UNIVERSITI TEKNOLOGI MARA

UNIVERSITI SAINS MALAYSIA

1st INTERNATIONAL CONFERENCE

INDUSTRIAL AND MANUFACTURING ENGINEERING 2018

"INDUSTRIAL AND MANUFACTURING ENGINEERING PRACTICES FOR LOCAL INDUSTRIES"

Certificate of Achievement

Presented to

Ikeu Kania

PRESENTER

in recognition of Outstanding Performance in the Conference

HOTEL GRANDHIKA MEDAN, 16 OKTOBER 2018

Ir. Seri Maulina, M.Si., Ph.D.
Dean of Engineering Faculty

Aulia Ishak, S.T., M.T., Ph.D.
Chairman

iCIME

1ST INTERNATIONAL CONFERENCE

INDUSTRIAL & MANUFACTURING ENGINEERING 2018

INDUSTRIAL MANUFACTURING ENGINEERING PRACTICE FOR LOCAL INDUSTRIES

OCTOBER 16 2018
HOTEL GRANDHIKA MEDAN

OUTLINE

ICI&ME 2018 COMMITTEE STRUCTURE

1.	Honorary Chair	
	a. Chairman USU	: Prof. Dr. Runtung, S.H., M.Hum
	b. 3rd Vice Chairman USU	: Drs. Mahyuddin K. M. Nasution, M.I.T., Ph.D.
	c. Dean of Engineering Faculty	: Ir. Seri Maulina, M.Si., Ph.D
2.	Honorary Chair	
	a. Chair	: Aulia Ishak, ST, MT, Ph.D
	b. Co-Chair	: Assoc Prof Dr Amir Yazid bin Ali
		Ir. Rosnani Ginting, MT, Ph.D
		Dr. Salina Budin
3.	Honorary Chair	: Ir. Rosnani Ginting, MT, Ph.D.
4.	Liaison Chair	: Aulia Ishak, ST, MT, Ph.D
5.	Local Committee	
	a. Chief	: Aulia Ishak, ST, MT, Ph.D
	b. Co-Chief	: Dr. Ir. Nazaruddin, MT
	c. Secretary	: Dr. Ir. Julia Hidayati, MT
	d. Treasurer	: Ir. Rosnani Ginting, MT, Ph.D.
	e. Publicity Chair	: Dr. Mellia Tryana Sembiring, ST, MT
	f. Member	: Dr. Eng. Listiani Nurul Huda, MT
6.	Reviewer	: Prof. Dr. Armansyah Ginting, M.Eng
		Drs. Mahyuddin K. M. Nasution, MT., Ph.D.
		Dr. Widyadi Setiapo, ST, M.Si.
		Assoc. Prof. Dr. Amir Yazid Ali
		Dr. Salina Budin
		Prof. Dr. Eng. Ir. Irvan, M.Si
		Ir. Rosnani Ginting, MT, Ph.D.
		Aulia Ishak, ST, MT, Ph.D.
		Prof. Ir. Indra Surya, M.Sc., Ph.D.
		Ahmad Faiz Zubair, M.Sc
		Prof. Dr. Ir. Wahyu Kuntjoro
		Dr. Koay Mei Hyie
7.	Local Committee	
	a. Paper Coordinator	: Vincent, ST
	b. Event Coordinator	: Widodo, ST
	c. Seminar Coordinator	: Theresia Yosephin Batubara, ST
	d. Fundraiser Coordinator	: Maylandasi Perpitau, ST
	e. Website Administrator	: Kevin Adhinata, ST
	f. Documentation Coordinator	: Mustika Sari, ST
	g. Indexing	: Nismah Panjaitan, ST, MT
	h. Accomodation	: Hanum J S Naibaho, ST
	i. Publication Coordinator	: Dr. Mellia Tryana Sembiring, ST, MT
8.	Editorial	
	Chief Editor	: Assoc. Prof Dr. Amir Yazid Ali (USM)
	Editorial board	: Prof Dr. Ir Armansyah Ginting M.Eng (USU)
		Dr. Ir. Salina Budin (UiTM)
		Shaira Ismail M.Eng (UiTM)
		Dr Koay Mei Hyie (UiTM)
		Dr Azrifa Mahyam Zahuddin (UiTM)
		Normariah Che Maideen M.Eng (UiTM)
		Dr Khairuddin Muhammad (USM)
		Dr Hasnida Samad (USM)
		Dr Salman Abu Mansor (USM)
		Assoc. Prof. Dr. Zaharin Samad (USM)
		Drs. Mahyuddin K. M. Nasution, M.IT., PhD (USU)
		Prof. Dr. Eng. Ir. Irvan, M.Si (USU)
		Ir. Rosnani Ginting, MT, Ph.D (USU)
		Aulia Ishak, ST, MT, Ph.D (USU)

PREFACE

WELCOMING MESSAGE FROM THE RECTOR OF UNIVERSITY OF SUMATERA UTARA (USU)

Welcome to University of Sumatera Utara (USU), Medan.

International Conference on Industrial and Manufacturing Engineering (ICI&ME) 2018 is the first International Conference that held by Master and Doctoral Program of Industrial Engineering Department of University of Sumatera Utara (USU). This first International Conference with the theme of Industrial and Manufacturing Engineering Practice for Local Industries. This conference aims to provide an effective forum platform for distinguished invited speakers, academicians, researchers, practicing engineers and professional from universities, research institutions, agencies and industries, both government and private sectors. The conference aspires to facilitate conducive sharing, networking and exchange of ideas and experience in fields of both industrial and manufacturing engineering, especially in dealing with the dynamics and challenges of the inevitable industrial Revolution 4.0.

This conference is a joint conference that held by University of Sumatera Utara (USU) from Indonesia, Universiti Teknologi Mara (UiTM) and Universiti Sains Malaysia (USM) from Malaysia, and Prince of Songkla University (PSU) from Thailand. I'm as Rector of University of Sumatera Utara (USU) thank to all the university that has been involved to succeded this first International Conference on Industrial and Manufacturing Engineering (ICI&ME) 2018. This conference is very useful to increase our collaborative among the university so that we could achieve the sustainability academic institution and increase our competitiveness. Besides that, our research and publications on academic institutes will increase instead and these things indicate the successful of better education.

Last but not least, University of Sumatera Utara (USU) will always supports events that contribute for the better education collaborative among the universities, and we hope this international conference will run as well as the preparation. I highly appreciate all members of ICI&ME Committees (advisory, steering, and organizing committee) for their mutual efforts and invaluable contribution for the success of this conference. Please enjoy the conference and explore the benefit of this conference. And as we know, this year, International Conference on Industrial and Manufacturing Engineering (ICI&ME) held in Indonesia, so welcome to Indonesia, and enjoy the Wonderful of Indonesia.

Have a pleasant Conference

Prof. Dr. Runtung Sitepu, SH, M.Hum

Rector of University of Sumatera Utara (USU)

PREFACE

WELCOMING MESSAGE FROM THE CHAIRMNAN OF ICI&ME 2018

The ICI&ME is the first International Conference on Industrial and Manufacturing Engineering by the Master and Doctoral Program of Industrial Engineering, University of Sumatera Utara (USU), held from 16-17th October 2018 in Medan, Indonesia, with a theme "Industrial and Manufacturing Engineering Practice for Local Industries". This conference is an extended collaboration between University of Sumatera Utara (USU), Universiti Teknologi Mara (UITM), Universiti Sains Malaysia (USM), and Prince of Songkla University (PSU) to intensify knowledge sharing and experiences between higher learning institutions.

