic, ranging from the smallest environment to the large scope, many things that cause this garbage accumulation, but certainly, the individual factors are very influential in this.</p> <p>There are two types of garbage, namely organic waste (commonly referred to as wet waste) and inorganic waste (dry waste). One of them is an inorganic waste. Telkom University, one of the educational institutions that donate paper waste is quite potent, whether it comes from former concepts, correspondence or ex-exams, especially semester exams which are not taken by students. The used paper</p>





		contains cellulose, hemicellulose, lignin, pectin, wax and miscellaneous, this content makes it possible to make art paper (fancy paper). Experiments carried out was scrap paper cut 3-5 cm in length with a cutting machine. Each batch uses 3 kg pieces of scrap paper heated in water with a ratio of 1: 7 ingredients and solutions with the addition of sodium hydroxide with variations of 10% and 20%, soaking time 3, 6, 9, 12 and 24 hours. Furthermore, the separation of black leachate with pulp is carried out thoroughly. The clean pulp is ground to form fibers (fibrillation) for 15-30 minutes, then filtered to determine the size of the pulp. The results of the pulp grinding process are brown if the art paper will be colored it needs to be bleached before it is colored. The pulp is mixed with water in a ratio of 1: 20, then 1% tapioca is added. Finally, the pulp is printed in gauze molds of 150-200 mesh to the desired size, dried and the paper is ready to be used to craft art paper products.
34	Alhadi Bustamam, Devvi Sarwinda, Bariqi Abdillah and Tesdiq Kaloka. <i>Detecting Lesion Characteristics of Diabetic Retinopathy Using Machine Learning and Computer Vision</i>	One indicator of the severity of diabetic retinopathy is the existence of lesion characteristics in the eyes such as microaneurysms, haemorrhages, exudates and neovascularization. Without proper early medical attention, this lesion could lead into blindness. Considering its importance, a system that could detect such lesion will be beneficial. In this paper, we present our study to detect such lesion characteristics from fundus image such as microaneurysm (red small dots), exudates, haemorrhages, and neovascularization, a photograph of the back of the eye. The experiment is conducted using three different feature extraction methods, Local Binary Pattern (LBP), Gray Level Co-Occurrence Matrix (GLCM) and Segmentation Fractal Texture Analysis (SFTA) and two different classifiers, K-Nearest Neighbor (KNN) and Support Vector Machine (SVM). DiaretDBO open access database is used since it provides ground truth for each lesion. By looking each lesion characteristic as a binary classification task, we achieved the best accuracy of 96% and 88% in average.
36	Said Salim Dahdah, Deny Andesta and Awang Setiawan Wicaksono. <i>Degree Implementation Lean Production Using Fuzzy Logic Approach</i>	Continuing competitive advantage will be a goal that will be increased by all types of industry to win the competition. The application of Lean production is a necessity for the industry to be able to increase the competitive advantage. This competitive advantage is achieved by waste elimination and cost reduction programs through the implementation of lean practice. In its implementation, there are many obstacles that occur, including lack of understanding and implementation of lean production that should be carried out. Leanness is a measure of the level of implementation of lean practices. in this paper the main construct of lean production has been created to investigate the level implementation of lean production. By using the advantages of fuzzy logic in avoiding impreciseness and vagueness data in assessing the level of implementation lean production and determining the importance of each attribute. The built-in fuzzy linguistic level is used to identify the position of the industry at the level of application of lean production expressed by Fuzzy Leanness Index. The model built is also able to identify areas in the industry that have and have not contributed to the implementation of lean production
37	Mimi Nurakmal Mustapa, Suraya Hamid and Fariza	Sustainable open government data initiatives are supported by an on-going commitment by the government. In this paper, we discuss the





	<p>Hanum Md Nasaruddin. <i>Exploring the Issues of Open Government Data Implementation in Malaysia Public Sectors</i></p>	<p>ongoing research on the issues of open government data (OGD) implementation in Malaysia. With this objective, we should be able to identify initial factors that influence OGD implementation in public sectors and discern how far the open government data initiatives in Malaysia has grown since its inception. We stressed the OGD implementation phase rather than adoption phase due to our research aim is to look at the OGD activities beyond adoption. Adoption phase is where the organization is in the state of deciding whether to adopt an innovation or not, while the implementation phase is the extent where the innovation is taking into actual use. Malaysia has made it through the OGD adoption phase, and presently, the government is moving towards expanding and sustaining the innovation in the public sectors. Therefore, it is essential to identify the factors that influence the OGD in the post-adoption phase in the public sectors. As the first step, we interviewed key personnel from the government agency who is responsible for spearheading the OGD initiatives in Malaysia government. Together with the observation from some OGD events organized by the government, we then consolidate the issues pertaining to OGD implementation from published reports about OGD in Malaysia and later coded into constructs from the technology-organization-environment framework that will be a set of factors for our future works. This study contributes to the finding of the determinant factors of post-adoption of OGD in the public sectors.</p>
<p>38</p>	<p>Tatang Mulyana and Ariffuddin Joret. <i>Development of Wireless Vibration Detector System for Manufacturing Production Floor</i></p>	<p>Normally, a measurement of soil profile strengths is carried out using in-situ invasive testing methods and labs. However, these tests often have disruption to the sample so that the results do not meet the standards and have to undergo re-testing. Perforation tests, dynamic investigations and field vane shear tests are examples of conventional field test techniques and are used to determine the strength of the soil profile. Geophysical methods, such as seismic surface wave techniques offer an approach that does not use puncture techniques. Furthermore, seismic wave techniques only use waves to obtain ground observations. However, for this technique cabling makes it difficult for mobile workers. This is because sometimes wiring is not in good condition. Thus, the wireless vibration detector has been developed in this paper. Connection between WiFi modules i.e. NodeMCU ESP8266 and Vibration Detector i.e. SW-420, sends vibration data to web pages i.e. Google spreadsheets. The time of vibration data sent is calculated when the vibration detector is unmanaged to operate until all the data is completed uploading to Google spreadsheet. The speed of vibration data uploaded to Google sheets is known</p>
<p>45</p>	<p>Alhadi Bustamam, Gianinna Ardaneswari and Titin Siswantining. <i>CUDA GPU-Based Parallel Computing on The K-Means Algorithm for Two-Phase Biclustering: Implementation with Diabetic Retinopathy Gene Expression Data</i></p>	<p>Gene expression data are usually arranged in the form of a matrix, in which each row and column corresponds to a gene and a condition, respectively. Thus, each element represents the expression level of a gene under a certain condition of interest. Given the large size of most gene expression datasets, parallel computing is essential for analysis to increase the performance and reduce the running time. Biclustering has been used for discovering functionally related gene sets under different subsets of experimental conditions. In the biclustering method, both the objects and the condition of the objects</p>





		<p>are clustered. In this study, we implemented CUDA GPU-based parallel computing in a two-phase method of biclustering gene expression data of patients with diabetic retinopathy (DR), a specific microvascular complication of diabetes, representing the most common cause of disability and blindness among diabetic patients. The CUDA GPU-based parallel k-means algorithm was applied in the first phase and then Cheng and Church biclustering was used in the second phase. We found five biclusters formed by DR gene expression data, and this method achieved an average speed-up of 34x, demonstrating improved performance.</p>
<p>46</p>	<p>Arwan Khoiruddin, Nordin Zakaria, Hitham Alhussian and Nashihun Amien</p>	<p>Big data is produced in high velocity and high volume. Thus the data has to be processed in reasonable time so the value can be obtained. Hadoop is widely adopted as it can run on commercial hardware. To ensure that the data can be processed on time, there are two ways that can be done i.e. to scale up/upgrade the hardware or to optimize Hadoop. Optimizing Hadoop is more economical than scaling up the hardware. Hadoop uses asynchronous blocking concurrency using Thread and Future class. In case of network link failures, hardware failures, low computational power, etc, the tasks run may become straggler. When a task become straggler, it may block other tasks from running, thus will decrease the overall performance. The current Hadoop release is already equipped with algorithm to handle the straggler tasks. However, it should be noted that Hadoop tasks consist of Map and Reduce, and the nature of both tasks are different, while the algorithms manage both task similarly. In this paper, a method to handle straggler Reduce task in Hadoop system is proposed. Asynchronous non-blocking method (ANB) is proposed to improve the performance and avoid the blocking of Reduce task. Instead of using the single queue, our method use two queues i.e. task queue and callback queue. The performance of the algorithm is compared with rTuner, the latest paper found on handling straggler task in Reduce task. From the comparison, it is shown that ANB consistently give faster time to complete than rTuner. The result is better because in ANB, when a task has not ready, it is directly put into callback queue without blocking other tasks. Moreover, the overhead time in rTuner is high, as it needs to check the straggler status and to find the reason for straggler.</p>
<p>48</p>	<p>Deden Witarsyah Jacob, Muhammed E Abd Alkhalec, Mohd Farhan Md Fudzee, Azizul Azhar Ramli, Shahreen Kasim and Muharman Lubis. <i>Analysis of Scalable Features in Hadoop / Map-Reduced by Internet Traffic Management</i></p>	<p>The main aim behind the internet traffic monitoring is to measure and analyse the network bottlenecks in order to manage the online data transferring processes efficiently. Various tools have been developed the aim of using internet traffic measurement and internet traffic analysis tools, such as Hadoop. The activity measuring and examination adaptability, (the activity measuring and examination adaptability represented by dynamicity of exchanging information, exchanging information conventions, and the dynamicity of movement measuring in view of the accessible systems assets relying upon the qualities of the exchanged information).The main aim for this research is to apply scalable features of traffic measurement and analysis using Hadoop in order to understand the effects of these features on the speed of transferring data. This gives new vision or opportunity to dynamically adapting the most suitable traffic measurement and analysis feature according to network capabilities</p>





