C-7

LEMBAR
HASIL PENILAIAN SEJAWAT SEBIDANG ATAU *PEER REVIEW*
KARYA ILMIAH : PROSIDING

Judul karya ilmiah (paper) : Ergonomics Redesign of Mountain Backpack for Female Hikers in Indonesia
Jumlah Penulis : 4 orang (Manik Mahachandra, Heru Prastawa, **Zainal Fanani Rosyada**, and Tahmida Fatmala Zulva)
Status Pengusul : Penulis ke-3
Identitas Makalah :
a. Judul Prosiding : 2nd South American Conference on Industrial Engineering and Operations Management, IEOM 2021
b. ISBN/ISSN : 2169-8767
c. Tahun Terbit, Tempat Pelaksanaan : Sao Paulo, Brazil, April 5 - 8, 2021
d. Penerbit/organiser : IEOM Society International
e. Alamat repository PT/web prosiding :
PROSIDING : http://ieomsociety.org/brazil2020/proceedings/
ARTIKEL : http://www.ieomsociety.org/brazil2020/papers/630.pdf
f. Terindeks di (jika ada) : SCOPUS
g. Turnitin Similarity : 4 %

Kategori Publikasi Makalah (beri ✓pada kategori yang tepat) :
☐ √ ***Prosiding* Forum Ilmiah Internasional**
☐ *Prosiding* Forum Ilmiah Nasional

Hasil Penilaian *Peer Review* :

Komponen Yang Dinilai	Nilai Maksimal Jurnal Ilmiah		Nilai Yang Diperoleh
	Reviewer 1	Reviewer 2	
a. Kelengkapan unsur isi prosiding (10%)	3	2,5	2.75
b. Ruang lingkup dan kedalaman pembahasan (30%)	8.4	8	8.2
c. Kecukupan dan kemutahiran data/informasi dan metodologi (30%)	6	8,5	7.25
d. Kelengkapan unsur dan kualitas penerbit (30%)	8	8	8
Total = (100%)	25,4	27	26.2
Nilai Pengusul = **40%*26.2/3 = 3.49**			

Semarang,

Reviewer 1

Dr. Ratna Purwaningsih, ST, MT, IPM
NIP. 197212311998022001

Reviewer 2

Dr. -Ing. Novie Susanto, ST, M.Eng
NIP. 198211072005012001

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☐ *Prosiding* Forum Ilmiah Nasional

Hasil Penilaian *Peer Review* :

Komponen Yang Dinilai	Nilai Maksimal Prosiding		Nilai Akhir Yang Diperoleh
	Internasional [30]	Nasional [ ]	
a. Kelengkapan unsur isi prosiding (10%)	3		3
b. Ruang lingkup dan kedalaman pembahasan (30%)	9		8.4
c. Kecukupan dan kemutahiran data/informasi dan metodologi (30%)	9		6
d. Kelengkapan unsur dan kualitas terbitan/prosiding(30%)	9		8
Total = (100%)	30		25,4
Nilai Pengusul = (60%)*.... = ...			

Catatan Penilaian Paper oleh Reviewer :

1. **Kesesuaian dan kelengkapan unsur isi paper**: Penulisan artikel sesuai dengan Author Guidelines (Title, Abstract, Introduction, Materials and Methods, Results and Discussion, Conclusion, Acknowledgement, References). Substansi artikel sesuai bidang ilmu pengusul (Teknik Industri).
2. **Ruang lingkup dan kedalaman pembahasan**: penelitian memberikan kontribusi yang signifikan pada kajian perancangan produk ergonomis dengan aspek yang cukup lengkap yaitu pertimbangan termasuk teknis, antropometri, fisiologis, biomekanik, dan usability.
3. **Kecukupan dan kemutahiran data/informasi dan metodologi** disajikan dengan baik dengan memberikan grafik dan gambar yang jelas, hanya saja analisis dari grafik2 tsb kurang detail
4. **Kelengkapan unsur dan kualitas terbitan**: Prosiding diterbitkan oleh penerbit prosiding Internasional, IEOM Society yang terindex pada scopus

Semarang,
Reviewer 1

Dr. Ratna Purwaningsih, ST, MT, IPM
NIP. 197212311998022001

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	Internasional [30]	Nasional [ ]	
a. Kelengkapan unsur isi prosiding (10%)	3		2,5
b. Ruang lingkup dan kedalaman pembahasan (30%)	9		8
c. Kecukupan dan kemutahiran data/informasi dan metodologi (30%)	9		8,5
d. Kelengkapan unsur dan kualitas terbitan/prosiding(30%)	9		8
Total = (100%)	30		27
Nilai Pengusul = (40%/3)*27 = 3,6			

Catatan Penilaian Paper oleh Reviewer :

1. **Kesesuaian dan kelengkapan unsur isi paper:** Isi paper sudah lengkap dan sesuai dengan petunjuk penulisan (Abstract, Introduction, Methods, Result and Discussion, Conclusion and Recommendations, References).
2. **Ruang lingkup dan kedalaman pembahasan:** Pembahasan hasil penelitian cukup detail meliputi hasil dari pengolahan data dan rekomendasi yang dapat diberikan pada penelitian berikutnya. Ruang lingkup artikel sesuai dengan bidang penulis yaitu Teknik Industri. Pembahasan kurang mendalam dan tidak disertai referensi pendukung.
3. **Kecukupan dan kemutakhiran data/informasi dan metodologi:** Penelitian menggunakan metode pengembangan produk disertai analisis antropometri, fisiologi kerja menggunakan denyut jantung, dan biomekanika dari software 3D SSP. Jumlah referensi hanya ada 8 dengan 3 di antaranya jurnal bereputasi.
4. ***Kelengkapan unsur dan kualitas terbitan:*** .Artikel diterbitkan pada prosiding IEOM Brazil 2021 (bereputasi dan terindeks scopus) dengan ISSN 2169-8767.