This ICI&ME Conference is a platform for knowledge exchange and the growth of ideas, particularly in manufacturing engineering. The conference aims to bring researchers, academics, scientists, students, engineers and practitioners from around the world together to present their latest findings, ideas, developments and applications related to manufacturing engineering and other related research areas. With rapid advancements in manufacturing engineering, ICI&ME is an appropriate medium for the associated community to keep pace with the changes. This year, 2018, the conference theme is "Industrial and Manufacturing Engineering Practice for Local Industries" which reflects the role of Industrial and Manufacturing Engineering to be developed for industries.

The papers in these proceedings are examples of the work presented at the conference. They represent the tip of the iceberg, as the conference attracted over 167 full papers were accepted in these proceedings. The conference was run in five parallel sessions with 167 presenters sharing their latest finding in the areas of manufacturing process, systems, advanced materials and automation. The Keynote Speaker of this conferences are Prof. Dr. Ir. Abdul Rahman Omar from Universiti Teknologi Mara (UITM) Malaysia, Rudiman Silalahi as Director of PT Perkebunan Nusantara (PTPN IV), Prof. Dr. Ir. Sukaria Sinulingga, M.Eng from University of Sumatera Utara (USU) Indonesia, and Assoc. Prof. Dr. Nikorn Sirivongpaisal from Prince of Songkla University (PSU) Thailand. The organizers are very grateful to them for supporting the conference and sharing their latest research results with the conference participants.

As chairman of this , International Conference on Industrial and Manufacturing Engineering (ICI&ME), i thank to all the committee that have been involved to succeded this conference and may this conference will blessed by God. Please have a grateful day with ICI&ME.

Aulia Ishak, ST, MT, Ph.D.
Chairman

KEYNOTE SPEAKERS 1

Abdul Rahman Omar
Faculty of Mechanical Engineering
Universiti Teknologi MARA
40450 Shah Alam, Selangor

The Impact of Industrial Revolution in Shaping the Future

The manufacturing sector is changing. Technology is ever-present in virtually every kind of its life cycle from development to disposal. Facing with a new range of technologies that combine the physical, digital and biological worlds will impact this sector drastically. Hence these changes will provide a more efficient services and help organisation to better manage their assets and manufacturing processes.This paper explores the development of the industrial revolution right from its first introduction in the 19th century and how the shifting of focus from steam and water power; then electricity and assembly lines; then computerisation to cyber physical space. Factors that contributing to the fast transformation of the manufacturing sector are highlighted. This paper also argues that the shifting of focus will create important new security concerns that if it is not managed properly will potentially make the inequalities widening. Workers need to acquire new skill to be relevantwhen managing the computers and machines as automation increases. As the way forward driving strategic approaches that concern about the forces of disruption and innovation would be the best in shaping the future of the manufacturing industries.

KEYNOTE SPEAKERS 2

Sukaria Sinulingga
Department of Industrial Engineering
University of Sumatera Utara
Indonesia

Real Time Manufacturing Model for Strong Product Competitiveness in Global Market

Competition in global markets has changed the manufacturing environment significantly. The markets are more sensitive to delivery time and product qualities. These conditions enforce manufacturing systems to adapt. There are various uncertain factors causing manufacturing systems including MRP system fail to complete their customers 'orders on time. These are due to inflexibility to cope with common manufacturing problems. Study in this paper proposes real-time manufacturing model "on make to order environment". The proposed model is characterized by the way it develops the production program. Instead of developing forecasted Master Production Schedule, it operates with actual customers' orders and stocked component replenishment which are processed on an order to order basis.
Under this model, orders loaded to manufacturing facilities are separated into two categories namely customers' orders *(firm orders)* and internal generated orders *(unfirm orders)*. *Unfirm orders* are those orders of related parts generated only if spare capacities are available. Any *unfirm orders* may be unloaded from the facilities if the *firm orders* require the capacities. This flexibility is considered to be effective to keep the *firm orders* completed on-time. In order to demonstrate the potential of the proposed system, a simulation model has been developed and presented in this paper. In the simulation, the important performance measures such as orders completion times, manufacturing and operator utilization factors were evaluated.

KEYNOTE SPEAKERS 3

Agus Tjahajana Wirakusumah
Independent Commissioner of INALUM

Optimization of Metal Tapping Cycle Operation at INALUM

PT Indonesia Asahan Aluminium (Persero) "INALUM" as a Holding State-Owned Mining Industry since November 27, 2017 has passed through long journey until now. As Holding Company, INALUM must maintain and improve competitiveness and the culture of continuous improvement. One of the improvements continuously maintained since joint venture Company between Indonesian Goverment and Japan Consortium is Optimization of Metal Tapping (MT) cycle Operation. The objective of the improvement is to minimize equipment utilization such as Anode Changing Crane (ACC), Ladle and Molten Transport Car (MTC), Minimize man hour, Hidrogen Flouride (HF) gas Emission and improve safety condition. By doing Site observation and direct measurment to understand existing system, analized the data, design new system and take into account of new system to calculate cost benefit analysis and implemented the new system. INALUM has managed to get some benefits from production optimization through motion and time study for lean manufacturing. And the benefits are ; optimization of MT cycle operation has successfully reduced ladle utilization for MT until 14 Ladles /day, ACC operation hour 20.5 %, MTC operation hour for ladle transportation 10.35%, Man hour 20.5% for MT work and 10.5 % for ladle transportation, HF Emission gas 20.5 % that caused by MT Operation, balancing operation work and improve safety condition.

KEYNOTE SPEAKERS 4

Rediman Silalahi
PTPN IV Operational Director

Development of Palm Oil Agribusiness in Indonesia

The rapid expansion in world production of palm oil over the last three decades has attracted the attention of the oils and fats industry. Many are interested to know how palm oil has been able to compete successfully to gain an increasing share of the international oils and fats markets. The increasing importance of palm oil has naturally led to a steady buildup of scientific, technical, and trade data and information.

Indonesia palm oil plantations have now expanded to both the upstream palm oil sector and the palm oil downstream sector which form an industrial cluster that can be called the oil "mega sector" (totally supply chain) which includes the upstream sector, the on farm sector, down-stream sector and supporting services sector. Indonesia palm oil plantations are no longer just cultivation or palm oil plantations, but it has expanded to both upstream and downstream to form an industrial cluster which includes: First, the up-stream sector, which is industries that produce embodial technology for palm oil plantations as well as for the downstream sector. This upstream sector includes the breeding and nursery industry, the agrochemical industry, and the machinery and machinery industry. Both the palm oil plantation sector (on farm sector) is in the form of palm oil plantations and palm oil mills (palm oil plantations), both smallholder palm oil plantations, independent palm oil plantations and state enterprise palm oil plantations which are currently scattered in around 200 districts. The results of this sector are crude palm oil (CPO), Palm Kernel Oil (PKO) and biomass which are inputs for the downstream sector. The three down-stream sectors are processing CPO / PKO and biomass into processed products both semi-processed and finished products. These include the food oleo industry (oleo food industry), the oleo chemical / biomaterials industry (bio surfactant, bio lubrication, biopharmaceuticals / toiletries / nutrient, bio plastic, etc.) and the bio energy industry (Biodiesel, bio premium / bio ethanol, bio avtur, etc.) Fourth, the supporting services sector, namely industries / institutions that provide services to the upstream, plantation and downstream sectors, namely the trade sector (local, inter-island, international), research, human resources education, banking and insurance, transportation, ports and logistics , government policies (spatial planning, land, fiscal, monetary and international trade, standardization, licensing and others), road infrastructure and others. These four sectors constitute a unified interdependent economic entity and interdependence in the palm oil sector. The sector of oil palm plantations cannot develop without both the upstream and downstream sectors and thus the upstream sector, the palm oil plantation sector, the downstream sector cannot develop without support service sector support. Therefore, the oil "mega sector" needs to be managed in a complete, balanced and integrated manner from upstream to downstream.

