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WCASET - 2020

28th World Conference on Applied Science, Engineering &Technology

29th & 30th April 2020 Indonesia

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28th World Conference on Applied Science, Engineering and Technology

(WCASET – 2020)

Jakarta, Indonesia

29th- 30th April' 2020

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Editorial:

We cordially invite you to attend the ***28th World Conference on Applied Science, Engineering and Technology (WCASET - 2020)*** which will be held at ***Jakarta, Indonesia*** on ***April 29th & 30th, 2020***.The main objective of ***WCASET-2020*** is to provide a platform for researchers, engineers, academicians as well as industrial professionals from all over the world to present their research results and development activities in relevant fields of Science, Engineering and Technology. This conference will provide opportunities for the delegates to exchange new ideas and experience face to face, to establish business or research relationship and to find global partners for future collaboration.

These proceedings collect the up-to-date, comprehensive and worldwide state-of-art knowledge on cutting edge development of academia as well as industries. All accepted papers were subjected to strict peer-reviewing by a panel of expert referees. The papers have been selected for these proceedings because of their quality and the relevance to the conference. We hope these proceedings will not only provide the readers a broad overview of the latest research results but also will provide the readers a valuable summary and reference in these fields.

The conference is supported by many universities, research institutes and colleges. Many professors played an important role in the successful holding of the conference, so we would like to take this opportunity to express our sincere gratitude and highest respects to them. They have worked very hard in reviewing papers and making valuable suggestions for the authors to improve their work. We also would like to express our gratitude to the external reviewers, for providing extra help in there view process, and to the authors for contributing their research result to the conference.

Since January 2020, the Organizing Committees have received more than 210 manuscript papers, and the papers cover all the aspects in Electronics, Computer Science, Information Technology, Science Engineering and Technology. Finally, after review, about 53 papers were included to the proceedings of ***WCASET - 2020***.

We would like to extend our appreciation to all participants in the conference for their great contribution to the success of ***WCASET 2020***. We would like to thank the keynote and individual speakers and all participating authors for their hard work and time. We also sincerely appreciate the work by the technical program committee and all reviewers, whose contributions made this conference possible. We would like to extend our thanks to all the referees for their constructive comments on all papers; especially, we would like to thank to organizing committee for their hard work.

Acknowledgement

IFERP is hosting the **28th *World Conference on Applied Science, Engineering and Technology*** this year in month of April. The main objective of WCASET- 2020 is to grant the amazing opportunity to learn about groundbreaking developments in modern industry, talk through difficult workplace scenarios with peers who experience the same pain points, and experience enormous growth and development as a professional. There will be no shortage of continuous networking opportunities and informational sessions. The sessions serve as an excellent opportunity to soak up information from widely respected experts. Connecting with fellow professionals and sharing the success stories of your firm is an excellent way to build relations and become known as a thought leader.

I express my hearty gratitude to all my Colleagues, staffs, Professors, reviewers and members of organizing committee for their hearty and dedicated support to make this conference successful. I am also thankful to all our delegates for their pain staking effort to travel such a long distance to attain this conference.

Er. R. B. Satpathy
CEO (Chief Executive Officer)
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ABSTRACTS

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Indonesia, 29th-30th April 2020

New Method to Improve the Quality of Data Recording Odontogram through Occlusal Dental Photography for Forensic Odontology

Setiyo Budiyanto, Universitas Mercu Buana
Lukman Medriavin Silalahi, Universitas Mercu Buana
Freddy Artadima Silaban, Universitas Mercu Buana
Budi Purnomo, Universitas Mercu Buana
Fajar Rahayu I.M, Buana Universitas Pembangunan Nasional "Veteran" Jakarta