Semarang,
Reviewer 2

Dr. -Ing. Novie Susanto, ST, M.Eng
NIP. 198211072005012001

Proceedings of the International Conference on Industrial Engineering and Operations Management • Pages 1633 - 1639 • 2021 • 2nd South American Conference on Industrial Engineering and Operations Management, IEOM 2021 • Sao Paulo • 5 April 2021 through 8 April 2021 • Code 267339

Ergonomics redesign of mountain backpack for female hikers in Indonesia

Mahachandra M. , Prastawa H. , Rosyada Z.F. , Zulva T.F.

Save all to author list

[a] Diponegoro University, Tembalang, Semarang, Central Java, Indonesia

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Abstract

Mountain climbing is a challenging natural activity that requires days and quite a lot of equipment stored in a backpack, which is usually called a mountain backpack. Mountain backpacks that already exist in the Indonesian market today tend to be designed according to male or unisex posture. Based on preliminary data from the Nordic Body Map questionnaire distributed to twelve female climbers at Diponegoro University, there were complaints in the neck, back, shoulders, and waist due to the use of mountain backpacks on the market today. Therefore, it is necessary to redesign the mountain backpack for female climbers. The consideration included technical, anthropometry, physiological, biomechanics, and usability. The results showed that female climbers wanted comfortable mountain backpacks. In the anthropometric aspect, the design of mountain backpacks is focused on the back pads and main straps. In the physiology aspect, the new design of mountain backpacks has a pattern of changes in the rate of change of working pulse smaller. It is found that the design of new mountain backpacks gives less pressure than the old designs. The usability test result found that the new design mountain backpack has a higher usability value than the old design mountain backpack. © IEOM Society International.

Author keywords

Anthropometry dimension; Cardiovascular load; Female; Mountain Backpack; Perceived exertion; Static strength

SciVal Topics

Metrics

References (8) View in search results format

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(2009) *Work Facility Improvement and Work Method Design by Paying Attention to Ergonomic Aspects at PT Jatim Bromo Steel*
Department of Industrial Engineering Petra Christian University

2 Bauer, D.H., Freivalds, A.
Backpack load limit recommendation for middle school students based on physiological and psychophysical measurements
(2009) *Work*, 32 (3), pp. 339-350. Cited 50 times.
doi: 10.3233/WOR-2009-0832
View at Publisher

3 Chisnell, D., Rubin, J.
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PT Mizan Publika, Bogor

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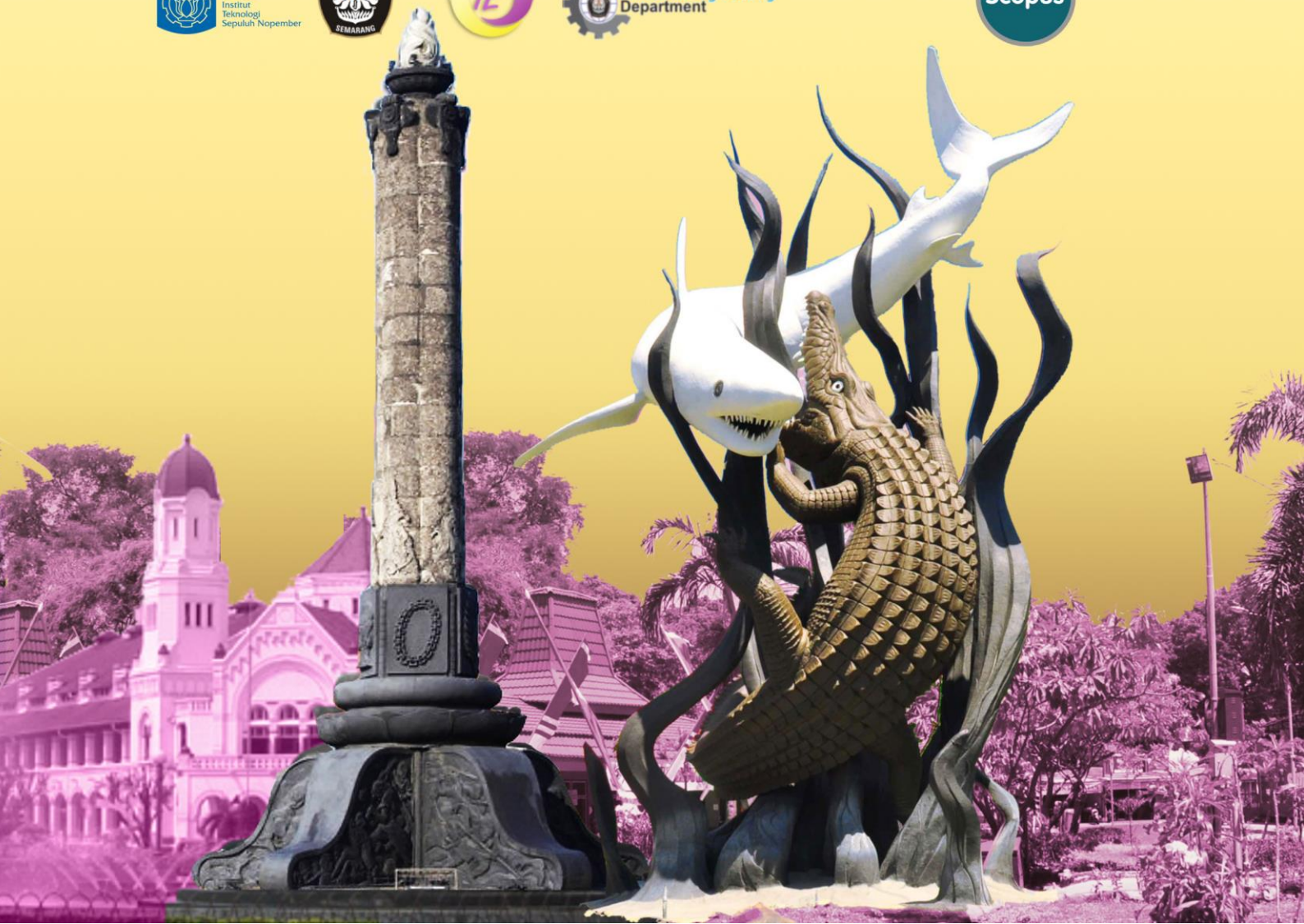