KEYNOTE SPEAKERS 5

Assoc. Prof. Dr. Nikorn Sirivongpaisal
Industrial Engineering Department
Prince of Songkla University
Thailand

Industrial and Manufacturing Engineering Practice for Local Industries

This presentation aims to illustrate industrial and manufacturing engineering discipline in supporting industries, especially local industries which mostly are small and medium enterprises, or SMEs. They have a vital role for country's economic development. Nevertheless, they are still confronting with some difficulties such as accessibility to financial support for business expansion, domestic and international market expansion, productivity management, etc. Issues with industrial and manufacturing engineering discipline can be applied in order to strengthen the competitiveness of SMEs. Some case studies are harshly illustrated in this presentation for the sake of knowledge sharing among industrial and manufacturing engineering practitioners.

Schedule of ICI&ME 2018

Tuesday, 16 October 2018	
Registration	: 07.00 – 07.45 AM
Oral Presentation Session I	: 08.00 – 10.00 AM
Opening Ceremony & Keynote Speaker	: 10.00 – 12.30 PM
Coffee Break and Lunch	: 12.30 – 1.30 PM
Oral Presentation Session II	: 2.00 – 4.00 PM
Refreshment	: 4.00 – 4.15 PM
Oral Presentation Session III	: 4.15 – 6.15 PM
Oral Presentation Session IV	: 6.15 – 6.45 PM
Wednesday, 17 October 2018	
Tour to Danau Toba	

[illegible]		[illegible]		[illegible]		[illegible]	
Code : IM Venue : Centara		Code : ER Venue : Gaharu I		Code : APT Venue : Gaharu II		Code : QR Venue : Kenari	
ID	Paper Title	ID	Paper Title	ID	Paper Title	ID	Paper Title
6	A Combined ANP, TOPSIS and MOGP Approach to Select Knowledge Transfer Strategy: A Case Study in Indonesian SMEs ERP System Implementation	123	Human Error Analysis on Production Process of Door Products with SHERPA and HEART Method	10	The Optimum Cutting Condition when High Speed Turning of Aluminium Alloy using Uncoated Carbide	122	Reducing Waste in Production Process With Lean Six Sigma Approach and Weighted Product Method
13	Optimization of Metal Tapping Cycle Operation at INALUM	40	Working System Improvement by Macroergonomics Approach	8	Cutting Force in Micro Milling: Different Tool Geometry	119	Lean Six Sigma for Manufacturing Industry : A Review
15	Performance Analysis Of Engine Radiator System With Capacity 1000 Cc	66	Analysis of workload and number of workers in brick SMEs	116	Tool Wear Investigation in Drilling Titanium Alloy	83	Quality Control with Six Sigma DMAIC: A Review
26	Assessing Of Project Management Process Knowledge Area: Project Procurement Based On Project Management Maturity Model (Pmmm) (Case Study Of PQR Company)	41	Evaluate the Implementation of Occupational Health and Safety (OHS) Management System Performance Measurement at PT. XYZ Medan to minimize Extreme Risks	55	Influence Of Cutting Speed On Coated Ticn Cutting Tool During Turning Of AISI 316L Stainless Steel In Dry Turning Process	71	The Application of Reliability Centered Maintenance (RCM) Methods to Design Maintenance System in Manufacturing (Journal Review)
27	The Analysis of Cost Drivers to Successful Implementation of Reverse Logistics System	44	An Integrated Human Resources Model in Manufacturing Companies: A Case of Indonesia	3	A Performance Study of Squeezer Machine of Cooked Soy Machine	12	The Experimental Study and Numerical of Pipe Finned as A Earth-Air Heat Exchangers
39	Design and Development of Manufacturing Facilities for Friction Stir Welding Process using Conventional Milling Machine	65	Environmental Vitality Study On Shophouse Area, Case Study: Asia Mega Mas Shophouse Area, Medan	69	Propose Improvement Maintenance Activities of Screw Press to Reduce Waste Using Lean Maintenance Concept	38	Effect of Injection Moulding Parameters in Reducing The Shrinkage of Polypropylene Product Using Taguchi Analysis
47	Feasibility analysis of Rumah Tempe Zanadu establishment in Bandung using net present value, internal rate of return, and payback period	46	Determining Kansei Words in Chocolate Product Development Model Design Based on Social Media Trend by Using Key Element Extraction (KEE) Algorithm	95	Impact And Water Flow Studies Of Components Formulation For Mixing Process Contain Of Polipropylene And Hot Mix Asphalt Penetration 60/70	4	Analysis of Sludge Separator Using Failure Mode Effect Analysis (FMEA) and Reliability Block Diagram (RBD)
59	Design The Supply Chain Risk Mitigation with Supply Chain Risk Management Approach in Spring Bed Factory	74	Improving The Ergonomic Construction of Kue Balok Baking Equipment Fueled by Liquefied Petroleum Gas (LPG)	43	Witness Simulation Of Preventive And Corrective Maintenance For Surface Mounted Technology (Smt) Line	57	Measurement of Quality of Certification Services to Reduce Wastage of Non Value Added Activity (Journal Review)

Oral Presentation Session II : 2.00 – 4.00 PM							
II(A)		II(B)		II(C)		II(D)	
Code : IM Venue : Cenara		Code : ER Venue : Gaharu I		Code : APT Venue : Gaharu II		Code : QR Venue : Kenari	
ID	Paper Title	ID	Paper Title	ID	Paper Title	ID	Paper Title
111	Supply Chain Framework at the Rubber Company with a Profit Sharing approach in ensuring Material Availability	110	Determination of complaints level of Musculoskeletal Disorders (MSDs) with Nordic Body Map (NBM)	144	Efficiency analysis of electric energy use in palm oil processing (case study Bandar Pulau)	87	The experimental study of the coolant flow rate of an ethylene glycol-mixed water to the heat transfer rate on the radiator
61	Risk Analysis of Agile Framework in Project Management Exploration Drilling in Oil and Gas Sector	68	Human Resource Scorecard Based Human Resource (HR) Assessment System Design	96	The open cycle simulation of the earth air heat exchanger using computational fluid dynamic	23	Six Sigma Application on Cement Packing Quality Control and Analysis to Reduce Defect
78	The concept of supply chain management performance measurement with model approach supply chain operation reference (Journal review)	60	Relationship Discipline and Supervision with Implementation of Occupational Safety and Health (OSH) Employees at PT Coca-Cola Amatil Medan	139	Chiller Faults Diagnosis: A Case Study	73	Employee Performance Appraisal Analysis with Analytic Network Process (ANP) and Rating Scale Method in Bantul Mall Lhokseumawe
64	Identify The Operational Risk Of The Port By The Risk Breakdown Structure (RBS) Method	103	Electrical Signal Recording on Leg Muscle for Footwear Ergonomic Analysis	97	Utilization of magnetic devices to improve the performance and reduce gas emissions of Otto engine	37	Determining of fuel magnetizer parameters design using factorial design method
86	Risk Assessment of Supply Chain of Hybrid Corn	124	Physical Ergonomics Analysis of the Effect of Smoking on Sport Performance	147	Overall Equipment Effectiveness Analysis for Performance of CNC Milling Machine Operation	81	Application Of Six Sigma Methodology To Improve the Product Quality Of Moldings Plastic
75	Designing Work Facilities In Dust Disposal Station (Silo Ash) To Reduce Air Pollution And Ease Maintenance With Quality Function Deployment (QFD) Method	129	Hazard Identification, Risk Assessment and Risk Control in A Woodworking Company	118	Multiring Endoclip Conceptual Design using CAD Approach	85	Effectivity Analysis of Raw Mill 4R1 and 4R2 Using Overall Equipment Effectivity (OEE) Method and Six Big Losses in Indarung IV Plant of PT Semen Padang
77	Facility Layout Design Through Integration of Lean Manufacturing Method and CORELAP Algorithm in Concrete Factory	105	Improving The Physical Work Environment by Looking at The Effect of Work Environment Factor on SME	145	Remaining life assessment 150/20 kV trafo with isolation degradation method	143	Kano Questionnaire for the assessment of product attributes of alternative power plants in Kuala sub-district.
112	Redesign layout of production floor facilities using Algorithm CRAFT	106	Classification of Ergonomics Levels for Research	98	The performance of solar thermoelectric cooler in Medan city	171	Optimization Of Tanker Queue At Jetty 3 And 5 In PT X Dumai