Abstract:--

The problem in this research is integration the conventional odontogram data recording method into a computer-based odontogram recording through occlusal dental photography in accordance with the National Standard of Dental Medical Records. The purpose of this study is to make the dental examination process more accurate, to evaluate the patient's dental biometrics with occlusal photo data of the patient, and to provide odontogram data as a quality and accurate antemortem data for identification purposes, so that data is evaluated and used as material for discussion the doctors as well as for the patient's family if needed. The method proposed in this study is a simulation using MATLAB by testing binary images then segmenting with Watershed transformation and morphological processes to obtain a single tooth image so that the process is obtained from the numbering process according to FDI (International Dental Federation) standards, then testing missing teeth detection, accuracy of teeth position and calculate classification accuracy using the K-NN (K-Nearest Neighbor) method. The results of this study were obtained odontogram form for maxilla fit accuracy at 73.6%, while mandible accuracy at 100%, the collaboration results of Color Moment and HOG feature extraction in this new method system obtained the best performance with using positive data, occurs at K = 1 of 98%, with an average computing time of 43.95 seconds. While classification using negative data, the best performance is 50%, occurring at K = 3 and K = 7, with an average computing time of 4.35 seconds.

Keywords:--

Dental Biometric, MATLAB, Computer-based, Odontology Forensic, Odontogram, Occlusal dental photography, Watershed, Color moment, Histogram of Oriented Gradient and KNN (K-Nearest Neighbour).

Literature Review of Blockchain-Based Technology for Data Storage Systems in the Governmental Organization

Fikroh Amali Fahmi Addiani, Department of Civil Engineering, Faculty of Engineering, Universitas Indonesia, Salemba, Indonesia

Abstract:--

Cloud computing-based as a data storage system is one of the most widely used systems in government organizations. However, the most problem in this system is the issue of data security. Based on the literature studies, blockchain technology can be used as a data storage system with a higher level of security compared to the cloud computing system. This paper reviews twenty-four studies around the world which had identified the weakness of cloud storage systems, also the characteristics and advantages of blockchain technology. The purposes of this paper are to identify and communicate the research gap in the previous literature. To achieve that purpose, the author has conducted a comprehensive literature review. The twenty-four articles were reviewed in five discussion topics: data storage system base on cloud computing, security in data storage systems, blockchain and the characteristics, blockchain as a base data storage system, and utilization of blockchain technology.

Keywords:--

data security, cloud storage, governmental organizational, blockchain technology

Innovation Process in an Organization about Thematic Learning in Primary Schools; an Innovation Diffusion Research

Asep Ediana Latip, Department of Basic Education, Jakarta State University, Indonesia
Atwi Suparman, Department of Basic Education, Jakarta State University, Indonesia
Nadiroh, Department of Basic Education, Jakarta State University, Indonesia

Abstract:--

Thematic learning as an innovative learning is determined as learning that must be implemented in primary schools. The purpose of this study aims to describe innovation process in an organizations about thematic learning in Primary Schools. This study uses a diffusion research procedure developed by Rogers. The research question is whether Primary schools have an initiation of thematic learning innovation? has the Primary School implemented thematic learning innovations? Does the Primary School redefine or restructure the implementation of thematic learning innovations? Does the Primary School make a process of clarification of thematic learning innovation? Has the Primary School been continuously implementing thematic learning?. The technique of collecting data uses a questionnaire with a Likkert scale. Sources of research data were obtained from members of the organization namely Principals and Teachers primary school. The sampling technique used is purposive sampling. Analysis of the data used is descriptive analysis. The results showed that thematic learning innovations have been diffused in pimary school which states that schools have an initiation of thematic learning innovations by setting agendas and matching with the needs of schools as an organization. In addition, members of the organization both principals and teachers stated that thematic learning implementation has been implemented by restructuring the organization, and has become part of the activities of organizational members and has become a regular schedule of learning activities in Primary schools.