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- Yusuf Widharto, S.T., M.Eng., Diponegoro University, Indonesia.

Prof. Weijia Jia (Beijing Normal University (Zhuhai) - UIC and Shanghai Jiao Tong University – China)

Prof. Weijia Jia is a Chair Professor of Shanghai Jia Tong University, China. He was the Deputy Director of State Key Laboratory of Internet Things for Smart City in University of Macau, China. The first education he took was BSc in Computer Science, Central-South University (CSU), Changsha, Hunan, China until the last was PhD, Polytechnic Faculty of Mons, Belgium. He has a long employment history from Assist Lecturer, Dept. of Computer Science, CSU to Chair Professor, Shanghai Jiao Tong University, China.

He also has received several awards including 2017 : Science and Technological Development Award from China Ministry of Education, 2015 : Guangdong Science and Technological Development Award, 2013 : China National Thousand Talents Program, 2011, 2012 : Best Product Award of International High-Tech Exhibition (Shenzhen), 2005 : 2nd Prize of Science & Technology Award, Hunan Government, PR China, and 1999 : National Science and Tech. Achievements (China): Nast# 4912224000078. Besides that Prof. Weijia Jia also very often being a speaker at other international conferences.

He also did some research in 1999 on the topic of AI and Big Data; Men-Machines-Things Knowledge Graphs Completions; Smart City and IoT Designs; Next Generation Networking and Communications; Fog Computing. This research continues and he developed it until 2012. Not only that Prof. Weija Jia also has 13 patents including US Patent:"Mobile internet service system for long distance trains", US 9258759 B2, China Patent: On-line recognition and counting method and systems, Number: CN200310110417.5,16/10/2003, and many more. Which is considered as the best work in his field, among others "Six Most Infuential Publications": best theoritical bound, pioneer work on Any cast routing, pioneer work on sensor networks, pioneer work on IEEE 802.16 scheduling, and best paper award. Not only that, he also participated in referred international journals more than 160 journals. Several books of his work have also been published.

Dr. Rer. Nat. Fal Sadikin (Scientist of Philips Eindhoven- Netherlands)

Dr. rer. nat. Fal Sadikin is Scientist (IoT Security) of Philips Eindhoven- Netherlands. He has employment history from Lecturer in University of Amikom Yogyakarta several subjects including Computer Networks, Network Security, Cryptography, Discrete Mathematics to PhD/Doctoral Researcher Freie Universitat Berlin, Postdoc/Reserach Engineer in Cybersecurity in University of Houston and Security Scientist in Signify Eindhoven Area, Netherlands. The first education he took was Master, Electrical Engineering and Information Technology Universitas Gadjah Mada, Indonesia until the last was Doctorate of Science (PhD), Computer Science in Freie Universitat Berlin (in conjuction with Technical University of Berlin and Fraunhofer FOKUS).