		and environment. This research employs Hadoop/Map Reduce as scalable internet traffic measurement and analysis tools. The simulation was conducted by using five personal computers; one as a server and four virtual computers as network nodes. Each computer has 2GB memory and 100GB storage. Five types of data segmentation are 10 MB, 40MB, 64MB, 200MB, and 500MB. The speed of network is calculating in a megabit per second (Mbs) through based upon the network speed on the number of allocated PCs (100 Mbs/4). The simulation is conducted in order to test the data transfer time based on various selections of network capabilities such as transferring large data through network of medium and heavy usage
49	Lukmanul Hakim, Muharman Lubis, Rachmadita Andreswari and Anik Hanifatul Azizah. <i>The Electronic Information and Transaction (ITE) Implementation in Indonesia: Text Mining Analysis Approach</i>	The enactment of legal act in cyberspace is the inevitable consequence of globalization to ensure the legal certainty of the people who interact in internet. With the number of legal infringement in cyberspace increasing each day, the needs of internet regulation has becoming a world concern. Indonesia is a populous country with high internet penetration trying to safeguarding public interest with a comprehensive law, which recognized as "Undang-Undang Informasi dan Transaksi Elektronik" (UU ITE). However, the implementation of ITE getting various responses from Indonesian citizens since it was signed or after amendment in terms of different aspects. The availability of social media networking enables them reacting to the subject concerning legal issues in internet. This research work used text mining technique to find out the perceived issues, challenges, and benefits of ITE implementation from citizens' opinions, comments, and perceptions in social media of Twitter. The result of this study grouped into two main topics; legal consequences and precedence.
51	Muhammad Hanif Jofri, Muharman Lubis, Mohd Farhan Md Fudzee, Shahreen Kasim, Mohd Norasri Ismail and Deden Witarasyah Jacob. <i>PowerDoW: Video Content-Adaptation (VCA) Profiling in Smartphone Devices for Energy Efficiency</i>	energy profiling in smartphone devices is one of the practical criteria for saving energy in smartphone devices during video streaming session. Amongst the whole features of energy efficiency for smartphone devices, energy profiling and video content adaptation approach are the most important parts. Nevertheless, there is uneasiness on energy-aware profiling area and it has not yet been discovered widely. In this paper, we appoint promising approaches that can be used to reduce energy consumption in the smartphone devices. We propose a framework called PowerDoW, directed towards adding an energy adaptation strategies. Our experimentations based on (OS) Android devices indication that PowerDoW capable to reduce a huge energy consumption by selecting suitable video content adaptation within applications and suitable environment accordingly.
56	Muhamad Fadillah and Tatang Mulyana. <i>Framework Investigation of Security Monitoring System for Production Line on IR 4.0</i>	This paper presents an Investigative Framework for Security Monitoring Systems for Production Lines at IR 4.0. The framework consists of Raspberry Pi 3 as the main IoT processing module, four sensor there are RFID sensors, PIR Sensor, MQ2 Sensor, and Magnetic Door Sensor. RFID is used to collect data that is being used in the area, PIR sensors to determine the state of the production floor where this sensor will measure the movement of the radius sensors, MQ2 sensors to determine the level of dangerous gas as quickly as cigarettes, methane gas that can cause fire on the production floor, Magnetic door sensor to determine the condition of the door on the





		production floor. This paper is for the framework of the cost and completeness of the system needs
57	Ahmad Musnansyah, Anton Kamil, Linda Marlina, Endang Widayati and Zulfakriza. <i>Assesment of spatial water quality observation of Citarum River Bandung Regency using multivariate statistical methods</i>	Citarum River is one of the most polluted rivers in the world. This study aims to provide spatial water quality data on Citarum River Bandung Regency. The result of this study can be used to help government decide on how to manage water quality of Citarum and all sociocultural factors involved in polluting the river. Open Data can also use the data and result for further research. Assessment of Citarum water quality is done through application of multivariate statistical approaches. The data set comprised of one-month observation data from 75 stations positioned in Citarum Bandung Regency and its tributaries. Factor Analysis with PCA as the extraction method gives two factors while CA showed three clusters suggesting the different physicochemical characteristics and pollution levels of the Citarum water systems. BOD, COD and DO, together with total P and Fecal Coliform are identified as two underlying factors on water quality in Citarum and its tributaries in Bandung Regency. Descriptive Statistic values confirm the quality of Citarum Bandung Regency poor water quality
60	Rino Andias Anugraha and Mohd Rasidi Ibrahim. <i>Control System for Analysing Precision Motion of EDM Machine</i>	Since the third Industry Revolution (IR3.0), automation become a key technology in industry especially CNC machine. An EDM machine is CNC based that able to reduce the process time, increase the productivity of manufacturing process, and duel with complex task. Therefore, it was one of the best choice to become the education element in manufacturing field. However, high in cost and complexity in structure were the weaknesses and limitations of EDM machine. An open architecture CNC movement control system was studied in order to create a high flexibility, affordable, and simple movement control system for EDM machine. LabVIEW was chosen as the main controller software and NI MyRIO as the main processor in this movement control system. The hardware was built by using open architecture components which reusable and low in cost. This system was able to control the movement of X, Y, and Z axis of the EDM machine in term of distance travel. The time counter in LabVIEW program was used as the feedback system due to absent of encoder as the position feedback element. The relationship between traveled time and distance traveled was determined for the adjustment and programs for single direction, dual direction, specific distance movement, multi axis movement and stop when sensor triggered were developed. The desired value was compared with the actual distance travel in order to calculate the percentage of error of the control system. The percentage of error for X, Y, Z and the gap created was 0.37%, 0.38%, 0.49% and 2.9% respectively. This experimental study will fulfill three objectives. First is to design an open architecture CNC movement control system in X, Y, and Z axis for EDM application. Second is to integrate and analyze the CNC movement control system with the machine hardware. Lastly is to analyze the performance of the developed movement control system with respect to the CNC movement system.
61	Fikli Perdana, Muhammad Azani Hasibuan, Rachmadita Andreswari, Muharman	E-learning is one of the technologies used to support the learning process in University level. Telkom University with the university base on technology, Telkom University so intensively apply the learning





	<p>Lubis and Deden Witarasyah. <i>Graduation Level Prediction by Using Classification Algorithm: Case Study of E-Learning in Telkom University</i></p>	<p>using e-learning in order to become effective and efficient method. E-learning is used to reduce the cost and time spent learning in an offline class. With E-learning a review system can be done anywhere, because students do not need to come to the classroom to study. Simply by passing the internet network can already attend the class. With the existing data in the e-learning system can be obtained some information by processing the existing data. In this research will be predictions of student data contained in e-learning to determine the performance of algorithms C4.5, Naïve Bayes, and Bayesian Network, which will be used to determine what factors affect the level of graduation of students to a course. In the process will go through several stages of data retrieval, preprocessing, and classification, the process will be done gradually to get the results of all the process.</p>
<p>62</p>	<p>Adelia Widiningrum, Devi Pratami and Imam Haryono. <i>Project Performance Analysis Using Earned Value Management Method in Telecommunication Project</i></p>	<p>One of telecommunication project in Indonesia is shut down the obsolete telecommunication infrastructure such as Sentral Telephone Otomate in Tanjungsari Bandung. This project is a modernization project of fiber optic network for 334 locations in Tanjungsari Sub-district. To compare actual performance of the scope, schedule and cost with planning for making right decisions in project's status and performance, required controlling by using Earned Value Management method because it can integrate these three things. Status and index of project performance on the 22nd day indicate that project was behind schedule that caused loss revenue of Rp 2,600,000.00 with 98% of delays from planning and project get 94% of overruns budget from issued value with amount of Rp 7,410,000.00. In addition, forecasting is done as a corrective action of past project status and performance. It is estimated that the project duration to complete work is 31 days with total cost for the remaining work (EAC) of Rp. 140,170,00.00 from previous project performance. It is also estimated that cost for remaining work until the project is completed or ETC is Rp. 7,770,000.00 with size of the project's forecasting status is a deficit from VAC value that calculated about (Rp 7,410,000.00) and the project will complete based on the TCPI forecasting calculation.</p>
<p>63</p>	<p>Adityas Widjarto, Muharman Lubis, Fachrul Hijriah Usman and Ahmad Almaarif. <i>Development of DRC Service Level Agreement Negotiation Based on Resource Allocation</i></p>	<p>Disaster Recovery (DR) Providers define the main services as backup and restore, both critical data and applications. Clients of data and application backup, fully rely on DR's services to restore data and applications in the disaster events. In normal conditions, DR Provider backs up data, sometimes application, periodically in a regular basis. Providers should deliver the services in terms of service Key Performance Indicators. In this paper, development of KPIs is focused on performance and assurance. A laboratory testbed simulates backup and restore services. Experimental data such as network and system parameters are analyzed to build performance and assurance framework. Interdependence among each performance and assurance of DRCs builds a relationship model. The model is a part of service level agreement, that a DR Providers can provide services dynamically. The DR Providers should adapt the computing resources to deliver services to meet SLA in flexible strategy. In turn, the DR Providers can negotiate SLA with the customers based on this new approach.</p>