Keywords:--

Innovation Process, Thematic learning, Diffusion Research

The Relationship between Internal Marketing, Employee Satisfaction, and Customer Satisfaction: A Vietnamese Bank Case

Nguyen Ngoc Quang, Faculty of Marketing, National Economics University, Vietnam
Nguyen Viet Lam, Faculty of Marketing, National Economics University, Vietnam
Nguyen Thai Ha, International School of Management and Economics, National Economics University, Vietnam
Nguyen Thu Lan, Faculty of Marketing, National Economics University, Vietnam

Abstract:--

The research aims to analyse the relationship between internal marketing, employee satisfaction and customer satisfaction in the banking service. The purpose is to examine the impact of internal marketing on employee and customer satisfaction based on the survey of 10 Vietnamese commercial banks. The research data was collected through a questionnaire with two parts (one for the staff and the other for the client of this interviewed staff) so a pair sample of staffs-clients was constructed. Based on the data collection, the trinity relationship between internal marketing, employee satisfaction and customer satisfaction of Vietnamese banking community is explored. Findings reveal that: (1) internal marketing has a significant and positive impact on both employee satisfaction and customer satisfaction, (2) the employee satisfaction has a significant and positive impact on customer satisfaction and mediates the relationship between internal marketing and customer satisfaction. The results indicate the implication that Vietnamese banking managers should apply internal marketing practices to upgrade employee satisfaction, thus customer satisfaction will be improved in the fiercely competitive service industry.

Keywords:--

Internal marketing, Employee satisfaction, Customer satisfaction, Vietnamese bank

Effect of telerehab system for postural correction

JaeHo Yu, Department of physical therapy, Sunmoon University

Abstract:--

As abnormal posture caused by prolonged smartphone use increases, its related disease also increases. It is time to prevent this problem. This study aim to figure out how much telerehab system has an effect on postural correction. Healthy 34 participants were instructed to keep neutral posture and then use smartphone. Each participant was instructed to maintain a neutral posture with their elbows positioned in line with the trunk and flexed 90–120˚ and keep the trunk upright, chin tucked, scapula slightly protracted and depressed and sole of the foot on the floor 1) for 15 minutes in non feedback condition, after 3 minutes resting period, 2) for 15 minutes in visual feedback condition while maintaining their original posture. When participants consciously apply feedback for postural correction, participants can check the movement of scapula and forward head level as they apply posterior visual feedback. The result of this study had a significant difference in the meaning of interval at Tragus and all Z-coordinate.($p<0.05$) Also, there was significant difference in the meaning of cervicoscapular posture angle.($p<0.05$) Both results indicated that the participants maintained the original posture well. In this study, it proved that visual feedback for postural correction has a positive effect. Further study needs to demonstrate this measurement to real clinical patients.

Keywords:--

Telerehab, Visual feedback, Forward head posture, Abnormal posture, Postural correction.

Impacts to Teacher-Student Relationships on Students' Academic Performance at the Secondary School Level in Dhaka City

Mashraky Mustary, Doctoral Student,Sophia University,Japan.Lecturer ,Department of Publicadmiinistration,Begum Rokeya University,Rangpur.

Abstract:--

This study seeks to create understanding on the significance between the relationship between teachers and students in an academic set up. The research has used a simple random sampling method to determine a population sample of 200 respondents. This sample size consisted of 100 students and 100 teachers. Data was collected by use of questionnaire forms and interviews. After collecting the primary data, the data was subjected into quantitative analysis using various statistical methods so as to get understanding of the topic which was being investigated.

Based on the research, it was realized that there is a positive correlation between teach-student relationship and academic performance. This means that positive relationship between teachers and students improve the performance of students. On the other hand, negative relationship between teachers and students deteriorate the performance of students. It was also realized that learners find it easy to share with teachers the predicaments they undergo when there is a positive relationship. However, in a situation where teachers do not show any concern to students, academic performance usually deteriorates because students are not in close intimacy with the teachers. Therefore, the study recommended that teachers should devise mechanism of developing a positive relationship with students so as to address their needs including those associated with academic performance.

Keywords:--

Academic Performance, Students, Bangladesh, Dhaka, Secondary School, Relationship, respondents, random sampling, analysis.