II(E)		II(F)		II(G)	
Code : PS Venue : Cendana I		Code : DSS Venue : Cendana II		Code : PPS Venue : Cendana III	
ID	Paper Title	ID	Paper Title	ID	Paper Title
18	A Multiple Items EPQ/EOQ Model with Considering Reworks and Continuous and Discrete Demand Simultaneously in a Vendor - Buyer System	128	User Interface Evaluation of Official Store for FMCG (Fast Moving Consumer Goods) Products in E-commerce Website using User Experience Approach	100	The Use of Kano Model to Find the Satisfaction Assessment on the Attributes of an Infant Incubator Product: A Case Study at an Hospital at Deli Serdang
28	Design of Inspection Plan Simulation for Material Packaging Activities in the Baby Milk Industry	33	User experience modeling on consumer-to-consumer (c2c) e-commerce website	125	Redesign of User Interface Zakat Mobile Smartphone Application with User Experience Approach
63	Study on Energy Productivity Ratio (EPR) on Pre-Factory Design of Glucose Syrup at Riau Indonesia	89	Factors Affecting Indonesia Student Choosing University and Industrial Engineering Study Program	51	Design and development of stirring tool pin profile for Reconfigured Milling Machine to Perform Friction Stir Welding Process
72	Strategy and Policy for Increasing Work Productivity of Operators In The Steel Industry Through Work Improvement With Lean Method (journal review)	130	Classification of Design Attributes for FMCG (Fast Moving Consumer Goods) Products Official Store in E-commerce Website to Increase Usability and User Satisfaction	111	Prioritizing Critical Parts of Crumb Rubber Product by Using Quality Function Deployment (QFD) Phase II → Product Design Matrix
19	Portfolio Effect on End User Spare parts based on Demand Patterns	79	Ultrasound device seletion by using F-ANP and COPRAS	102	Design of a heat exchanger of three concentric tube layer on contrary flow
76	Implementation of Lean Service to Reduce Lead Time and Non Value Added Activity in a Banking Institution	20	Inventory and Transportation Model for Decision Making in Cement Industry (Case study at. PT Semen Padang)	99	Improved Kansei Engineering with Quality Function Deployment Integration: A Comparative Case Study
58	Nawaz, Enscore, Ham (NEH) Algorithm to Minimization of Makespan in Furniture Company	92	Analytical Hierarchy Process and PROMETHEE as Decision Making Tool: A Review	114	Contact Phenomena in Micromachining: Modelling and Simulation
32	Distribution Center material flow control: a line balancing approach	107	Diagnosing chicken diseases using fuzzy Tsukamoto web-based expert system	115	Design, Develop and Simulate Microdrilling Cutting Tool

Oral Presentation Session III : 4.15 – 6.15 PM

III(A)

Code : IM
Venue : Cemara

ID	Paper Title
120	The Influence of The Integration of Marketing, Design and Barriers to Integration On Marketing Performance
132	5S Implementation in Welding Workshop – a Lean Tool in Waste Minimization
134	Analysis of Employees Satisfaction Index to Management of Transportation Facilities Office PT. XYZ Using Importance Performance Analysis
168	Halal Criteria in Supply Chain Operations Reference (SCOR) for Performance Measurement: A case Study
126	Influence of Internal and External Integration on Marketing Performance
179	Performance Measurement of SMEs of Malang Batik as a Result of Local Wisdom with Balanced Scorecard
150	Comparison of Functional Group and Morphological Surface of Activated Carbon from Oil Palm Fronds Using Phosphoric Acid (H3po4) and Nitric Acid (Hno3) as an Activator
151	Analysis of the Effect of Supply Chain on Small and Medium Enterprises Performance in Medan (Case study on Leather Shoes

III(B)

Code : IoT
Venue : Gaharu I

ID	Paper Title
9	Effectiveness Analysis of Social Media Ads as A Promotional Media (Case Study: Instagram Tayalil)
45	Confusion around e-ID Card Service, Public Obligation versus Public Service
62	Identify the performance of government agencies for city fire prevention and firefight by the balanced scorecard method (Journal Review)
48	Analysis of Value Chain Model on Small and Medium Enterprises (SMEs): A Case Study of Coffee Shops in Bandung
93	Information Retrieval Optimization Based on Tree of Social Network
94	Effects of brand, tariff, network on customer preference in telecommunication
127	Usability Evaluation for User Interface Redesign of Financial Technology Application
121	Designing market strategy for Indonesian Restaurant in Industrial 4.0 era

III(C)

Code : O
Venue : Gaharu II

ID	Paper Title
80	Implementation of physical environment of sustainable tourism based on tourism village Case study: Situgkir Village
82	Tourists perception toward public open space's physical elements (case study: Cermin beach)
91	Crosslink density and rheometric properties of natural rubber/chloroprene rubber (NR/CR) blends
54	Effect of epoxidised natural rubbers on cure characteristics of kaolin-filled natural rubber composites
84	Fatty Acid Direct Production from Palm Kernel Oil
109	Effect of Acidification Mol Ratio And Solvent Volume Ratio of Glycerol Purification
104	Effect of Reaction Time and Catalyst Concentration on Making of Epoxy Coatpounds Using Sulphuric Acid Catalyst Based on Crystallized Palm Fatty Acid Distillate
113	Tensile Properties of Sago Starch Biocomposites Reinforced with Nanocrystalline Cellulose from

III(D)

Code : O/OR
Venue : Kenari

ID	Paper Title
42	Designing production planning optimization model using linear programming method at a coal supply company
17	The experimental and simulation study of an earth-air heat exchanger in Medan city
141	The Model of Adsorption Isotherm on Reduction of Peroxide Number in CPO (Crude Palm Oil) Using Rubber Fruit Shell (Hevea brasiliensis) as Biosorbent
78	Design of Integrated Waste Management Model of Medan City With Dynamic System Approach
5	Identification of Intervention Program Effectiveness at Work Accident Investigation
131	Utilization of Overcured Natural Rubber Latex Compound in Modified Concrete Manufacturing
142	The concrete frame strength test is filled with brick against horizontal loads with several types of column beam joints and several types of brick wall connection frames
153	Short Column Analysis With And Without Strengthening Reinforced Polyester Carbon Fiber And Reinforced Polyester Glass Fiber

III(E)

Code : UNI I
Venue : Cendana I

ID	Paper Title
50	Production Rate Improvement For Assembly Line In Sheet Metal Stamping Industry
149	Performance of Generator for Ocean Wave Power Plant using Pneumatic System
161	An Application of Zoning Designated Policy to Locate the Fresh Fruit Bunch Collectors in the Oil Palm Supply Chain: Southern Thailand Case Study
162	Application of Geographic Information Systems for Locating Distribution Center of Latex Pillow Product
165	Development of foam porous media to undergo surface and submerged flame in micro burner
174	Improvements in degree of filler dispersion and tensile properties of N550 and N220 carbon blacks-filled natural rubber composites using alkanolamide
173	GIS-Based Flood Mitigation of Deli River
176	Integrated Model Development in Information Technology Adoption

III(F)