64	Soni Fajar Surya Gumilang, Heru Nugroho, Muharman Lubis and Deden Witarsyah. <i>E-Government Readiness Model Development for Successful ICT Adoption at Provincial Government Institution in Indonesia</i>	One of the biggest challenges for adopting IT at the time government use the new technologies and determine the standard for directive and management measure. Actually, it is closely related to the level readiness of electronic adoption in particular culture of unit or division. In this study, a model have been designed for ICT adoption in term of assessing the e-Government Readiness by using 7 enterprise enablers of COBIT 5, which is performed to a case study in the provincial government, focused in the Bandung districts. They are involving principles and policies, business processes, organizational structure, culture, ethics and attitudes, information, application and infrastructure services, skills and competencies of Human Resources. Meanwhile, research methodology is carried out through phases namely interviews, observation and questionnaires to collect the essential data, while the analysis through a quantitative approach presented that there is no significant effect on the services, infrastructure and applications towards ICT adoption. Hopefully, this model will support the provincial government of Bandung to assess the ICT adoption, even understand the factor related to the process
67	Gugun Mediamer, Adiwijaya and Said Al Faraby. <i>Development of Rule-Based Feature Extraction in Multilabel Text Classification for Bukhari Hadith in Indonesian Language Translation</i>	There are many kinds of data involved in a text classification study. Therefore, special handling that fit with the characteristics of certain data is required. This study investigates the handling of multilabel data—Hadith Bukhari in Indonesian translation—focusing on feature extraction, feature weighted, and preprocessing methods. We propose a rule-based feature extraction combined with several types of preprocessing along with three types of feature-weighted methods: TF-IDF, Word2vec, and Word2vec weighted with TF-IDF. From the 13 experiments conducted, it was found that the best performance for multilabel classification of Hadith data was the combination of the proposed rule-based feature extraction, TF-IDF feature weighted method, and without using Stemming and Stopword removal in the preprocessing phase. The Hamming Loss value obtained from this combination was 0.0647, the best value of all three methods.
70	Budi Sulistyو and Riandi Aditia Darmayana. <i>Key Perfomance Indicators Of Indonesia State-Owned Enterprise – A Model Using BSC and MBPE</i>	The State-Owned Enterprise (SOE) in Indonesia should report financial and non-financial information to the stockholder, the government. For these reasons, the government published a performance measurement system to stimulate SOEs improving their quality and productivity namely KPKU, which adapted from Malcom Baldrige for Performance Excellence (MBPE) Criteria. However, there is no description of how to deploy this measurement system into performance measurement for the SOEs. Therefore, this paper looks at designing the key performance indicators of the State-Owned Enterprise by using Balanced Scorecard (BSC) interrelated to MBPE Criteria. This study explored the vision and mission of the SOE and analysed the relationship to the government requirements to formulate the company's strategic plan. The strategies translated into four balanced scorecard perspectives which interrelated to Baldrige Criteria. To measure the strategic achievement, we formulate the key performance indicators (KPI) for each strategic objective.
71	Azlina Ab Aziz, Zawiyah Yusof, Umi Mokhtar and Dian Indrayani Jambari. <i>Digital Document</i>	Digital Document Management System (DDMS) is a system adopted by the Malaysian Public sector for managing document and records. Despite of giving many benefits, the adoption of the system is still below satisfaction. A guidelines should be in place to accelerate the





	<i>Management System's Implementation Guidelines for Malaysia Public Sector: The Expert's Review</i>	adoption rate of such a system. Accordingly, a guidelines for DDMS implementation is proposed as was suggested in a previous study involving 439 DDMS users by the same authors. The proposed guidelines consists of 6 main factors which are: system capability; implementation policy; security; training; awareness programmes; and top management/team members (colleague) supports. The aim of this paper is to verify the content of the proposed guidelines in order to seek for its suitability in the Malaysian public sector context. Data was collected via face-to-face interview with four panels of experts (practitioners) who have vast experience in DDMS implementation. The finding thence confirmed and verified the content of the proposed guidelines. The proposed guidelines is expected to assist the DDMS implementation team especially the three main agencies such as the Malaysian Administrative Modernisation and Management Planning Unit (MAMPU), Chief Government Security Office (CGSO) and the National Archives of Malaysia (NAM) in coordinating and planning for the implementation of DDMS initiative at the agencies level vis-a-vis increase the level of user adoption. This guidelines also can be used as a reference to develop a detailed DDMS implementation policy by the committee and the project team.
72	Nur Syarafina Mohamed, Mustafa Mamat, Mohd Rivaie and Shazlyn Milleana Shahrudin. <i>A Comparison on Classical-Hybrid Conjugate Gradient Method under Exact Line Search</i>	One of the popular approaches in modifying the Conjugate Gradient (CG) Method is hybridization. In this paper, a new hybrid CG is introduced and its performance is compared to the classical CG method which are RMIL and SMR methods. The hybrid CG suggested is evaluated as a convex combination of RMIL and SMR method. Their performance are analysed under exact line search. The comparison performance showed that the hybrid CG is promising and has outperformed the classical CG of RMIL and SMR in terms of number of iterations and central processing unit per time.
75	Winda Nur Cahyo, Haryo Prawahandaru, Bayu Agung Swasono, Riza Said Isyak Raben, Riyan Tri Sutartono and Taufiq Immawan. <i>Data-Based Maintenance Strategy Analysis using Operational Excellence Approach in Engineering Asset Management</i>	Traditionally, selecting maintenance strategy is based on reliability or cost. In this paper, a further discussion of redesigning the maintenance strategy is presented. The process of redesigning the maintenance strategy applies reliability centered maintenance approach and the result is analyzed further with the approach of operational excellence as presented in the structure of operational excellence. The output from the reliability centered analysis is three recommendations related to maintenance strategy. Then, the recommendations are aligned with the structure of operational excellence. The main conclusion of this study is the operational excellence approach is capable to assist the process to redesign the maintenance strategy by providing the decision maker with a guidance to improve productivity
77	Indri Alvi Kusumadarma, Devi Pratami, I Putu Yasa and Wawan Tripiawan. <i>Design Of Project Schedule In Telecommunication Projects Using Critical Path Method (Cpm) Method</i>	Increased public demand for stable internet network services requires companies engaged in telecommunications to always improve their technological capabilities. One way to improve technological capability is to use basic materials or supporting materials, that is fiber optics (FO). PT. XYZ is a company engaged in the field of telecommunications since 1856. In general, projects in PT. XYZ frequent delays, one of the most influencing factors that are not applying the method appropriate to the type of project. If the project schedule does not use a method that is appropriate to the type of





		<p>project being undertaken, then the result is a delay in the implementation of the project. In a project with small or large scopes, processes such as defining activities, sorting activities, estimating duration and making the Schedule Model are so closely tied to each other that they can be viewed as a Single Process that can be done/done by a person in a relatively short period of time. Therefore, this study focuses on the design of the feeder cabling project schedule in STO Nanjung by using CPM method. The calculation results using the CPM method indicate that the completion time of the Feeder FO cable project is 46 days with 16 critical activities.</p>
78	<p>Irmayanti Syam and Rachmadita Andreswari. <i>Business Process Reengineering of Credit Loan Approval based on BPMN</i></p>	<p>The business processes in each company are certainly different. Business processes in companies describe how the flow of a process occurs, to produce products or services to customers. To facilitate understanding of the flow of a process, modeling is needed. Modeling business processes as a trend in business to describe the flow of business activities that exist in the company. Some industrial sectors such as banking certainly need to model their main business processes, in order to improve company performance. The credit business process is the focus of the author to conduct research. Because credit loan is the biggest income at the Bank. However, many are abusing credit, which has an impact on the Bank itself. This study analyzes the existing business processes on bank credit and designs the proposed business process using Business Process Modeling Notation (BPMN). This analysis is carried out by considering the simulation results from the modeling that has been made in the diagram so that the results obtained are the level of utilization that is available to the employee, the existing waiting time, and the costs spent on each activity. The output given is in the form of business process modeling that is designed generally to each bank credit system in Indonesia.</p>
79	<p>Hanafi Hanafi. <i>Enhance Dynamic Convolutional-NN to Increase Contextuality Understanding of Product Review to Produce Effectiveness Product Recommendation</i></p>	<p>-commerce is one of the most popular service applications in the world in the last decade. It has change became revolution model from traditional shopping transaction become an entirely online transaction. E-commerce needs essential AI (artificial intelligent) to serve information about the product to the customer that called recommender system. Collaborative filtering is a model of a recommender system in which successful to applied in e-commerce. However, they have a weakness in product sparse data where the number of rating very low. Text sentence document is part of feedback from a customer that can be converted to rating prediction. According to a traditional approach, such bag of word and lexicon model are ignored in a contextual approach. In this study, we develop a novel approach to increasing contextuality of the text sentence aiming to improve effectiveness in rating prediction. We consider exploiting subclass of a convolutional neural network to generate item latent factor to predict the rating. Our method has outperformed over traditional approach and previous work based on the qualitative test, and also, we have to incorporate with probabilistic matrix factorization to generate a recommendation. In this experiment, we have outperformed over state of the art based on RMSE test by use several type datasets</p>