He also has professional certifications such as Certified Ethical Hacker (CEH), Security Specialist (Forensic, Web Security, Server Security, and Network Security). Topic that he interests is Patents and Scientific Publications in Security, IoT and Networking and he got some experience such as Applied Machine Learning for Cyber-security, Splunk Data Analytics, IoT Security, IoT Penetration Testing, Distributed Intrusions Detection System and Incident Response for IoT Systems, ZigBee Security, Bluetooth Security, DDoS Resilient Emergency Dispatch Center, VoIP DDoS, Security Protocols, Network Security, Network Measurements. He also has several awards including Best Paper Award, IoTBDS 2020. He also active to join some course, projects, organizations and publications, many course he took and got the license and certifications was Certified Ethical Hacker (CEH) EC-Council, Lean Foundation, Continous Improvement Certification Philips Lighting, Basic TRIZ, Theory of Inventive Problem Solving The International TRIZ Assocication (ATRIZ), Machine Learning Coursera, Security Specialist, Web Security Specialist, Server Security Specialist, Security Aware Administrator and Forensic Spesialist. *(Based on document published on 2020).*

Plenary Session 3

Topic: Big Data Analysis - A Competitive Tools toward Smart Industrial System

Doan Lingga (Head of Data Analytics Group Traveloka)

Doan Lingga is Head of Data Analytics Group Traveloka. The first education he took was Bachelor Degree in Computer Science, Trisakti University, Indonesia until the last was Master of Applied Finance, Bina Nusantara Business School, and Applied Finance (MBA). Topic that he interests is developing and building data warehouse, analytics, predictive modelling, & big data ecosystem, executing tactical and strategic framework to enhance company revenue and usage performance through product creation and creative & relevant CLM and paid digital campaign. He has a long employment history from Software Developer Panasonic Group to Head of Data Analytics Group Traveloka. He also did some research for his study on the topic Artificial Intelligence Implementation-Depth First Search and Empirical Studies Economics Value Added & Profitability Ratios Association with an Annual Stock Return for Indonesian Companies. He also has several awards including Most Inspiring Implementation - KXEN, XL Banget 2012 - Intelligent Location Based Service + Know Your Customer and Indonesia Cellular Award 2013. He also active to join some course, projects, organizations and publications, the last course he took was Data Science Toolbox, Coursera, John Hopkins University. (Based on document published on 2020).

Prof. Dr. Ing. Hendro Wicaksono (Jacobs University – Germany)

Hendro Wicaksono received the Dr.-Ing. degree from the Karlsruhe Institute of Technology, Karlsruhe, Germany, in 2016. He is currently a Professor of industrial engineering with the Jacobs University Bremen, Bremen, Germany. He was a Researcher with the Institute of Information Management in Engineering, Karlsruhe Institute of Technology. He is also a Visiting Professor with the Faculty of Economics and Business, Airlangga University, Surabaya, Indonesia. Publication topics that he interests and is wind turbines, PI control, building management systems, electric current control, energy management systems, knowledge based systems, optimization, variable structure systems, water pumps, Global Positioning System, Internet of Things, active filters, blades, cameras, closed loop systems, cloud computing, computer vision, data mining, energy conservation, frequency control, fuzzy neural nets, fuzzy reasoning, harmonic distortion, home automation and inductive power transmission. He has been researching and managing teens of international research projects in energy-management systems in buildings, production, and cities using semantic technologies and data mining. He has published over 40 papers (two nominations for Best Papers). He also active to participate in international conference such as International Conference on Electrical, Electronics and Information Engineering (ICEEIE) 2019, International Conference on Information and Communications Technology (ICOIACT) 2019, IEEE Conference on Energy Conversion (CENCON) 2019 and many more. *(Based on document published on 2018)*.

Plenary Session 5

Topic: Supply Chain Big Data - An Opportunity for Future Research

Assoc. Prof. Ferry Jie (Edith Cowan University - Australia)

Associate Professor Ferry Jie is Associate Professor in Supply Chain and Logistics Management, in the School of Business and Law, Commerce Discipline. In addition, Ferry Jie is a Deputy Director, Centre for Innovative Practice. Ferry has graduated his doctorate study from The University of Sydney in 2008. His PhD thesis is Supply Chain Analysis in the Australian Beef Industry. Currently Dr Jie is an Associate Professor at School of Business and Law, Edith Cowan University. Previously, he was a Senior Lecturer and taking a program coordinator role in Logistics and Supply Chain Management (LSCM) at RMIT University.

He was managing and coordinating the undergraduate program in LSCM at RMIT from 2015 to 2016. Associate Professor Ferry Jie has maintained a high quality of research throughout his academic career including international scholarly leadership in the areas of supply chain management and logistics, including being invited to be keynote speaker and to give public lectures at symposiums and international conferences in Indonesia, Malaysia, Vietnam, China, UK and Australia. He also did some research on the topic interets is supply chain and logistics management, operations/production management, quantitative management/operations research/management science, quality management, lean six sigma, strategic management, and project management. From 2013 to 2018, Dr Jie has published 33 refereed journal articles (including 8 (eight) articles in A Ranked Journal - ABDC Journal Lists) and 20 refereed conference papers. Furthermore, Dr Jie has received research grants/awards to the amount of $1,304,604.07 between 2010 and 2018. Dr Jie has professional and community engagement activities to contribute significantly to improve the university's reputation through contribution to the wider community. (*Based on document published on 2020).*

PRESENTATION SCHEDULE

Wednesday, July 22nd 2020 (12.45 - 14.45)