Code : UNI II
Venue : Cendana II

ID	Paper Title
126	Evaluation and Implementation of Cognitive Ergonomics in E-wallet Redesign to Reduce Experience Effort of E-wallet User
146	Development of Multi-Objective Models in Zone-Based Dynamic Layout : Literature Review
152	Disruption Innovation, Electronic Supply Chain Management In Improving The Competitive Advantage And The Company Performance
154	Academic review on literatures pertaining to the definitions of technological innovation capabilities in the new millenium
148	Finite Element Method Analyse for Manufacturing Design Drum Dryer of Rotary Dryer Machine
156	Production Of Choline Chloride-Based Deep Eutectic Solvent With Hydrogen Bond Donor D-Glucose And Ethylene Glycol
157	Calorific Value of Oil Palm Frond Through Bio-Charcoal Briquette as Renewable Energy
158	Typology of liveable waterfront settlement and how to manage the community

III(G)

Code : UNI III
Venue : Cendana III

ID	Paper Title
168	The application of lean manufacturing to minimize waste in Crude Palm Oil (CPO) production process at PT. XYZ
170	Impact Competence Of Human Resources And Infrastructure In Logistic Performance Improvement
166	Deskriftive Analysis Of Oil Palm Agroindustry Development Of Special Economic Zone Of Sei Mangkei As A New City In Indonesia
175	Rheometric and tensile properties of calcium carbonate-filled natural rubber compounds without/with lauryl alcohol
167	The Application of SNQ Questionnaires for SME workers: A case study of a tofu SME in Medan
160	How to development of the Driver Ergonomic Risk Assessment (DERA)
172	Phase Transformation and Microstructure Evolution Study in Various Alloy systems: An Insight
11	Preheat Treatment on the Tungsten Carbide Hardfacing: Microstructure Analysis

Oral Presentation Session IV : 6.15 – 6.45 PM							
IV(A)		IV(B)		IV(C)		IV(D)	
Code : UNI I Venue : Cemara		Code : UNI II Venue : Gaharu I		Code : UNI III Venue : Gaharu II		Code : UNI IV Venue : Kenari	
ID	Paper Title	ID	Paper Title	ID	Paper Title	ID	Paper Title
52	Maintenance Strategy Analysis Based on Operational Excellence Approach	140	Analyze of Physical Land Use Changes Case study: Gagak Hitam Street, Medan	138	Supplier Selection Using Fuzzy Analytic Network Process (Fanp) At Pt Putra Gunung Kidul	35	Media Education, Media Literacy And Digital Competence
36	Theorising on Social Studies	53	Business Process Re-engineering in a Sugar Mill Manufacture: The Preliminary Study for Designing a Portable Machine	54	Optimization of investment in 4G LTE development planning using linear programming method: case study of cellular telecommunication company in Indonesia	7	Designing pebatik canting work station with ergonomic participatory approach (case study: batik putra laweyan)
31	Work Accident Risk Analysis of Filter's Leaf Overhaul in a Palm Oil Industry	135	Ergonomics Risk Analysis Of Public Transportation Drivers (Study Case: Public Transportation Drivers In Makassar City)	49	Monte carlo simulation for predicting the reliability of a boiler in the nagan raya steam power plant	88	Determining the priority level of suppliers by using AHP and TOPSIS
137	Feasibility Analysis Business And Industrial Raw Material	147	Identification: The Criteria for Assesment of Waste Treatment Technology	34	Analysis of Boiler Operation Workload in Salted Fish SME	16	Tax Office Queue System With Simulation Model (Case Study of Jalan Kapten A. Rivai)
67	Improved performance of perusahaan perkebunan in North Sumatera by evaluating contribution, satisfaction, strategy, capability, and process factors	21	Feasibility Analysis Of Investment Industry Palm Oil In West Kalimantan Province	29	Optimalization And Operation Research (Or)	90	Effects of stearyl alcohol loading on cure characteristics and tensile properties of silica-filled natural rubber composites
155	Measurement and Proposed Improved Supply Chain Performance approach With PDCA frame work	163	Feasibility Analysis Business And Industrial Raw Material	164	Supplier Selection Using Fuzzy Analytic Network Process (Fanp) At Pt Putra Gunung Kidul	169	Optimization Preventive Maintenance Of Equipment Production On Palm Oil Mill
178	Quality level analysis of patient services in puskesmas baktiya using fuzzy-servqual method (service quality)	179	Work time measurement analysis with indirectly working measurement method on cement bagging station	183	Palm Biodiesel Production Using Heterogeneous Catalyst Based Corn Cobs	182	Employee Performance is influenced by Total Quality Management against Leadership in Indonesian Petroleum Companies: A Case Study
181	Thermo-catalytic decomposition of biomass tar models through	180	Management of Lecturers Quality				

iopscience

IOP Conference Series

Materials Science and Engineering

2nd International Conference on Robotics and Mechantronics

517

VOLUME 517 - 2019

9–11 November 2018
Singapore

EDITOR:
Meng Joo Er

The open access journal for conference proceedings

iopscience.org/iopcs

IOP Publishing

IOP Conference Series: Materials Science and Engineering

With the ability to publish proceedings from events of any size, MSE provides a comprehensive solution for materials science and engineering conferences

Latest published conferences

Vol 760 ▾ Go

Conference archive

2020 ▾ Go

View forthcoming volumes accepted for publication.

RSS feed

Sign up for new issue notifications

If you would like more information regarding *IOP Conference Series: Materials Science and Engineering* please visit conferenceseries.iop.org, and if you are interested in publishing a proceedings with IOP Conference Series please visit our page for conference organizers.

- **Conference organizers** can use our online form and we will get in touch with a quote and further details.
- **Researchers** will enjoy the conference-based search system to quickly find and browse proceedings of interest. Search through all proceedings by conference title, subject area and conference date / location.


Your search for "1st International Conference on Industrial and Manufacturing Engineering 16 October 2018, Medan City North Sumatera, Indonesia" returned 0 results

Committee

1. **Honorary Chair**
   a. Chairman USU : Prof. Dr. Runtung, S.H., M.Hum
   b. 3rd Vice Chairman USU : Drs. Mahyuddin K. M. Nasution, M.I.T., Ph.D.
   c. Dean of Engineering Faculty : Ir. Seri Maulina, M.Si., Ph.D
2. **Honorary Chair**
   a. Chair : Aulia Ishak, ST, MT, Ph.D
   b. Co-Chair : Assoc.Prof Dr Amir Yazid bin Ali
   Ir. Rosnani Ginting, MT, Ph.D
   Dr. Salina Budin
3. **Honorary Chair** : Ir. Rosnani Ginting, MT, Ph.D.
4. **Liaison Chair** : Aulia Ishak, ST, MT, Ph.D
5. **Local Committee**
   a. Chief : Aulia Ishak, ST, MT, Ph.D
   b. Co-Chief : Dr. Ir. Nazaruddin, MT
   c. Secretary : Dr. Ir. Juliza Hidayati, MT
   d. Treasurer : Ir. Rosnani Ginting, MT, Ph.D.
   e. Publicity Chair : Dr. Meilita Tryana Sembiring, ST, MT
   f. Member : Dr. Eng. Listiani Nurul Huda, MT
6. **Local Committee**
   a. Paper Coordinator : Vincent, ST
   b. Event Coordinator : Widodo, ST
   c. Seminar Coordinator : Theresia Yosephin Batubara, ST
   d. Fundraiser Coordinator : Maylandari Panjaitan, ST
   e. Website Administrator : Kevin Adhinata, ST
   f. Documentation Coordinator : Mustika Sari, ST
   g. Indexing : Nismah Panjaitan, ST, MT
   h. Accomodation : Hansen J S Naibaho, ST
   i. Publication Coordinator : Dr. Meilita Tryana Sembiring, ST, MT
8. **Editorial**
   Chief Editor : Assoc. Prof Dr. Amir Yazid Ali (USM)
   Editorial board : Prof Dr. Ir Armansyah Ginting M.Eng (USU)
   . Dr. Ir. Salina Budin (UiTM)
   Shaira Ismail M.Eng (UiTM)
   Dr Koay Mei Hyie (UiTM)
   Dr Aznifa Mahyam Zaharuddin (UiTM)
   Normariah Che Maideen M.Eng (UiTM)
   Dr Khairuddin Muhammad (USM)
   Dr Hasnida Samad (USM)
   Dr Salman Abu Mansor (USM)
   Assoc. Prof Dr. Zahurin Samad (USM)
   Drs. Mahyuddin K. M. Nasution, M.IT., PhD (USU)
   Prof. Dr. Eng. Ir. Irvan, M.Si (USU)
   Ir. Rosnani Ginting, MT, Ph.D (USU)
   Aulia Ishak, ST, MT, Ph.D (USU)