81	<p>Muhammed E Abd Alkhalec, Deden Witarsyah Jacob, Mohd Farhan Md Fudzee, Shahreen Kasim, Azizul Azhar Ramli and Muharman Lubis. <i>The Role Of Trust To Enhance The Recommendation System Based On Social Network</i></p>	<p>Social network is one of the powerful resources of the information to the society. It's a group of nodes engaged with each other in order to share the information. The social network is everywhere around us, its growing fast and changing our daily life. Trust relationship can play an important role to extract the useful information from the social network. In fact most of the people like to have information from the trusted sources. Trust-aware Recommendation Systems (TaRSs) is proposed in order to overcome the limitations of traditional recommendation system. Collaborative Filtering (CF) is the most famous approaches in RSs. CF is facing many limitations due to the lack of the information available such as Cold start, Sparsity and Shilling attack. The motivation of this work based on fact that social networks is rich with the trust relationship between user which can boost and enhance the CF limitations. Even though there are many researchers focusing on trust in the recommendation system but there are less works highlighting the role of trust in the recommendation system. This paper focuses on the how the trust relationship can help to enhance the traditional recommendation system and overcome some of the limitations in collaborative filter approach</p>
82	<p>Jantana Panyavaraporn, Petcharat Limsupreeyarat and Paramate Horkaew. <i>DWT/ MFCC Feature Extraction for Tile Tapping Sound Classification</i></p>	<p>Tile tapping sound inspection is a process of construction quality control. Hollow sound, for instance, indicate low quality tessellation and hence voids underneath that could lead future broken tiles. Hollow-sounding inspection was often carried out by construction specialist, whose skills and judgement may vary across individual. This paper elevates this issue and presents a deep learning classification method for computerized sounding tile inspection. Unlike existing works in the area, where structural details were assessed, this study acquired tapping sound signals and analyzed them in spectral domain by using Discrete Wavelet Transform (DWT) and Mel-frequency Cepstral Coefficients (MFCC). The dull versus hollow sounding tile were then classified based on these features by using a Convolutional Neural Network (CNN). The experiments carried out in a laboratory tessellation indicated that the proposed method could identify dull from hollow-sounding tiles with very high accuracy up to 93.67%. The developed prototype can be used as guideline for devising a tiling inspection standard.</p>
85	<p>Giva Andriana Mutiara, Nanna Suryana and Othman Mohd. <i>Multiple Sensor on Clustering Wireless Sensor Network to Tackle Illegal Cutting</i></p>	<p>This paper is intended to purpose a simply designed system using Wireless Sensor Network application. It is a multiple sensor to tackle illegal cutting in the stage of a timber harvesting. This paper also discusses network performance of the purposed system. The system built using combined sound sensor and vibration sensor in which incorporated using Xbee Pro S2C. It is considered as a communication module at each sensor nodes and Arduino Nano to process the data. The Wireless Sensor Network has been designed in three networks with configuration of master and slave nodes in each network. This system was testing using several scenarios to have the data performance of the networks and the performance of the proposed system. The result shows that the optimum distance that can be applied in the WSN network as a real-time application using Xbee Pro S2C is less than 30 meters. Therefore, the more slaves in the sub network affect the performance of the system. The proposed system</p>





		running smoothly. All the testing is 100% completed and can be handled by the proposed system
86	Nurazean Maarop, Deden Witarasyah Jacob and Surya Sumarni Hussein. <i>Information Security Management System Success Measurement Tool</i>	Information security matters are becoming significant elements in daily life and the concern is even more vital in organizations as they need to warrant that their information systems are appropriately secured. Hence, the Information Security Management System (ISMS) has offered many benefits in improving overall organizational security performance, efficiency and management of information. Nevertheless, there is still limited tool to be applied when assessing ISMS implementation success in organization. In most literature within the Information Systems domain, the success or failure of the implementation of ISMS is highly dependent on the level of success indicator of net benefits be it on the individual or organization. This study presents the development of ISMS success measurement tool based on the procedures and the statistical analysis of pilot study. The overall aim is to validate the items relevancy of ISMS implementation. This study occupies an acceptable pilot sample size of thirty eight respondents through quantitative survey distributed purposively among Malaysian government agencies' employees who have experienced with ISMS implementation and application. As a result, this study proposes ISMS success model measurement tools comprising thirty five measurement items.
88	Siti Isnaine Haini, Nor Zairah Ab.Rahim and Norziha Megat Mohd. Zainuddin. <i>Factors Influencing the Adoption of Open Government Data in Public Sector: A Systematic Literature Review</i>	Open Government Data (OGD) adoption has been extensively studied; however, few have examined the success factors of OGD adoption in the public sector context. The benefits of leveraging data in enhancing public service delivery have been a significant concern to the top management of the public sector in providing them insight for strategic planning together with timely decision making. The aim of this paper is to review recent literature from the year 2010 to 2018 on OGD adoption at the organizational level in the public sector context. As derived from 25 selected papers, this study has identified 16 factors that influence the OGD adoption which has been categorized into three main dimensions; Technological, Organizational and Environmental (T-O-E). Policy, technological competence, top management support and organization culture are among the most influential factors of OGD adoption. Therefore, this study is expected to assist other researchers to understand the current stage of OGD adoption in terms of influential factors, research domains and research methodology.
90	Surya Sumarni Hussein, Mohd Naz'ri Mahrin, Nurazean Maarop and Nur Azaliah Abu Bakar. <i>Development and Validation of Enterprise Architecture (EA) Readiness Assessment Model</i>	Enterprise architecture (EA) proves to be holistic strategy in aligning business and information technology. An increasing number of organisations, especially in the public sector, have adopted EA in order to take advantage of the opportunities that it offers. Through EA the efficiency of the organisation is improved, with optimisation of resources and the elimination of duplication and redundancy. However, the successful establishment of EA relies on the organisation's readiness and ability to adopt EA practices because without proper readiness, the practices will probably fail. EA readiness refers to the assessment of how ready an organisation is to adopt and to establish EA practices. EA readiness helps the organisation to measure their stage of readiness, to identify any gaps, and then to redesign its strategy in order to adopt EA practices. EA is a merger





		<p>between business and IT, thus the important elements of EA readiness should comprise of people, process, technology, and catalyst enabler. There is a lack of readiness of an assessment model that shapes this four elements towards EA, hence, a clear gap has been identified. Therefore, the objective of this study is to validate the EA Readiness Assessment Model (EARAM) by performing the Delphi technique. The study adopts a three-round Delphi Technique to verify the identified elements and factors and this is followed by developing and validating the proposed model. Results from the Delphi analysis have validated four (4) major elements of EARAM, namely people, process, technology, and catalyst enabler. The number of factors that contributes towards the readiness of EA establishment is fourteen (14). It is anticipated that this model (EARAM) can help the Malaysian Public Sector (MPS) organisation to identify and understand the elements and factors that must be considered when assessing the readiness to practice EA.</p>
91	<p>Hamzah Abdul Ba'Its, Ika Arum Puspita and Achmad Fuad Bay. <i>Combination of Program Evaluation and Review Technique (PERT) and Critical Path Method (CPM) for Project Schedule Developmen</i></p>	<p>One of the problems faced by the contractors is an inappropriate scheduling method. For project scheduling, the contractor using Bar chart. Although this method can still be used, but in its application is limited to scheduling large-scale projects, because this method cannot describe the interdependence of activity. The problem can be solved using Program Evaluation and Review Technique (PERT) and Critical Path Method (CPM). PERT is a method that can be used to estimate the duration of activity and can calculate the probability of project time completion, while CPM is a scheduling method used to find the path of critical path and can describe the relationship between activities. Scheduling results using CPM found that the minimum duration to complete the project was 135 days with 20 activities on the critical path with 50% project probability. Further analysis using PERT found that for a greater probability of the project completion was 68% for 139.78 days duration, 95% for 144.56 days, and 99.7% for 149.34 days.</p>
92	<p>Rachmadita Andreswari, Ismail Syahputra and Muharman Lubis. <i>Performance Analysis of Process Mining Algorithm in Process Cube: a Case Study</i></p>	<p>Databases that are processed in the form of Online Analytical Processing (OLAP) are able to solve large query loads that cannot be resolved by transactional databases. OLAP systems are based on a multidimensional model commonly called a cube. In this study OLAP techniques are applied in process mining which is a method for bridging analysis based on business process models with data-based analysis. Similar to data mining, in the process mining there are algorithms that are implemented in making process models. This study implements the heuristic miner algorithm to be compared with genetic algorithms. Both of these algorithms have good ability in modeling processes and have high accuracy. The results of this study indicate that genetic algorithms have better performance in modeling event logs based on process cube. But in terms of the speed of making process models, heuristic miners are able to model faster.</p>
93	<p>Taufiq Immawan, Annisa Indah Pratiwi and Winda Nur Cahyo. <i>The Proposed Dashboard Model for Measuring Performance of</i></p>	<p>The era of free market and the more dynamic environment condition forces many companies to establish the proper strategy. Implementation of a correct strategy can increase the effectiveness and efficiency of the company resources. The system of measuring performance is one of models used to monitor the success of implementing objective strategy which has been determined by the</p>