Mobile Learning Support with TELD to Facilitate In Learning Environments

Juhaidatur Rahmi, Postgraduate Program, State University of Jakarta
Basuki Wibawa, Educational Techonology, State University of Jakarta
Khaerudin, Educational Techonology, State University of Jakarta

Abstract:--

Mobile learning application is learning trends that integrate mobile technology advances the benefits of education by utilizing internet access as a communication tool to disseminate information. Mobile learning applications in general are able to improve the results of the learning process by changing students learning habits and learning methods.. Through a pedagogical approach to methodology of Teaching by Example and Learning by Doing (TELD) has present to reinforce dynamic interactions and provide instruction how to time integrate and harnees teaching for students. This emerging 21st century conception the principle that learning can be done from anywhere, anytime and anyhow-learning in formal education can be held effectively and efficiently should it, is done in a systematic and holistic way. This article purpose a strategic design mobile learning for effective mobile learning implementation. A courseware approach is being selected as vehicle to conduct learning activities within m-learning environment.

Index Terms

Mobile Learning, TELD, Learning Environment

Revitalization Wayang in present context through creative learning; brainstorming, and mind mapping

Kurnia Setiawan, Tarumanagara University
Iwan Zahar, Indonesia EsaUnggul University
Ninawati Lihardja, Tarumanagara University
Meiske Yunithree, Tarumanagara University

Abstract:--

Shadow-puppets originated from India, and Indonesians developed various shadow-puppets that differed slightly from their origin. Although there are many noble values and various cultural traditions contained in the philosophy and physical form of Indonesian shadow puppets. However, the shadow puppets are increasingly forgotten by today's young generation. The purpose of this research is to revitalize shadow-puppet in the present context and the perspective and expression of young people. Research conducted is descriptive qualitative. The research subjects were students at the Visual Art and Design Faculty, at Tarumanagara University. The research methods conducted by depth-interview to RadenBagusAnantaHariNoorsasetya and UntungSaryanto (wayang expert), quessioner, pre and post-test about the students' insights, interests, and creative ideas on wayang, and focus group discussion with 33 Tarumanagara Students who take creative experiment course. Amongst the creativemethod used, which is considered the most striking and suitable is brainstorming and mind mapping. The results of a pleasant learning atmosphere, getting to know themselves, expressing themselves, thinking freely, cooperating with others and stimulating the courage to experiment to revitalize puppets. There was a change in their insights, interests and creativity before and after attending several meetings with creative experiment lectures.

Keyword: -

insight, mind mapping, brainstorming

River Water Quality and Management of Water Pollution (Study in Grogol River, South Jakarta)

Nurhayati, Departement of Environmental Engineering, Satya Negara Indonesia University (USNI), Indonesia

Abstract:--

The river water is one of the environmental components that have an important function for human life, including to supports economic development. Currently, residents in DKI Jakarta Province still use river water as a source of clean and drinking water, this is due to the limited supply of clean water provided by PDAM Jaya so that river water is an alternative source of water. The river as a body of recipient of domestic waste water becomes one of the natural resources that are vulnerable to pollution. Grogol River is one of the rivers that is used as raw water for clean water and is now polluted due to community activities. This study aims to analyze water quality and determine efforts to control water pollution in the Grogol River. The research method used is a combination of quantitative and qualitative methods. The SWOT (Strength, Weakness, Opportunity, and Threat) method is used to determine water pollution control efforts. The results showed that efforts to control water pollution that can be applied in the Grogol River are: control the people who live and operate in river border areas, organize socialization and training to the community and MSME about the importance of waste management, improve supervision of MSME liquid waste disposal, government assistance in creating systems and implementing integrated WWTP for MSME activities and slums, and implementation of water pollution control programs.

Keyword: -

River, water quality, management, water pollution.

Application of Deming Management Method to Improve Quality Management Performance Telecommunication Projects in Indonesia

Sigit Budi Jatmiko, University of Indonesia,[2] University of Indonesia
Mohammed Ali Berawi, University of Indonesia,[2] University of Indonesia

Abstract:--

Quality management ideas and theories from W. Edward Deming have been implemented in the world, especially in the manufacturing and service industries. The focus of this research is to examine the Deming Management Method by including the intervening of the measuring indicators in the telecommunication project with case study in Indonesia.

In this research, we will analyze the effect of the measured indicators and the correlations of the hypothesized relationships that are all positively related. From the formulation of the problem will be analyzed what needs to be evaluated from the relationship between the Deming Management Method and improving quality management, and the Deming Management Method application strategy that can improve the quality management of telecommunications projects in Indonesia.