Room Meeting IV [Optimization] Session Chair: Dr. Arfan Bachtiar		
Zoom meeting link: https://bit.ly/DAY1-R4 Meeting ID: 945 6542 8345 / Password: 098762		
ID	**Title**	**Author**
	Data Science: Research Experiences Sharing	Dr Singgih Saptadi (Invited Speaker)
155	Literature Review: Design Improvement of Pallet Part in Automotive Companies	Arfan Bakhtiar and Steffany Audina Puspitasari
160	Analysis on Acquisition of Philippine Civil Registry Documents and Inclination towards Paperless e-Government	Lizette Erin Villena, Rex Aurelius Robielos and Wei-Jung Shiang
138	LOCATION OPTIMIZATION OF THE FIGHTER SQUADRON FOR INDONESIAN AIR DEFENSE	Gagat Riano and Komarudin Bin Sayuti
51	Bi-objective Optimization Model for Integrated Planning in Container Terminal Operations	Dina Prayogo, Akhmad Hidayatno and Komarudin Komarudin
95	Provision model for line balancing in multi-echelon multi-product continuous cement production	Nalendra Permana, Sri Partiwi and Erwin Widodo

Room Meeting V [Industrial Management] Session Chair: Dr. Naniek Utami H		
Zoom meeting link: https://bit.ly/DAY1-R5 Meeting ID: 995 6462 3299 / Password: 894866		
ID	**Title**	**Author**
20	Procurement Manager Skills and Competencies: Empirical Evidence from Student's Perception of Industrial Engineering	Ilyas Masudin, Nika Tampi, Revon Awalia Wahyu Agata, Rizky Purnama Hadi Prawita and Dian Palupi Restuputri
123	Analysis Factors That Influence Mall Customer Loyalty in Semarang	Nia Budi Puspitasari, Dyah Ika Rinawati, Awalya Tiffany Jonenetha and Zainal Fanani Rosyada
164	Effect of Service Quality on Customer Loyalty with Customer Satisfaction as Intervening Variables at PT. Bank Rakyat Indonesia (Persero), Tbk Branch Cepu Financial Services Industry: A Literature Review	Murni Elfrida Br Sipayung, Arfan Bakhtiar and Nainek Utami Handayani
16	The Effect of Relational Benefits, Service Quality, and Product Quality on Customer Satisfaction and Loyalty	Aditya Sastra and Imam Baihaqi
135	Utilization of Facial Expression Analysis in the Pricing Strategy Formulation	Hasrini Sari, Marsya Sinclairianiputri Rahadian and Aldila Rizkiana

PRESENTATION SCHEDULE

Wednesday, July 22nd 2020 (12.45 - 14.45)

Room Meeting VIII [Ergonomics] Session Chair: Dr. Manik Mahachandra		
Zoom meeting link: https://bit.ly/DAY1-R8 Meeting ID: 948 1936 8285 / Password: 278412		
ID	**Title**	**Author**
180	Design of Therapy Equipment for Osteoarthritis Patients Based on Static Bikes Using QFD and Human Centre Design Method	Heru Prastawa, Manik Mahachandra, Rizqina Salma Mahmudati and Dwi Sa'Nu
186	REBA : an ergonomics assessment for machine operator of porang (amorphophallus muelleri)	Eko Nurmianto, Arino Anzip and Dwi Endah Kusrini
195	Ergonomics Redesign of Mountain Backpack for Female Hikers in Indonesia	Manik Mahachandra, Heru Prastawa, Zainal Fanani Rosyada and Tahmida Fatmala Zulva
176	Work System Analysis on Puncher Bar Repair Process in the Production Division of Akademi Teknik Soroako (Soroako Technical Academy)	Burhanuddin Burhanuddin and Ratna Sari Dewi
88	Workstation and Posture Improvement in Cutting Machine Process Using Virtual Modelling	Linda Studiyanti, Winnie Septiani and Nanda Aulia

PRESENTATION SCHEDULE

Thursday, July 23rd 2020 (11.30 - 13.30)