	<i>Small-Medium Enterprises (SME)</i>	<p>leader of the company, including SME (small-medium enterprise). However, a lot of SME do not have clear vision and strategy. It is because the SME orientation only focused on more dominant operational performance. Therefore, smart system can be used to arrange a parameter of performance measurement. AHP (Analytic Hierarchy Process) is used to determine the priority from each criterion from KPI (Key Performance Indicator). Knowing the proper need, the company can determine the reparation priority to be done if the company has limited fund and resources. Moreover, the assessment system used in this research uses OMAX (Objective Matrix) method for each KPI. To assess, the measurement uses the concept of traffic light system using 3 colors: green (achieving a target), yellow (close with the target), and red (far from target). Nevertheless, this KPI needs to get particular attention in the next period. The research observes 3 SMEs located in Krebet tourism village. They are SME Ragil Handicraft, SME Sanggar Punokawan and SME Yuan art. The result shows that there are 31 keys performance indicators (KPI) used to measure the performance of SME. The assessment result of OMAX shows that there are still a lot of KPIs with red color. Thus, they need to be repaired. Knowing the performance of SME still far from target (red), the sources of the problem can be identified, so that the reparation target done by SME is more appropriate</p>
94	<p>Haris Rachmat and Mohd. Rasidi Ibrahim. <i>Design and Investigate of Flushing System for Electrical Discharge Machining (EDM) Application</i></p>	<p>Electrical Discharge Machining (EDM) is high precision machining process in which no actual contact between the workpiece and electrode during sparking. Dielectric fluid play a role as flushing medium and semiconductor between workpiece and electrode to stabilization and controlled spark gap ionization condition. In real condition, nozzle flushing system in EDM machine not able to complete remove debris formed during machining and affect the machining performance. Improper flushing due to lack of guideline at setup position of nozzle and inlet pressure caused low material removal rate, irregular tool and higher cost on raw material. To overcome this problem, the design and investigate of flushing system in EDM application is required. The design and investigation undergo by simulation of ANSYS Computational Fluid Dynamics (CFD) with a virtual experiment to accurate prediction of flushing performance. The influence of nozzle size and inlet pressure supplied on flushing efficiency were analyzed to avoid improper flushing on die-sinking EDM process. The simulation and experiments clarified that the higher inlet pressure, $P=0.20$ bar and larger nozzle diameter, $D=6$mm resulting in higher total pressure which is 2647.16 Pa. Furthermore, the streamline of velocity and eddy viscosity contour in the work tank using to analyze the turbulence zone by nozzle flushing obtained by the CFD analysis. The condition in case 5 ($D=5$mm, $P=0.15$ bar) is more efficiency on debris removal rate based on the result of high total pressure on machining zone and eddy viscosity contour showed the turbulence zone only formed area near to outlet of system. The model results have been shown good agreement with experiment and correlation data.</p>
95	<p>Shazlyn Milleana Shaharudin, Norhaiza</p>	<p>Singular spectrum analysis (SSA) is a popular time series method to extract the trend and noise components from the time series data.</p>





	Ahmad and Nursyarafina Mohamed. <i>Performance analysis and validation of modified singular spectrum analysis based on simulation torrential rainfall data</i>	However, SSA has drawback where it face a problem in determine the appropriate window length, L for certain data set in ensuring that the trend and noise components are clearly separated. Another issue that crops up when using SSA is that the daily amount of rainfall is approximately similar over a period of time. In this case, disjoints sets of singular values and different series components could actually be mixed with each other, resulting in poor separability between trend and noise components. In order to effectively overcome the above shortcomings, modified SSA is introduced to mitigate these problem. The performance of modified SSA is measured by using w-correlation and RMSE based on simulated data. These results show that the parameter $L= T/5$ was suitable to use in short time series rainfall data. It can be proved by the plot of the extracted trend for modified SSA appear to follow the pattern of the original time series rainfall data despite the exclusion of noise components particularly for $L=T/5$ in order to detect the abnormally heavy rainfall that can cause torrential rainfall events.
96	Rino Andias Anugraha and Sofian Mohd. <i>Simulation Study of Wind Turbine System for Electric Powered Vehicle</i>	The present study investigated the airflow characteristics of wind turbine system to harness wind energy for electric powered pickup truck. The wind turbine consists of the rotating drag type rotor installed in the duct casing for wind concentrator. The geometry of the wind turbine system was modelled using SolidWorks software. The additional features of guide vane, additional outlet channel and second rotor blade were implemented to improvise the performance of previous design. CFD simulation work was conducted using commercial software of ANSYS Fluent. Initial inlet velocity were set for three different values i.e. 16.7m/s (60 km/h), 25m/s (90km/h) and 33.3m/s (120km/h). The results obtained indicated that the new design of duct casing with guide vane is capable to increase the air speed. The circulated air trapped in the duct casing which caused the negative torque of the rotor blade to occur were significantly reduced and increase the angular velocity as the additional outlet channel was introduced in the system. In addition, the implementation of double rotor blades in the modified design tends to increase the power generated by a factor of 1.5 as compared to the single rotor blade system.
97	Haris Rachmat and Ibrahim Masood. <i>Part Design for Geometric Dimensioning and Tolerancing</i>	In metrology and measurement, implementation of geometric dimensioning and tolerancing (GD&T) is essential in quality inspection of precision parts. Learning and training GD&T is an important contribution in this field. Nevertheless, there is less reported work on standard masterpiece designed for this purpose. In this study, a physical masterpiece design with its inspection procedures was proposed for learning 14 types of GD&T features such as flatness, parallelism and others. Dial test indicator and coordinate measuring machine have been utilized for the physical contact inspection. Variation between 0.002 ~ 0.008 mm was obtained based on the proposed inspection procedures. This study will be useful for a quality practitioner in precision parts inspection.
98	Rino Andias Anugraha, M. Zulafif Rahim and Rasidi Ibrahim. <i>The Influence of Graphitization Catalyst</i>	Electrical Discharge Machining (EDM) is a non-contact machining process that become famous in machining of Polycrystalline Diamond (PCD). The material is typically used as the cutting tools for aerospace and automotive industries. This investigation purposely designed to





	<i>Electrode in Electrical Discharge Machining of Polycrystalline Diamond-Finishing Condition</i>	investigate the influence of different types of electrode which are Copper (ordinary electrode) and Copper-Nickel (newly proposed graphitization catalyst electrode) on EDM performance of MRR and Ra. Interestingly the newly proposed electrode gave positive impact to the investigated performance indication. Cu-Ni electrode recorded 35% better in MRR than the Cu electrode, though with higher short circuiting rate. Cu-Ni also provided the lowest Ra value with 10% better than the best Ra produced by Cu electrode. This phenomena occurred as due to the high interaction between the catalyst materials of nickel and diamond which supported by the qualification data provided in this investigation.
99	Haris Rachmat and Noor Hakim Rafai. <i>The Effect of Drill Reamer Tool on Cutting Force and Temperature when Machining with Different Parameters and Cutting Condition</i>	Normally in manufacturing process, drilling and reaming are separate processes. However a new tool is developed which combined both processes. In this study, the performance of a new drill reamer is studied in terms of cutting force and temperature under internal cooling, external cooling and minimum quantity lubricant (MQL) condition. Three types of tools is used to machine aluminum; 140° twist drill, 140° and 180° drill reamer. Various values of feed were involved while cutting speed and depth of cut are kept constant. From the result it showed that 140° twist drill has produced low cutting (thrust) force and temperature. In addition, low value of cutting force and temperature were also generated when applying low feed and internal cooling condition for all tools.
101	Agung Kurniawan, Fransiskus Tatas Dwi Atmaji and Judi Alhilman. <i>Design of remote temperature monitoring system on automatic filling R125 Shinva machine using LM35 sensor and Arduino uno microcontroller</i>	This paper proposed a design of remote temperature monitoring system of R125 Shinva's automatic filling machine. The R125 Shinva's automatic filling machine is one of the machine on SF company which the main function is fulfilling the infusion liquid in to the infusion packaging, this infusion liquid is mainly used for the human medical treatment. Based on the failure history data, this machine has highest downtime among the others and one of fatal failure is caused by the overheating of the heat element in infusion liquid bag's transfer system. Using the proposed design, temperature of heat element can be monitored in real time condition and also giving notification for the maintenance team for the next maintenance action. With the power of cloud based technology, the monitoring system not only on site monitoring but also can used a web server monitoring, and mobile monitoring system.
103	Rini Handayani, Simon Siregar and Ressay Aryani. <i>Implementation of Wireless Data Communication Protocols Using Store-and-Forward Method</i>	The store-and-forward method is one of the communication methods that it has a definite routing path for data transmission, so there is no error in sending data between nodes. This method has a file storage in each node that contains the acceptance of files from the previous node, the data to be processed to ensure a file belongs to a particular node. The protocol used in this communication method is the TCP (Transmission Control Protocol) protocol because it supports reliable, one-to-one, half duplex, and handshaking methods for communication. In this final project, built a prototype of data transmission communication between nodes using store-and-forward method. In the master and node is already installed APC220 communication module, communication starts from the master that sends data to turn on or turn off the light to a certain node according to which push button is pressed, each push button has its own identity. Delivery is done sequentially from master to node one then