DAFTAR ISI

Papers

Industrial and Manufacturing Management

Ergonomics, Industrial Health and Safety

012038

Hazard identification, risk assessment and risk control in a woodworking company

Hanny Banowati Arimbi, Maya Arlini Puspasari and Danu Hadi Syaifullah

012039

Improving the physical work environment by looking at the effect of work environment factor on SME

Nismah Panjaitan, Rosnani Ginting and Dini Wahyuni

012040

Clasification of ergonomics levels for research

Nismah Panjaitan and Amir Yazid Bin Ali

Automation and Production Technologies

012041

The Optimum Cutting Condition when High Speed Turning of Aluminum Alloy using Uncoated Carbide

B. Umroh, Muhathir and Darianto

012042

Cutting tools simulation with different parameter

Ikhsan Siregar, Juri Bin Saedon and Mohd Shariman Adenan

012043

Tool wear investigation in drilling titanium alloy

Ikhsan Siregar, J.B. Saedon, Mohd Shahriman Adenan, Norhafiez Mohd Nor, Muhammad Firdaus Mohammed Azmi and Mohd Hafiz Bin Jamaludin

012044

Influence of cutting speed on coated TiCN cutting tool during turning of AISI 316L stainless steel in dry turning process

A M Zaharudin and S Budin

012045

Propose Improvement Maintenance Activities Of Screw Press To Reduce Waste Using Lean Maintenance Concept

NA Sidabutar, AR Matondang and J Hidayati

012053

Multifiring endoclip conceptual design using cad approach

Ikhsan Siregar, M S Adenan, A C Ariffin, J B Saedon and H Asro

012054

Remaining life assessment 150/20 kV trafo with isolation degradation method

E Warman, M Rahmat and F Fahmi

Quality and Reliability

012055

Reducing waste in production process with lean six sigma approach and weighted product method

Khawarita Siregar, Aulia Ishak and Trie Dinda M Purba

012056

Lean six sigma for manufacturing industry: a review

Khawarita Siregar, Farida Ariani, Elisabeth Ginting and M P Trie Dinda

012057

Quality Control with Six Sigma DMAIC and Grey Failure Mode Effect Anaysis (FMEA) : A Review

Aulia Ishak, Khawarita Siregar, Asfriyati and Hansen Naibaho

012058

The Application of Reliability Centered Maintenance (RCM) Methods to Design Maintenance System in Manufacturing (Journal Review)

Zulaikha Sajaradj, Listiani Nurul Huda and Sukaria Sinulingga

012059

The experimental study and numerical of pipe finned as a earth-air heat exchangers

A Pintoro, T U H S G Manik, T B Sitorus and E A Sihombing

012060

Effect of injection moulding parameters in reducing the shrinkage of polypropylene product using Taguchi analysis

Koay Mei Hyie, S Budin and M A A A Wahab

Open abstract, Effectivity analysis of raw mill 4R1 and 4R2 using Overall Equipment Effectivity (OEE) Method and Six Big Losses in Indarung IV Plant of PT Semen Padang View article, Effectivity analysis of raw mill 4R1 and 4R2 using Overall Equipment Effectivity (OEE) Method and Six Big Losses in Indarung IV Plant of PT Semen Padang PDF, Effectivity analysis of raw mill 4R1 and 4R2 using Overall Equipment Effectivity (OEE) Method and Six Big Losses in Indarung IV Plant of PT Semen Padang

012069

Kano Questionnaire for the assessment of product attributes of alternative power plants in Kuala sub-district·

Rosnani Ginting, Juliza Hidayati and Muhammad Zulfin

012070

Optimization of Tanker Queue at Jetty 3 and 5 in PT X Dumai

Fitra Melliana, Trisna Mesra and Sri Lestari Siregar

Production Engineering and System

012071

An integrated production and inventory model considering reworks and two types of demand simultaneously in a two level supply chain network

Jonrinaldi, T Rahman, Henmaidi, Eri Wirdianto and Asmuliardi Muluk

012072

Design of inspection plan simulation for material packaging activities in the baby milk industry

T Y M Zagloel, I M Hakim, E Rositawati and A Adilla

012073

Study on Energy Productivity Ratio (EPR) on Pre-Factory Design of Glucose Syrup at Riau Indonesia

B Haryanto, H Harahap, R Tambun, R Hasibuan, P Suherman, Kelvin, D Haryanto and J Wijaya

012074

Strategy and policy for increasing work productivity of operators in the steel industry through work improvement with lean method (journal review)

A Herlambang and J Hidayati

Decision Support and Artificial Intelligence

Product, Process and System Design

Smart Manufacturing and Industrial Internet of Things

Optimization and Operation Research

012104

The experimental and simulation study of an earth-air heat exchanger in Medan city

T U H S G Manik, T B Sitorus, M L Panjaitan and Y O Saragih

012105

The Model of Adsorption Isotherm on Reduction of Peroxide Number in CPO (Crude Palm Oil) Using Rubber Fruit Shell (Hevea brasiliensis) as Biosorbent

S Pandia, S Nurfadilla, S M Indirawati, V Simarmata and Vanessa

012106

Design of Integrated Waste Management Model of Medan City With Dynamic System Approach

Bag Kinantan, A Rahim Matondang and Juliza Hidayati

012107

Identification of Intervention Program Effectiveness at Work Accident revention

Ikhsan Siregar and Tigor Hamonangan Nasution

012108

Utilization of overcured natural rubber latex compound in modified concrete manufacturing

H Harahap, H Nasution, D Haryanto and J Wijaya

012109

The concrete frame strength test is filled with brick against horizontal loads with several types of column beam joints and several types of brick wall connection frames

J Tarigan, T Sitorus and S Hani

012110

Short Column Analysis with and Without Strengthening Reinforced Polymer Carbon Fiber and Reinforced Polymer Glass Fiber With Axial Loading

Open abstract, Short Column Analysis with and Without Strengthening Reinforced Polymer Carbon Fiber and Reinforced Polymer Glass Fiber With Axial Loading View article, Short Column Analysis with and Without Strengthening Reinforced Polymer Carbon Fiber and Reinforced Polymer Glass Fiber With Axial Loading PDF, Short Column Analysis with and

Without Strengthening Reinforced Polymer Carbon Fiber and Reinforced Polymer Glass Fiber With Axial Loading

---

Other Related Topics

012111

Implementation of physical environment of sustainable tourism based on tourism village· Case study: Situngkir Village·

Nurlisa Ginting and Ferani

012112

Tourists perception toward public open space's physical elements (case study: Cermin beach)

Nurlisa Ginting and Tias Septilia

012113

Crosslink density and rheometric behaviour of natural rubber/chloroprene rubber blends

I Surya and M Z Siswarni

012114

Effect of epoxidised natural rubbers on curing characteristics of kaolin-filled natural rubber composites