Room Meeting I [Industrial Management] Session Chair: Dyah Santhi Dewi, Ph.D.		
Zoom meeting link: https://bit.ly/DAY2-R1 Meeting ID: 949 7154 0579 / Password: 632857		
ID	**Title**	**Author**
25	Cluster analysis to determine business strategy for MSMEs in Yogyakarta	Rangga Satya Nugraha, Wandhansari Sekar Jatiningrum and Reni Dwi Astuti
47	Evaluation of Business Model in Application Based Dropship Business with Business Model Canvas Approach	Virda Berlianti Pratiwi and Endang Chumaidiyah
143	Integrating Business Process Improvement and Information Systems to Improve Service Quality: A Conceptual Model	Pipin Anggaliya and Endang Chumaidiyah
89	Service Quality Assessment of E-Wallet	Aditya Cahyo, Anita Rustanti, Leoni Gobel, Mindo Dasminar and M. Mujiya Ulkhaq
182	University Organizational Culture Mapping Using Organizational Culture Assessment Instrument (OCAI)	Arief Rahman, Sri Gunani Partiwi and Daniel Surya Theopilus
Room Meeting II [Supply Chain Management] Session Chair: Dr. Novie Susanto		
Zoom meeting link: https://bit.ly/DAY2-R2 Meeting ID: 949 5571 9289 / Password: 958409		
ID	**Title**	**Author**
	Intervening for Accelerating a Technology Commercialization in University using Early Supply Chain Integration : A Case Study of Renewable Energy - LFP Battery	Prof. Dr. Wahyudi Sutopo (Invited Speaker)
38	Development of a Three-Phase Inventory Management Model for Perishable (Chili) Products by Considering Quality Deterioration	Meidina Boer and Ahmad Rusdiansyah
39	Designing model of supply chain with blockchain technology for fishery industry in Indonesia	Stephani Larissa
9	Analysis of Supply Chain Performance Based on the Supply Chain Management Maturity Level in Manufacturing Industry	Niken Trisnawati and I Nyoman Pujawan
28	Supply Chain Performance Measurement with Supply Chain Operation References Approach (A Case Study in A Batik Company)	Novie Susanto, Ratna Purwaningsih, Emanuela Septia and Rani Rumita
42	SCOR and ANP Methods for Measuring Supplier Performance with Sustainability Principle of Green Supply Chain Management in Furniture Company PT. XYZ	Pyadasi Widya Hapsari, Haryo Santoso and Denny Nurkertamanda
Room Meeting III [Production and Operations Management] Session Chair: Dr. Purnawan Adi		
Zoom meeting link: https://bit.ly/DAY2-R3 Meeting ID: 988 6620 3385 / Password: 463107		
ID	**Title**	**Author**
21	Tensile Properties of 1wt% graphene/epoxy nanocomposites prepared with low content of ethanol.	Mohd Shahneel Saharudin, Syafawati Hasbi, Chinyere Okolo and Fawad Inam
80	Evaluation of the SAP R/3 System Implementation by Means of Optimize Modules (Case Study : Chemicals Company)	Tiena Amran and Sri Yuniati
191	Food Security Model in Corn Commodity Concerning on Welfare Corn Farmers and Chicken Farmers in East Java	Ni Made Cyntia Utami and Iwan Vanany
130	Designing Facility Layout using Business Intelligence Approach: A Case Study in an Amusement Arcade	Christian Alianto,Tanti Octavia, Siana Halim
132	A Safety-First Portfolio Selection Framework: Estimating Returns of Exchange Traded Funds through Regression Analysis	Michael Young

PRESENTATION SCHEDULE

Thursday, July 23rd 2020 (14.00 - 16.00)

Room Meeting VI [Industrial Management] Session Chair: Yusuf Widharto, M.Eng.		
Zoom meeting link: https://bit.ly/DAY2-R6 Meeting ID: 913 3856 3992 / Password: 792863		
ID	**Title**	**Author**
46	EFFICIENCY MEASUREMENTS OF DIPONEGORO UNIVERSITY FACULTY USING THE DATA ENVELOPMENT ANALYSIS HIERARCHICAL NETWORK MODEL	Bagus Maulana Hendrawan, Bambang Purwanggono and Hery Suliantoro
62	Are You Ready with Digital Challenges?	Riza Iskandar
103	Feasibility Study of Waste Utilization Facilities in Cement Factory for Spent Bleaching Earth	Febri Fahrudin Nugroho and Moses Laksono Singgih
111	Driving Factors of the Intention to Purchase Travel Products Through Online Travel Agent (OTA)	Nia Budi Puspitasari, Ratna Purwaningsih, Nurul Fadlia and Zainal Fanani Rosyada
165	The effect of soygurt fortification with black rice bran extract anthocyanin in hyperlipidemia	Enny Purwati Nurlaili
Room Meeting VII [Technology & Innovation Management] Session Chair: Putu Dana Karningsih, Ph.D.		
Zoom meeting link: https://bit.ly/DAY2-R7 Meeting ID: 943 3482 6060 / Password: 329103		
ID	**Title**	**Author**
63	Analysis of Human Behavior towards the Use of Financial Technology (Fintech) Lending Application in Indonesia with TAM and UTAUT Approaches	Rana Atikah Ardlianti and Ratna Sari Dewi
61	Structural Modeling for Usability Attributes on Technology Acceptance Model for Smart Parking Mobile Application	Amaliah Amiruddin, Ratna Sari Dewi and Erwin Widodo
136	Conceptual Modelling of Resilience Measurement During Natural Disaster for SMEs	Issa Utami, Iwan Santosa and Emon Rifa'I
150	Measurement of Technology Capability at Batik Anugerah, Bangkalan with Technometric Methods	Retno Indriartiningtias
169	IoT based kWh Meter Recorder System for Electrical Substation	Moh Khozain and Adhatus S Ahmadiyah
Room Meeting VIII [Operations Research] Session Chair: Dr. Naniek Utami H		
Zoom meeting link: https://bit.ly/DAY2-R8 Meeting ID: 970 2240 2410 / Password: 100298		
ID	**Title**	**Author**
	Big Data in Manufacturing System	Prof. Budi Santosa, Ph.D. (Invited Speaker)
100	A Model for Joint Decision between Production Rate and Clinker Export Proportion Using Cooperative Game Theory Approach	Hilmi Tahta Amrillah and Erwin Widodo
102	SELECTING PLANT SITE FOR PRODUCT DIVERSIFICATION USING LINEAR PROGRAMMING AND ENTERPRISE VALUE CONVERSION	Akhmad Yani Yulianto, I Nyoman Pujawan and Iwan Vanany
106	REGRESSION ANALYSIS IN PREDICTING COATING APLICATION LIFETIME ON ASSET INTEGRITY PROJECT	Ridwan Setiawan and Budi Santosa
114	Maintenance Cost Optimization on Heavy Equipment Tires by Goal Programming Method at Nickel Mine Operation	Dwinda Suryo Wibowo and Budi Santosa
120	Optimization Operation Strategy of Electric Boilers by Mixed Integer Programming Method in Nickel Production Process	Wahyu Setya Djati and Nurhadi Siswanto