		forwarded to node two, and so on until the destination node successfully receives the data. The experiment results show the system is working as the proposed forward and store system with maximum error rate 5,04% in 50 meter range.
105	Dani Gunawan, Amalia Amalia, Abdurrohman Abdurrohman and Romi Fadillah Rahmat. <i>Observing the Performance of the TextRank Algorithm on Automatic Text Summarization for Bahasa Indonesi</i>	The research about automatic text summarization is common in English text. However, it is still a challenging topic in Indonesia as there are not many researchers work in this area. This research utilizes original TextRank algorithm and modified TextRank with Levenshtein Distance to summarize the text in Bahasa Indonesia. As the comparison, we use the human-produced summarized text by the expert in Bahasa Indonesia linguistics. The evaluation method is conducted by using ROUGE-1 and ROUGE-2. The result shows that the average of ROUGE-1 and ROUGE-2 for the TextRank algorithm is 0.439 and 0.3186 respectively. Meanwhile, the modified TextRank obtains 0.3999 and 0.2805 respectively. Both of the algorithms do not show a good performance as expected.
107	Muharman Lubis and Arif Ridho Lubis. <i>Means of Engagement Towards Online Da'wah and Student Perception in Malaysia: Principal Component Analysis</i>	In the name of Allah, most Gracious and most Merciful. The advancement of technology give much benefit to the ummah in terms of support their daily routine task or improve the quality of the work, either in the form offline or online. Due to the accessibility, richness, flexibility and rapidness of content delivery, some Muslim uses the technology to spread Islamic wisdom such as da'wah through online media. Theoretically, the adoption of the technology will deliver successes in term of encouraging other Muslim to improve their quality of Ibadah (worshiping Allah) and invite the non-Muslim to look after the beauty of Islamic tenets. The issue arises due to the significant changes of social awareness towards the content of the da'wah which previously distribute through traditional approach in the form of paper, poster or book. This paper will explore the means of engagement in online da'wah, which targeted student as the audience. Meanwhile, there are several factors such as society trust and understanding level from different users, which do not always provide the optimal support for the uses.
108	Sri Widaningrum, Musli Bin Mohammad and Mohd Rasidi Bin Haji Ibrahim. <i>Integration the 6th category Business Excellence Framework, the 8th clause ISO 9001:2015 and the 6th category KPKU Indonesia Framework</i>	KPKU (Kriteria Penilaian Kinerja Unggul) Indonesia framework 2015 adopted Business Excellence Framework 2013-2014, that is a framework used by the Ministry of State-Owned Enterprises of the Republic of Indonesia to assess the performance of State-owned enterprises in Indonesia. One of the KPKU criteria is operation, that is the most dominant criteria in company performance. They are proven by the score in Baldrige Excellence Framework (110 point is the highest score) for product and process results which are influenced by operational criteria in the 6th category of BEF. Currently, Indonesia does not have yet business excellence framework based on companies in Indonesia and does not have yet Indonesia operational excellence model, either in Indonesia or based on previous research. Currently, there is no model that integrates (Baldrige Excellence Framework, ISO 9001: 2015, and KPKU). This research will develop the Indonesia operational excellence model based on the Baldrige Excellence Framework, ISO 9001:2015, and KPKU Indonesia framework. This research using literature survey approach, identifying and integrate category and clause. The results of the study are the Indonesian operational excellence framework that consists of 5





		criteria and 14 sub-criteria, namely Product and Process Design, Process Management, Process Efficiency and Effectiveness, Process Improvement, and Safety and Emergency Preparedness. This model is appropriate for company performance measurement, especially operational performance
112	Hendra Hidayat, Boy Yendra Tamin, Susi Herawati, Zadrian Ardi, Eri Syahmaidi, Anggarda Paramita Muji and Muhammad Sahnan. <i>The Contribution of Internal Locus of Control and Self-Concept to Career Maturity in Engineering Education</i>	Students are faced with the choice to continue their education to a higher level of work after completing their education, including engineering education students. However, the fact is that the students who have completed their education cannot determine the direction of career planning. This phenomenon implies that students do not have career maturity, especially in entrepreneurship. Career maturity is influenced by several factors, including locus of control and self-concept. This study aims to describe the internal locus of control, self-concept, and career maturity, test the contribution of internal locus of control and self-concept towards the career maturity of engineering education students in entrepreneurship. This study used multiple regression analysis. The research sample was 218 people consisting of students at private universities in West Sumatra, Indonesia. Data collection was done by using inventory Locus of Control and Self Concept. The research findings show that: (1) on average the description trust of internal locus of control is in the high category, (2) the self-concept is in a positive category, (3) career maturity is in the high category, (4) there is contribution of locus of control internal to career maturity of 7.5% (R = 0.275, significance of 0.000), (5) there is a contribution of self-concept to career maturity of 7.2% (R = 0.268, significance of 0.000), and (6) there is a joint contribution of locus of internal control and self-concept of career maturity by 11% (R = 0.332, significance 0.000).
113	Muna Azuddin and Dr. Sofianiza Abd Malik. <i>Mobile Devices: Older People's Learning Experiences</i>	Mobile devices have benefit a lot of people, including older people. This technology has supported older people in many ways especially to promote independent ageing. However, there are issues that older people faced in using mobile devices. This study aims to understand mobile device learning experiences among older people. This study used interviews and focus groups to collect data among 21 older people, aged 55 and above. This study found that older people initially experienced three stages of learning process; beginner, intermediate and advance. There are several learning techniques or resources required by older people to learn to use mobile devices. These resources are very critical for older people to maintain their positive emotions and attitudes. This study enhance knowledge in user experience domain which can assist mobile designer to develop useful and usable mobile devices for older people and others.
117	Rokhman Fauzi, Suhono Harso Supangkat, Muharman Lubis and Deden Witarasyah. <i>Proposed Framework for Assesing the Maturity of Information Technology Risk Management</i>	The process of reviewing, evaluating and improving Information Technology Risk Management in an organization requires some key information summarized in the process maturity profile. In general, the Information Technology Risk Management Standard / Framework does not have a mechanism to assess the Maturity Level of the implementation of the process. This research was conducted to develop a framework that can be used to assess the IT Risk Management Maturity Level based on ISO / IEC 27005. Implementation of these standards-based management systems can be represented as a cycle model of Plan, Do, Check and Act. The





		<p>proposed Assessment Framework consists of a Model, Method and Working Paper. The model consists of Assessment Areas (Plan, Do, Check and Act), Assessment Area Details (8 Domains, 35 Subdomains, and 82 Elements), as well as Assessment Metrics and Criteria. The Working Paper is prepared as a support for the implementation of the assessment. Assessment using this Assessment Framework can show the representation of the Maturity Level of the entire process in Information Technology Risk Management based on clauses in ISO / IEC 27005. This Framework complements the existing model (Mayer & Fagundes, 2009) with (1) representation of one cycle Plan, Do, Check and Act, (2) assessment metrics, (3) more comprehensive data collection methods, and (4) presentation of priority lists of Elements that must be repaired and / or improved.</p>
119	<p>Asmar Yulastri, Hendra Hidayat, Ganefri and Ildil. <i>Contribution of Production-Based Learning, Student Engagement, And Locus of Control Towards Entrepreneurship Learning Outcomes in Engineering Education</i></p>	<p>This study was conducted because of the entrepreneurship learning outcomes in engineering education have not been able to give a positive impact on students' interest in entrepreneurship. Production-based learning, student engagement and locus of control were assumed to be the influencing factors on entrepreneurship learning outcomes. The purpose of this study is to describe and test the contribution of production-based learning, student engagement and locus of control to entrepreneurship learning outcomes. This research used the quantitative method with correlational descriptive. The population was all students who take the entrepreneurship course in engineering education for 2600 people, and the sample is 307 students who were selected using proportional stratified random sampling. This research tool is the Likert scale and test for entrepreneurship learning outcomes where its validity and reliability had been assessed. Data were analyzed using descriptive statistics, simple regression and multiple regressions. The research findings indicate that there is a contribution of production-based learning, student engagement, and locus of control towards entrepreneurship learning outcome. There is also the contribution of production-based learning, student engagement and locus of control collectively to the entrepreneurship learning outcome.</p>
121	<p>Tien Kusumasari, Bambang Riyanto Trilaksono, Atya Nur Aisha and Fitria Fitria. <i>Competency Profile for Software Development Team that Support Project Success</i></p>	<p>Along with the development of ICT, software development projects are a significant part. The success of software development depends very much on the competencies possessed by human resources within the development team. These competencies include hard and soft skills. In this study, a team competency model will be proposed which consists of the minimum competency level for the project manager, analyst, and programmer job roles. The method used to determine the competency model is to use the Focus Discussion Group (FGD) by adopting the Behaviour Event Interview (BEI) technique. The Expert judgments, questionnaires, and team member interview do the competency validation. This research provides the results of profiling the competency of the software development team on project manager job analysts, analysts, and programmers. The results of the analysis can be useful for the recruitment team as a way to get the right individuals to ensure the success of the project.</p>
123	<p>Batoul Alwatben Rashed, Hazlina Hamdan, Nurfadhlina Mohd Sharef,</p>	<p>Abstract— Clustering as an unsupervised method is used as a solution technique in various fields to divide and restructure data to become more significant and to transform them into useful information.</p>