I Surya, L Sukeksi and Marpongahtun

012115

Fatty Acid Direct Production from Palm Kernel Oil

R Tambun, D G Ferani, A Afrina, J A A Tambun and I A A Tarigan

012116

Effect of Acidification Mole Ratio And Solvent Volume Ratio of Glycerol Purification

M S Sinaga, M R Ramadhan, G Rico and W G T Sitompul

Confusion around e-ID Card Service, Public Obligation versus Public Service

IOP Conf. Series: Materials Science and Engineering **505** (2019) 012096 doi:10.1088/1757-899X/505/1/012096

Confusion around e-ID Card Service, Public Obligation versus Public Service

I Kania[1], D T Alamanda[2], G Anggadwita[3], A Permatasari[4], and S B Hasyim[5]
[1,2,5] Faculty of Social and Political Science, Garut University, Indonesia
[3]School of Economics and Business, Telkom University, Bandung, Indonesia
[4]School of Business, President University, Indonesia

Abstract. The issues of public services are complained by most people, one of them is the population problem. E-ID card as the identity of the population is the biggest public complaint reported to the State institution in charge of overseeing public services. Unavailability of the blanks, the uncertainty of the information and the non-proactive nature in providing services are the most common issues in the public complaints box for e-ID cards. This study aims to find out public opinion concerning e-ID card recording service. The method used by the researchers is descriptive survey in which the data were collected through observation, interview and questionnaire distribution. The sample in this study 578 respondents. Simple linear regression is used as a tool to measure the level of public satisfaction based on the services provided to them when signing up for e-ID cards. The result shows work culture influence the service quality by 0,35. The benefits of this research could have an impact on the policy of Garut regency government, especially in assessing the government performance in e-ID card recording service comprehensively.

1. Introduction

The General Election Commission (KPU) of Garut regency, West Java has recorded that there are 182,387 Garut residents who do not have Electronic Identity Card (e-ID) as a requirement to be included in the List of Temporary Voters (DPS) which will then be included in the List of Permanent Voters (DPT) in the 2018 Regional Head Elections [1]. Poor service in the process of Electronic ID card registration (e-ID card) has become a national problem. Ref. [2] reveals a number of problems found based on the result of the Ombudsman of the Republic of Indonesia (ORI) research on Electronic Identity Card services in 34 provinces throughout Indonesia, including the infrastructure, availability and quality of electronic ID cards, queuing facilities, electricity in the areas, internet network and the practice of illegal levies and brokering. One of the common tasks of Dukcapil in Garut Regency is to provide e-ID card registration service. There are still many people who do not have e-ID cards because they still consider that the e-ID registration process is complicated, and not everyone knows and understands some of the steps they need to go through in the e-ID card registration process such as the recording of the eye's retina, fingerprints and signatures which is conducted in sub-district office, while the e-ID card printing can only be done at the local office of population and civil registration service. Comfort in the office environment is still very minimal too without physical facilities such as TV and adequate waiting room. The service time provided does not match what it should be. Based on observations, some service quality issues were found in Garut Regency namely:

1) The e-ID card registration service is not completed within the appropriate timeframe. It should be finished in 15 minutes, but in reality it can take hours or even days
2) The internet network is unstable. Internet network is a supporting factor in e-ID service because the service is done online.

3) Lack of adequate facilities and infrastructure as a supporting factor in the service. There are only 3 computers used for e-ID recording and they sometimes get damaged.
4) Unprofessional Work culture. There are still many frontline employees working unprofessionally so that long queues become common;
5) The low level of employee work accuracy, in which errors in entering people's identity into the e-ID are still frequently found.

Culture and competence are widely debated topics in the academic world [3]. Based on the background of the problem, the purpose of this study is to find out how work culture can explain the service quality of e-id card registration service in Garut regency.

2. Literature Review

2.1. Public service

In Indonesia, efforts to improve services have long been implemented by the government, among others through Presidential Instruction (Inpres) no. 5 of 1984 concerning Guidelines for Simplification and Control of Business Licenses. This effort is continued through the Decree of the State Minister for the Empowerment of State Apparatus No. 81/1993 on Guidelines for Public Service Management. To further encourage the commitment of the government apparatus towards the improvement of service quality, then Presidential Instruction (Inpres) No. 1 of 1995 on improving the Quality of Government Apparatus Services to public was issued. The next development is through the issuance of Decree of State Minister for the Empowerment of State Apparatus No. 63 / KEP / M.PAN / 7/2003 on General Guidelines for the Implementation of Public Services. [4]

Ref. [5] observed the quality of public sector services by comparing government banks with private banks in Lucknow city India. Other public services which have been reviewed using SERVQUAL are public transportation services in the cities of Hyderabad and Secunderabad, India [6]. Ref. [7] examined the level of public service quality at the Divisional Secretariats of Gampaha District in Sri Lanka.

2.2. Good Governance

In the latest developments, the discussion of public services has become more noteworthy, especially in relation with good governance [8]. Good governance is a government driven by a new awareness and responsive attitude of the service users. Gore in [9] suggests that in order to manage the government well and to reduce operational costs, the government needs to pay attention to the following four points:

1) Downsizing. To reduce the size and number of government agencies, programs and staff;
2) Streamlining. To simplify procedures;
3) Re-structuring. To structurally reform the institutions in order to be able to carry out their mission well;
4) Privatizing. To delegate functions to smarter private sectors.

2.3. Organizational Culture

Ref. [10] stresses that the concept of culture derives from the metaphor that an organization is 'something cultivated'. Organizational culture contains more 'superficial' aspects such as patterns of behavior and symbols and observable ceremonies, and it speaks more deeply in the context of basic values, assumptions and beliefs [11]. Organizational culture has the ability to improve job satisfaction, and awareness about problem solving and organizational performance [12].

2.4. Work Culture

Work culture can increase or limit certain needs [13]. Ref. [14] explains that practical work culture contains several definitions of value patterns, attitudes, behaviors, purposes and work outcomes, including the instruments, work systems, technologies and languages it uses. Awareness raises the affection and desire to create a culture and work environment benefiting employees, it can also improve the overall service of the organization [15].

2.5 Service Quality

Service is a complex thing in economic activity having the ability to provide benefits for both customers and companies. Service is also described as a show of the provider. Customers buy services to find the desired results and companies sell their services to benefit by offering solutions to customer problems. Other related elements in addition to exchanges are price, time, and shipping process. [16]

Service quality plays an important role in achieving customer satisfaction [5]. According to [17], there are two types of customer expectations of service. First, the meaning and type of service expected, second, the current issues expected to be served. In Service Perception, service quality can be the most important determinant of satisfaction. While the suitability of services is an opportunity to build the perception of quality and satisfaction. Ref. [18] states that service quality is an elusive and obscure concept. There are often mistakes in determining quality, service quality consists of 5 (five) indicators which are Tangibles, Empathy, Reliability, Responsiveness and Assurance (TERRA)

3. Methodology

The method used by the researchers is descriptive survey method in which the data were collected through field research activities including observation, interview and questionnaire. While for the measuring tool of the research, the authors used questionnaires that have been structurally prepared containing a number of closed question items.
The population in this study is all employees in charge of providing services in in Garut regency, as many as 578 people. The sampling technique used is the census or saturated sampling technique which is a technique for determining the sample when all members of the population are used as the sample. So, the total sample of this study is 578 people

There is 1 independent variable (X) and 1 dependent variable (Y). The independent variable used is work culture consisting of employee attitude toward work and employee work behavior. Whereas, service quality serves as a dependent variable consisting of Tangibles, Empathy, Reliability, Responsiveness and Assurance (TERRA). The data then analyzed by using simple linear regression (SLR).