CONFERENCE SECRETARIAT (FURTHER INFORMATION)

Industrial and Systems Engineering Department,
Institut Teknologi Sepuluh Nopember Surabaya
Jl. Raya ITS Sukolilo, Surabaya, East Java, Indonesia

E-mail: iconiseacise@gmail.com

Tel: +62856-5576-1789 (Retno Widyaningrum, S.T., M.T., MBA., Ph.D – ITS)
Tel: +62811-2662-014 (Dr. Ing Novie Susanto, S.T., M.Eng – Diponegoro University)

All information can be found in our official website
http://iconiseacise2020.com

Ergonomics Redesign of Mountain Backpack for Female Hikers in Indonesia

Manik Mahachandra, Heru Prastawa, Zainal Fanani Rosyada, and Tahmida Fatmala Zulva
Diponegoro University
Tembalang, Semarang, Central Java, Indonesia
manik.mahachandra@gmail.com, heru.prastawa@gmail.com, rosyada@gmail.com, tahmidafatmalazulva@gmail.com

Abstract

Mountain climbing is a challenging natural activity that requires days and quite a lot of equipment stored in a backpack, which is usually called a mountain backpack. Mountain backpacks that already exist in the Indonesian market today tend to be designed according to male or unisex posture. Based on preliminary data from the Nordic Body Map questionnaire distributed to twelve female climbers at Diponegoro University, there were complaints in the neck, back, shoulders, and waist due to the use of mountain backpacks on the market today. Therefore, it is necessary to redesign the mountain backpack for female climbers. The consideration included technical, anthropometry, physiological, biomechanics, and usability. The results showed that female climbers wanted comfortable mountain backpacks. In the anthropometric aspect, the design of mountain backpacks is focused on the back pads and main straps. In the physiology aspect, the new design of mountain backpacks has a pattern of changes in the rate of change of working pulse smaller. It is found that the design of new mountain backpacks gives less pressure than the old designs. The usability test result found that the new design mountain backpack has a higher usability value than the old design mountain backpack.

Keywords

Mountain Backpack, Female, Anthropometry dimension, Perceived exertion, Cardiovascular load, and Static strength

1. Introduction

Outdoor activities are currently favoured by various groups, both students, students, workers, and others. Nature presents various types of sports that are challenging to do. Many nature-loving communities exist throughout Indonesia, both high schools, universities, and other communities. The community has the same goal of doing outdoor activities and preserving nature. One of them is WAPEALA UNDIP, a student mountaineering club at Diponegoro University.

Mountain climbing is one of the outdoor sports, which is full of challenges (Harley 2007). Climbing to the top of the highest mountain takes days. The climb requires much equipment. All equipment is stored in a backpack, which is often called a mountain backpack. Therefore, the mountain backpack must be designed appropriately so that it is safe and comfortable when used.

Factors to consider in choosing a mountain backpack are the size, function, price, comfort, material, and model capacity. When assessed in terms of ergonomics, the primary consideration factor is comfort. This comfort factor is directly related to the user's body posture and dimension. Therefore, it is necessary to adjust anthropometry in producing this mountain backpack so that when the mountain backpack is used, it does not cause injury or muscle fatigue to climbers. Anthropometric adjustments have already begun to be applied by mountain equipment manufacturers in producing mountain backpacks. However, most of backpack sold in market are brands from Europe and America.

Based on preliminary survey, Indonesian mountain bag manufacturers tend to use anthropometry of Asian male climbers and pay less attention to Asian female climbers. Whereas at this time, Asian female climbers, especially Indonesia, are increasing. The number of female climbers in WAPEALA UNDIP has increased in the past two years. The unavailability of a mountain bag that fit with women's anthropometry causes Indonesian female climbers to tend

Tensile properties of epoxy/1 wt% graphene nanocomposites prepared with ethanol

M S Saharudin[1,5], S Hasbi[2,6], C Okolo[3,7] and F Inam[4,8]

[1]Universiti Kuala Lumpur Malaysia Italy Design Institute (UniKL MIDI), 119 Jalan 7/91, Taman Shamelin Perkasa, 56100, Kuala Lumpur, Malaysia
[2]Department of Mechanical Engineering, Faculty of Engineering, National Defence, University of Malaysia (NDUM), Kem Sungai Besi, 57000, Kuala Lumpur, Malaysia
[3]Department of Mechanical and Construction Engineering, Northumbria University, Newcastle upon Tyne NE1 8ST, UK
[4]University of East London, Docklands Campus, 4-6 University Way, London E16 2RD, United Kingdom

E-mail: [5]mshahneel@unikl.edu.my, [6]syafawati@upnm.edu.my,
[7]chinyere.okolo@northumbria.ac.uk, [8]f.Inam@uel.ac.uk