	Mansir Abubakar, Md Nasir Sulaiman and Razali Yaakob. <i>Multi-objective clustering algorithm using particle swarm optimization with crowding distance MCP SO-CD</i>	Currently, clustering is being a difficult problem and complex phenomena due to the fact that appropriate number of clusters is unknown, the large number of potential solutions, and the dataset being unsupervised. The aforementioned problems can be addressed by Multi-objective Particle Swarm Optimization (MOPSO). In Knowledge Discovery settings, complex optimization problems are globally explored with Particle Swarm Optimization (PSO). Lack of appropriate leader selection method becomes a serious issue associated with PSO techniques. In an attempt to address this problem, we proposed a clustering-based method that utilizes the crowding distance (CD) technique to balance the optimality of the objectives in Pareto optimal solution search. We evaluated our method against five clustering approaches that have succeeded in optimization, these are: the K-means Clustering, the IMCPSO, the Spectral clustering, the Birch, and the average-link algorithms. The results of the evaluation show that our approach exemplifies the state-of-the-art methods with significance difference in all most all the tested datasets
126	Mouli De Rizka Dewantoro, Agus Achmad Suhendra and Anton Abdulbasah Kamil. <i>Geo-Business Intelligence A Literature Review on Framework and Practice</i>	This research has the purpose to examine how implementation of the geo-business intelligence has ever done. The development of the geo-business intelligence happens, and where business geo-business intelligence is currently based on the study of literature. GEO business intelligence be one of BI an exciting future for BI Provider can be offered. The description is taken from a few examples of the application of the geo-business intelligence showed how the geo-business intelligence research be very interesting to offer and a very potential as business data analysis. The results of this research is one example of the application of the geo-business intelligence behind the success of the worlds largest coffee shop. The use of geo-business intelligence for the determination of the location of the new store so it doesn't turn off the stalls have been opened previously and determines new menu according to the characteristics of the existing demographics. Another advantage of geo-business intelligence is the integration between the sales transactions data and data.
130	Shipun Anuar Hamzah, Fauziahanim Che Seman, Shaharil Mohd Shah, Khairun Nidzam Ramli, Mohd Shamian Zainal, Mohamad Md Som, Mohamad Sukri Mustapa, Mazlina Esa and Nik Noordini Nik Abd Malik. <i>A Triple-Band Dipole Antenna with Harmonic Suppression Capability</i>	This paper presents a triple-band dipole antenna with harmonic suppression capability that has a potential to be applied in the LTE/WLAN and energy harvesting systems. The proposed antenna has three parasitic elements and a stub to suppress the harmonic of higher order modes. Initially, the antenna resonates at 0.9 GHz, 2.7 GHz and 5.4 GHz. Hence, the parasitic elements are added into each of the dipole's arm to tune the second and third frequency band to 2.4 GHz and 5.8 GHz. However the presence of these three parasitic elements has gen-erated an unwanted harmonic at 4 GHz. Therefore, a stub has been connected to the terminal of the antenna to eliminate that frequency. The final design is now consists of a triple frequency bands (0.8 GHz, 2.4 GHz and 5.8 GHz) which are free from the harmonics. The corre-sponding measured reflection coefficients on those frequencies are -32.42 dB, -18.28 dB and -27.10 dB. The antenna is fabri-cated on a FR-4 board with a relative permittivity, ϵ_r of 4.3, loss tangent, $\tan \delta$ of 0.0190 and thickness, h of 1.6 mm. The total size of the substrate is $72 \times 152 \text{ mm}^2$. The simulated and the





		measured results are in a good agreement, which validates the proposed antenna design.
131	Alam Rahmatulloh, Irfan Darmawan, Deden Winarsyah Jacob, Neng Ika Kurniati and Adi Zaenal Asyikin. <i>Comparison of the Effects Stemmer Porter and Nazief-Adriani on the Performance of Winnowing Algorithms for Measuring Plagiarism</i>	Current technological developments change physical paper patterns into digital, this has a very high impact. Positive impact because paper waste is reduced, on the other hand, the rampant copying of digital data raises the amount of plagiarism that is increasing. At present, there are many efforts made by experts to overcome the problem of plagiarism, one of which is by utilizing the winnowing algorithm as a tool to detect plagiarism data. In its development, many optimizing winnowing algorithms used stemming techniques. The most widely used stemmer algorithms include stemmer porter and nazief-adriani. However, there has not been a discussion on the comparison of the effect of performance using stemmer on the winnowing algorithm in measuring the value of plagiarism. The results of this study indicate that the effect of nazief-adriani stemmer on the winnowing algorithm is superior to the stemmer porter, only decreasing the detection performance of the 0.28% similarity value while the porter stemmer is superior in increasing the processing time to 69% faster.
132	udi Alhilman, Damanhuri Nurul Huda and Budi Laksono Putro. <i>Maintenance Policy Application Using Overall Equipment Effectiveness And Reliability Centered Maintenance</i>	In the field of maintenance management, the use of the Overall Equipment Effectiveness (OEE) and Reliability Centered Maintenance (RCM) method is often done to determine and analyze the reliability of a machine in the company. In practice, both of these methods was felt quite complex as there are many formulas and calculations to be done. To make it easier we need a by creating a software about using the OEE and RCM methods that are user friendly, this application is made using the C # programming language. The ability of this applications include inputting the data and the necessary information, then among other things is the value of the machine effectiveness, the six big losses, the biggest losses, the inspection schedule, the type of maintenance and the cost of maintenance required. This application is very helpful in determining the policies and analyze the reliability of the machine
134	Nur Saadah Zainal, Zaleha Mohamad, Mohammad Sukri Mustapa, Nur Azam Badarulzaman, Mohd Rasidi Ibrahim, Abdullah Zulfairis Zulkifli and Jayaprakash Murugesan. <i>The Ability of Crystalline and Amorphous Silica from Rice Husk Ash to Perform Quality Hardness for Ceramic Water Filtration Membrane</i>	Silica is an inexhaustible resource on earth. It can be found in food-based natural resources. The natural tendency of silica mainly is to contribute to the strength and the hardness of the ceramic material. This paper investigates the hardness formed in ceramic filtration membrane made by amorphous and crystalline silica from rice husk. Four samples from this material were studied based on unwashed and washed material with chemical, namely, crystalline silica treated with chemical (CS1), crystalline silica untreated with chemical (CS2), amorphous silica treated with chemical (AS1) and amorphous silica untreated with chemical (AS2). To acquire the silica phases, the rice husk was experienced to combustion process at 700°C and 1000°C for 2 hours. The properties of the silica were obtained by using Scanning electron microscopy (SEM) and x-ray diffractometer (XRD) while the value of the hardness was tested by using microhardness tester machine. As a result from SEM both samples of AS1 and AS2 produced an irregular, crinkled, or grainy surface of silica and for sample CS1 and CS2 produced were flushed, unwrinkled and planar surface. For the high hardness value, crystalline silica treated with chemical (CS1) sample was obtained with 171.0.





135	Abdullah Wagiman, Mohammad Sukri Mustapa, Rosli Asmawi, Shazarel Shamsudin, Mohd Amri Lajis, Farazila Yusof, Waluyo Adi Siswanto, Mohd Shahir Yahya and Mohamad Hussein Rady. <i>Effect of Chip Treatment Variables on Chip-based Feedstock Density in Direct Recycling of New Aluminium Scrap</i>	Direct recycling of new aluminium scrap using hot extrusion is an alternative technique towards sustainable manufacturing. The process can be used to transform the scrap into a product in melt less condition. Process prior to hot extrusion plays important role in producing free-defect microvoid extrudates. The microvoid is formed due to air entrapment that came from a porous chip-based feedstock. In this work, AA6061-T651 chips undergo annealing before compact in order to produce high-density chip-based feedstock. The experiment is performed according to 23 full factorial design and ANOVA is used to identify the significant parameters affecting the density. After compaction, the chip-based feedstocks were visually inspected and tested. ANOVA test shows that all the investigated parameters such as compaction pressure, annealing temperature and annealing time are statistically highly significant. Compaction pressure was the main parameter followed by annealing temperature, the interaction of annealing temperature and annealing time, annealing time and interaction terms. At high annealing temperature, annealing time does not significantly affect the density. However, the annealing time plays an important role at the low annealing temperature. Chip-based feedstock made from the non-annealed chip has a lower relative density. Feedstock density of 97.1% is obtained when using the annealed chip. The higher the billet density the lesser void appear on the surface
136	Mohammed Hussein Rady, Mohammad Sukri Mustapa, Abdullah Wagiman, Rosli Asmawi, Shazarel Shamsudin, Mohd Amri Lajis, Mohamad Norani Mansor and Mohd Azhar Harimon. <i>Effect of Heat treatment on Mechanical and Physical Properties of Direct Recycled Aluminium Alloy (AA6061)</i>	The present study is aimed at investigating effect of heat treatment on mechanical and physical properties of aluminium alloy chips when subjected to various settings of preheating temperature and preheating time. The values of preheating temperature were 450 °C, 500 °C, and 550 °C. On the other hand, three values of preheating time (1, 2, 3) hours were chosen. By using Design of Experiments (DOE) analyses, the results found that the preheating temperature is more important to be controlled rather than the preheating time in analysis both two responses, tensile strength and microhardness. The results also found that increasing of temperature led to the high tensile strength and low microhardness. The profile extruded at 550 °C with 3 hr duration had gained the optimum case to get the maximum tensile strength and the profile extruded at 450 °C with 1 hr had resulted the optimum case to gain the maximum microhardness. For the optimum cases, heat treatment was carried out using quenching temperature at 530 °C for 2 h and aging process at 175 °C for 4 h. The tensile strength and microhardness of extrudes specimens were improved significantly compared to those of non-treated specimen
137	Nurul Farahin Mohd Joharudin, Dr Noradila Abdul Latif, Pm Dr Mohammad Sukri Mustapa, Dr. Fazimah Mat Noor, Ts. Mahmod Abd Hakim Mohamad and Dr. Shipun Anuar Hamzah. <i>Effects of Non-chemical and Chemical Rice Husk Ash (RHA) on</i>	The use of low cost metal matrix composites (MMC) is increasing rapidly in various engineering fields because of their better mechanical properties. This paper presents the effects of non-chemical rice husk ash (NCRHA) and chemical rice husk ash (CRHA) on mechanical properties of recycled aluminium chips AA7075. Recycled aluminium chip AA7075 was reinforced with NCRHA and CRHA for each i.e., 2.5 wt.%, 5 wt.%, 7.5 wt.%, 10 wt.% and 12.5 wt.%. The presence of silica exists in RHA obtained after through burning process of rice husk (RH) at temperatures of 700°C for 2 hours. The samples of MMC were prepared by cold compaction method due to