4. Result and Discussion

4.1. Respondents' Response

Table 1 below is the results of data collection. The following is a summary of respondents' responses to the dimensions of both work culture and service quality. Overall, the responses of respondents to the dimensions of research is good in the value range of 77.35-87.35%. To accelerate the process of e-ID recording in every region, the Garut Office of Population and Civil Registration Service (Kadisdukcapil) has launched a service car (Moyan) which is ready to help the residents in applying for e-ID card and Birth Certificate. Every Friday and Saturday the service car (Moyan) is situated in a particular sub-district as scheduled [19]. Ref. [20] also reported that Garut regency has enlarged the service spaces in the local office of population and civil registration service (disdukcapil) due to previously unrepresentative room conditions.

Table 1. Respondent's Respond

No	Variable	Dimension	Percentage (%)	Note
1	Work Culture	Attitude of Employee	79, 36	Good
		Work behavior	80,72	Good
2	Service Quality	Tangible	77,90	Good
		Empathy	77,35	Good
		Reliability	83,15	Good
		Responsiveness	86,05	Good
		Assurance	87,35	Good

4.2. Hypothesis testing

Based on the test, it is obtained that the value of t-count is higher than the value of t-table: t-count = 2.3035> t-table = 2.1098. From the values, it is obtained that Ho decision value is rejected, so there is an influence of variable X on variable Y.

To know the influence percentage of work culture variable on service quality is done using the determinant formula with the following result:
KD = r^2 X 100%
KD = 0,4877 2 X 100%
KD = 23,78%

The work culture on service quality generates a value of 23.78%. It means that this research is proven through the percentage value result of the determination. The result is in line with a research by [21] which examined the quality of public services in the Religious Affairs office of Aluh Aluh sub-district, Banja Regency. To find out how much the influence of other factors which the authors did not examine on service quality is done using epsilon formula with the percentage as follows:
ε = 100% - KD
ε = 100% - 23,78%
ε = 76,22%

And after calculated by using SPSS, the result show that Y = 20 + 0,35 X, means that the work culture influence the service quality by 0,35. And the other 0,65 are explained by others variables.

5. Conclusion

Hypothesis Test Result indicates that there is an influence of work culture variable (X) on service quality variable (Y) of e-ID card application process. There is a relationship between variable X and variable Y indicated with the correlation value of 0.48772. This relationship level is considered low. Whereas, the effect magnitude of variable (X) on variable (Y) is 0,35.

6. Recommendation

Due to the influence of work culture on the quality of service, adopted by [22], it can be argued that leaders can instill and strengthen various aspects of culture through the following five mechanisms:

- Focus of attention. Top managers communicate their priorities, values, and concerns through choices about what they praise, criticize, value, ask, and support.
- Reaction to the crisis. How top managers cope with crises is significant in the cultivation of cultural values, because the emotional conditions involved increase the learning potential of various assumptions and values.
- Role modeling. Top managers can communicate various values through their own activities, especially those showing loyalty, self-sacrifice, and service beyond the call of duty
- Allocation of rewards. The criteria used as a basis for prize allocation are promotions or awards, and how they are delivered, as well as the ability to communicate what is assessed by the organization and management.
- Selection criteria. Commitment of managers in executing recruitment and selection activities in accordance with established criteria and procedures also communicate the values of leaders.

References

[1] Beritasatu.com. (2018, March 17). *182.387 Warga Garut Belum Miliki E-KTP*. Retrieved from www.beritasatu.com: http://www.beritasatu.com/politik/483730-182387-warga-garut-belum-miliki-ektp.html

[2] viva.co.id. (2016, November 7). *Enam Masalah Pelayanan KTP Elektronik di Indonesia*. Retrieved from www.viva.co.id: https://www.viva.co.id/berita/nasional/844652-enam-masalah-pelayanan-ktp-elektronik-di-indonesia

[3] Fleury, M. L. (2009). Organizational Culture and the R Organizational Culture and the Renewal of Competences. *Brazilian Administration Review*, *6*(1), 1-14.

[4] Sulila, I. (2015). *Implementasi dimensi layanan publik dalam konteks otonomi daerah.* Yogyakarta: Dee Publish.

[5] Lohani, M. B., & Bhatia, P. (2012). Assessment of Service Quality in Public and Private Sector Banks of India with Special Reference to Lucknow City. *International Journal of Scientific and Research Publications*, *2*(10), 1-7.

[6] Randheer , K., AL-Motawa, A. A., & J, P. V. (2011). Measuring Commuters' Perception on Service Quality Using SERVQUAL in Public Transportation. *International Journal of Marketing Studies , 3*(1), 21-34.

[7] Wijesekera , A. T., & Fernando, R. (2016). Scale for Measuring Perceived Service Quality of Public Service in Sri Lanka: With Special Reference to Divisional Secretariats in Gampaha District. *13th International Conference on Business Management* (pp. 944-967). Colombo: University of Sri Jayewardenepura.

[8] Lindawaty, D. S., Dharmaningtyas, D. S., Ardiyanti, H., & Katharina, R. (2018). *Peningkatan Kualitas Pelayanan Publik di Indonesia.* Jakarta: Yayasan Pustaka Obor Indonesia.

[9] Anggara, S. (2012). *Ilmu Administrasi Negara: Kajian Konsep, Teori, dan Fakta dalam Upaya menciptakan Good Governance.* Bandung: Pustaka Setia.

[10] Watson, T. J. (2006). *Organising and Managing Work.* UK: Pearson Education Limited.

[11] O'Donnell, O., & Boyle, R. (2008). *Understanding and Managing Organisational Culture.*Dublin : Institute of Public Administration.

[12] Kotler, J. (2012). *Corporate culture and Performance.* New York: Free Press.

[13] Sinha, S., Singh, A. K., Gupta, N., & Dutt*, R. (2010). Impact of Work Culture on Motivation and Performance Level of Employees in Private Sector Companies. *ACTA OECONOMICA PRAGENSIA*, 49-67.

[14] Robbin, P. S. (2002). *Organizational Behavior Principles.* Jakarta: The Publisher.

[15] Bazarko , D., Cate , R. A., Azocar, F., & Kreitzer , M. J. (2013). The impact of an innovative mindfulness-based stress reduction program on the health and well-being of nurses employed in a corporate. *J Workplace Behav Health, 28*(2), 107-133.

[16]] Lovelock, C. H., & Patteson, P. (2015). *Services Marketing* (6 ed.). Melbourne: Pearson Australia.

[17] Zeithmal, V., Bitner , J. M., Gremier , D., & Pandit , A. (2008). *Service marketing: Integrating Customer Focus across the Firm.* New Delhi: Tata McGraw-Hill.

[18] Parasuraman, A., Zeithaml, V. A., & Berry, L. (1985). A conceptual model of service quality and its implications for future research. *Journal of Marketing, 49*(Fall), 41-50.

[19] Galamedianews.com. (2018, March 15). *Dari 1,7 Juta Penduduk Garut, 286 Ribu Belum Lakukan Perekaman e-KTP*. Retrieved from www.galamedianews.com: http://www.galamedianews.com/daerah/182283/dari-17-juta-penduduk-garut-286-ribu-belum-lakukan-perekaman-ektp.html

[20] Koran-Sindo.com. (2016, August 30). *Perekaman e-KTP di Kabupaten Garut Dikebut*. Retrieved from www.koran-sindo.com: http://koran-sindo.com/page/news/2016-08-30/5/72/Perekaman_e_KTP_di_Kabupaten_Garut_Dikebut

[21] Zulkifli . (2017). Pengaruh Budaya Kerja dan Persepsi Masyarakat Terhadap Kualitas Pelayanan Publik Kantor Urusan Agama Kecamatan Aluh-Aluh Kabupaten Banjar. *Jurnal Ilmiah Ekonomi Bisnis, 3*(2), 243-250.

[22] Rosari, R. (2005). Geocities. Universitas Gadjah Mada.