Abstract. In this research, solution casting technique was applied to produce four types of nanocomposites. Different ethanol dosages; 0g, 1g, 3g, and 5g were used to disperse graphene in the epoxy matrix. It was observed that 1g dosage of ethanol was the most effective concentration to disperse 1wt% graphene in the epoxy matrix. At 1 g dosage of ethanol used, the Young's modulus, tensile strength, and toughness were increased by 130% ,76%, and 187% respectively. SEM images illustrated that the graphene was able to inhibit the advancing cracks and detoured cracks propagation. It is observed that the ethanol needs to be removed completely during processing to ensure its effectiveness, otherwise, the remaining ethanol can cause porosity which is undesirable to the tensile properties of the nanocomposites.

1. Introduction

Composites are materials which are comprising at least two or more phases that are chemically and physically bonded. Composite materials have a number of advantages, such as good resistance to corrosion, high fatigue strength and very low weight. In industry, composite materials have been widely used in aerospace, automotive, military, biomedical and sports leisure goods [1].

Because of their excellent thermal, chemical stability and mechanical properties when combined with fillers. Epoxy resin are used in numerous industrial applications particularly in aerospace, automotive and construction industries [2][3][4]. In recent years, epoxy resins have gained research interest in engineering applications due to their unique balance of chemical and mechanical and advantages of ease of processing [4][5]. However, due to the crosslinking structures which make the epoxy prone to crack and brittleness, the applications of epoxy resins remain limited.

Various studies have been carried out to increase the epoxy toughness. One of the popular methods is by adding Nano-filler such as graphene in the epoxy. Graphene-based polymer composite has attained great attention since the explosion of graphene research in 2004 due to its excellent performance in terms of thermal, mechanical and gas barrier [6]. Graphene-based materials have been extensively used in various fields such as composites, coatings, electronic devices, energy storage, sensors and biomedical [6]. Asif et al in their previous research have established that the Young's modulus and micro hardness of multi-layer graphene/epoxy have improved by 26% and 18% respectively [7]. In addition, the glass transition temperature (T_g) and storage modulus also improved in comparison to unreinforced epoxy.

Analysis on acquisition of Philippine Civil Registry Documents and inclination towards paperless e-government

L E A Villena[1,4], R A C Robielos[2,5] and Wei-Jung Shiang[3,6]

[1] School of Graduate Studies, Mapua University, 658 Muralla St., Intramuros, Manila, 1002 Metro Manila, Philippines
[2] School of Industrial Engineering & Engineering Management, Mapua University, 658 Muralla St., Intramuros, Manila, 1002 Metro Manila, Philippines
[3] Department of Industrial and Systems Engineering, Chung Yuan Christian University, No. 200, Zhongbei Road, Zhongli District, Taoyuan City, Taiwan

E-mail: [4]lizetteerinvillena@gmail.com, [5]racrobielos@mapua.edu.ph, [6]wjs001@cycu.edu.tw

Abstract. In the Philippines, the Civil Registry Documents (CRD) acquired from Philippine Statistics Authority (PSA) such as Birth Certificate, Marriage Certificate, Certificate of No Marriage and Death Certificate are being used as one of the requirements in different transactions in academics, government, travel, employment, religious matters and other transactions (e.g. proof of identification, Title/Career advancement, etc.). The current acquisition ways of these Civil Registry Documents are through online, PSA Office, Travel Agency/Courier Company and Satellite/Mobile PSA Office. In this study, the different acquisition ways of Civil Registry Documents are analyzed through service blueprint. Furthermore, a survey was conducted to determine the satisfaction rate and preferences of the CRD acquirers and was analyzed through crosstabulations. With the help of the analyzed Service Blueprints, the possible problems that arises on each process of acquisition were identified. This paper proposed an instant, electronic (involves bar coding/QR code/Reference number), paperless and less time-consuming substitute to the existing ways of acquiring Civil Registry Documents.

1. Introduction

1.1. Background

The power of the internet and web technologies has been clearly established in business, as epitomized by the enormous success of electronic commerce [1]. Technology lets people reap beneficial things interdependently. E-government as one of the subcategory of information technology, made it possible for the governments to provide the information and services efficiently as quickly and as less costly as possible through the use of modern information technology [2]. E-government is a strong and strategic tool for governance policy, as well as for improving the efficiency and effectiveness of government functions and to propel regularizations. All agencies must manage the challenges and tensions they encounter [3]. E-government also offers improved quality of information supply and fewer administrative burdens [4].

In Taiwan, every administrative agency or unit has its own website. Taiwanese people's lives currently appear to have been more convenient than before due to these well-developed web services. While, in South Korea the government is improving to a partnership-based framework whereas the government together with its citizens are working beyond bilateral participation. This was deemed necessary since demands are also increasing for e-government services to comply with the constant influences in the interactive services on social networks [5].

The utilization of Information and Communication Technology (ICT) by the government units has generated valuable improvements in the offer of public services being provided by the different levels

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Ratna Sari Dewi, S.T., M.T., Ph.D
Chair of the 2nd IConISE 2020

Dr. Manik Mahachandra
Chair of the 7th ACISE 2020