	<i>Mechanical Properties of Recycled Aluminium Chip AA7075</i>	the lower energies consumption and operating cost compared to conventional recycling by casting. Micro-hardness, compression strength and microstructures analysis of the MMC samples were examined in current study. The hardness of MMC was increased at increasing of RHA. The MMC for fully chip AA7075 has improved from 53.49 Hv to 65.93 Hv for NCRHA and 69.56 Hv for CRHA at addition 10 wt.%. The strength of MMC also improved with the addition of RHA with value of 313.41 MPa for NCRHA and 342.17 MPa for CRHA at 2.5 wt.% compared to 261.51 MPa for fully chip AA7075. The microstructures of MMC were observed via optical microscope (OM) to analyze the dispersion of the reinforced composites. The microstructures of NCRHA/MMC and CRHA/MMC were found random distribution and non-homogeneous compared to fully chip AA7075. Based on investigation to aluminium reinforced rice husk ash, a chemical composite has good potential to improve the material behavior by appropriate composition of RHA to metal matrix composite.
138	Dr Noradila Abdul Latif, Nurul Farahin Mohd Joharudin, Farid Hilmi Ismail, Mohammad Sukri Mustapa, Kamarul Azhar Kamarudin, Mohd Fairuz Alias and Abd Khalil Abd Rahim. <i>Effect of strain rates on tensile properties of Kenaf Fiber and Rice Husk Silica Reinforced Polypropylene Composites</i>	The expanding interest for eco-accommodating materials, expanding exhaustion rate, and squeezing ecological controls have all set off a developing enthusiasm toward the field of composites. There is a demand for composites which not only possess good mechanical properties but also low cost, eco-friendly and lightweight. The objective of this study is to investigate the behaviour tensile under elevated strain rates of kenaf fiber and rice husk silica reinforced polypropylene composites at different grades of rice husk silica (89.09% and 94.05%) content. The samples of composite materials were prepared by using injection molding at different composite percentage of kenaf fiber, rice husk silica and polypropylene composites. Tensile test was carried out to determine the tensile stresses of the composite at the best composition ratio of kenaf fiber and rice husk silica. Overall 20 wt.% kenaf fiber and 20 wt.% rice husk silica with high silica content show the best result of yield stress, ultimate tensile strength and elongation with 20.31MPa, 20.86MPa and 13.05% compared to others composites percentage. The result shows that 2nd grade with high silica content of rice husk silica has better behaviour with increases the yield and ultimate tensile strength compared to results of 1st grade of rice husk silica.
140	Wagimin Wagimin, Elisa Kusriani, Juhari Ali and Vembri Noor Helia. <i>The Effect of Leadership on Employee Performance with Total Quality Management (TQM) as a Mediating Variable in A Indonesian Petroleum Companies</i>	The score of employees" performance of a petroleum company, for the last few years" achievement, have not yet met a significant increase. There is also a relationship between the organizational strategy, the Total Quality Management (TQM), and the organizational performance, with the mediating rules of TQM. This research is to identify and measure the level of factors that influence the effectiveness of work performance of employees who work in petroleum companies by identifying variable relationships including transformational leadership, transactional leadership, and TQM. This paper aims to determine the relationship between the variables mentioned above and the performance of employees in the oil and gas industry in Balikpapan Indonesia as samples using data from 250 employees. Analysis of the study using multivariate namely Structural Equation Modeling (SEM). The results shows that transformation leadership has positive effects on total quality management and





		employee performance. Second, transactional leadership has positive effects on total quality management and employee performance. Third, total quality management has positive effects on employee performance. Fourth, total quality management can mediate the indirect influence of transformational leadership on employee performance. Fifth, total quality management can mediate the indirect influence of transactional leadership on employee performance
142	Elisa Kusrini, Fathia Nisa and Vembri Noor Helia. <i>Lean Service Approach For Consulting Services Company</i>	The service industry sector is one of the livelihoods in Indonesia. This sector has increased from year to year. This study aims to identify and determine the amount of dominant waste in consulting service companies based on the concept of lean service and provide recommendations to minimize the occurrence of dominant waste from the causal factors. The results of the identification of waste using the value stream mapping show that there are activities that are non-value-added with a total time of 200.52 minutes of a total time of 839.01 minutes or 23.90% in the process of public training services. Based on the future state from value stream mapping after processed improvements there was founded that the time of activities that non-value-added reduced by 136.36 minutes, from 839.01 minutes to 702.65 minutes or reduced by 16.25%. The proposed improvements provided based on the analysis of critical waste causes to minimize waste dominant in the form of waste waiting are the addition of new employees for marketing, making Standard Operating Procedure, setting training price standards, and increasing bandwidth to increase internet speed in the work environment.
146	Qurtubi Qurtubi and Elisa Kusrini. <i>Research in Industrial Marketing: Issues and Opportunities Classification</i>	This article discusses about researches on industrial marketing. It is designated to provide more understanding correlated with researches conducted in industrial marketing. Literature reviews are expected to provide support to researchers in performing future researches. Literature review is employed for this article. Based on the result and discussion, it can be concluded that the researches on industrial marketing were grouped into nine topics, which are: the differences between business-to-business (B2B) marketing and business-to-consumer (B2C) marketing, theory and practices in industrial marketing, marketing-selling interface, purchasing and supply management, customer relationship management (CRM), industrial marketing strategy, advertisement and effective marketing, correlation between industrial marketing and information technology, business-to-business (B2B) digital marketing, as well as correlation between business-to-business- (B2B) marketing and social media. Therefore, the most preferable topics to be studied are theory and industrial marketing practices.
152	Ahmad Almaarif and Muharman Lubis. <i>Vulnerability Assessment and Penetration Testing (VAPT) Framework: Case Study of Government's Website</i>	Information security often neglected by individual or employee even by enterprise as whole with there is no proper strategy to raise awareness, promote consistency and maintain performance in regard to protect sensitive, confidential and critical data within the company. One of technique to assure the security strategy has been formulated and installed into computer system by analyzing both strength and weaknesses through completed risk assessment. Thus, this study conduct vulnerability assessment and penetration testing (VAPT) to uncover the possibility of threats and evaluate potential impact to be





		<p>reported to the system owner through proper engagement in the form of framework that allow systematic measurement. Various websites has been identified for this purpose of the research, which one website from government was used to show the current trend occurred at cyber communities in Indonesia. Commonly, unauthorized parties after finding certain exploitable weaknesses within the system, they will design and testing the performance of the attack within their own system that has similar attribute. Then, they will try to secure the line to obtain full access and privilege together eliminate the possibility to track the source before conducting cyber attack and delete the recovery process</p>
<p>155</p>	<p><i>Arif Mubarak and Uke Kurniawan.</i> Planning of LTE-Apro Network using Licensed Assisted Access combining Spectrum Licensed 1800 Mhz and Unlicensed 5 Ghz</p>	<p>The number of activities in the room results in an increase in the amount of traffic which means a large surge in cellular users. As large data traffic increases, limited spectrum is available and high spectrum costs, wireless service providers respond by making adjustments to LTE technology. With the presence of LTE-AP supported by an unlicensed spectrum, Telkomsel operators can enjoy the unlicensed spectrum to increase capacity and throughput.</p> <p>Cellular network planning uses 2 scenarios to get the best solution, Scenario 1 is planning the LTE Network with a bandwidth of 20 MHz in band 3 and using a 4x4 MIMO antenna. , scenario 2 planning the LTE-Advanced Pro network uses the LAA method by combining the unlicensed 20 MHz spectrum in band 36 and a licensed 20 MHz spectrum in band 3 and using a 2x2 MIMO antenna. analysis and simulation using U-Net V500 software.</p> <p>The results of the LTE network planning simulation obtained the average value of RSRP 77 -77.71 dBm, SINR \geq 11.88 dB, Throughput \geq 37.079 Mbps and User connected = 98.00%, while the LTE-AP average value of RSRP \geq -73.51 dBm, SINR \geq 17.02 dB , Throughput \geq 49,739 Mbps and User connected = 100.00%. Based on the simulation results, the LTE-AP network planning is very good to be implemented in the city of Bandung, the best solution choice to overcome the limitations of Telkomsel spectrum with the network performance that is very good in terms of coverage and capacity</p>