Keyword: -

Deming Management Method, telecommunication.

Strategy of Doctrine Management in the VUCA World from the Perspective of Defence Science: An Analytic Hierarchy Process Approach

Merjames Pakpahan, Indonesia Defense University (IDU)
Lilly S. Wasitova, Indonesia Defense University (IDU)
Richardus Eko Indrajit, Indonesia Defense University (IDU)
Taufik Dwicahyono, Indonesia Defense University (IDU)
Raja H. Manalu, Indonesia Defense University (IDU)
Sampe L. Purba, Indonesia Defense University (IDU)

Abstract:--

The VUCA (Volatile, Uncertain, Complex, and Ambiguous) we are in today has begun in the early 1990s after fallen down of eastern block, where suddenly the clear meaning of "enemy" disappeared and a new way of seeing and reacting. Along with it, also a rapid changes taking place in political, economic, social and technological aspects world-wide are making the organizational world increasingly more VUCA. From the perspective of Defense Science, this new world brings consequently a challenge in the Doctrine Management and requires the right strategy to anticipate changes in parameters, identify opportunities and threats, create strategic plans, manage risks, solve problems and make effective decisions. Thus, in large organizations it is necessary to establish a strategy for managing doctrines so that many doctrines that look like scattered pieces can become integrated and connected with each other. In the concept of doctrine management, there are fundamental doctrines that underlie all existing doctrines, and then environmental doctrines that form part of the basis of organizational doctrines. The Defense Science mention that military doctrine is the expression of how military forces contribute to campaigns, major operations, battles, and engagements. It is a guide to action, rather than hard and fast rules. The Analytic Hierarchy Process (AHP) is a new approach that can be used to analyze and assess the strategy of doctrine management. The AHP presents a flexible, easily understood way to assist the decision-maker in formulating a problem in a logical and rational manner. Thus, in this new VUCA World the doctrine has to response to the nature of the world in which they operate: the accelerating rate of change (volatility), the lack of predictability (uncertainty), the interconnectedness of cause-and-effect forces (complexity), and the strong potential for misreads (ambiguity).

Keyword: -

Analytic Hierarchy Process, AHP, Doctrine, Management, Strategy, VUCA

Design and Investigation of Fuzzy Control for Independent Full Car Suspension Model in Random Road and Braking Excitation

Marji, Automotive Department, Engineering Faculty of State University of Malang
Muchammad Harly, Automotive Department, Engineering Faculty of State University of Malang
Sumarli, Automotive Department, Engineering Faculty of State University of Malang
Erwin Mindarta, Automotive Department, Engineering Faculty of State University of Malang

Abstract:--

Un-sprung mass direction control,sprung mass rolling, pitching and ride comfort control are the essential integrated chassis control for vehicle. The first control, it utilizes direct yaw moment by independent wheel braking and drive and active steering. The second control, it uses varied independent damper constant and excitation force on suspension. This paper propose a design of fuzzy control to control independent full car suspension by considering brake and drive excitation and finally investigate the response of rolling, pitching of the sprung – mass. First step was developed mathematical model of full car suspension with considering the brake and drive excitation of each wheel. Second step designing the fuzzy control and investigate the response of rolling and pitching. Result of experiment shown, that the fuzzy intelligent control of suspension with considering the brake and drive force excitation has better rolling, pitching and ride comfort control in the form sixth time shorter to perform convergence time (1,5 seconds) compared with PID (7 seconds) in isolate the road, brake and drive disturbance.

Keyword: -

fuzzy control, brake and drive force excitation, rolling-pitching and ride.

Applying Lean Government to Improve Public Services Performance Effectively: A Case Study of Lean Implementation in Tangerang Customs Office

Asral Efendi, Indonesia Defense University
Imam Tri Wahyudi, Indonesian Customs and Excise
Fitri Rinaldi, Indonesia Defense University
Eko G.Samudro, Indonesia Defense University
HJR Saragih, Indonesia Defense University

Abstract:--

organization with a supervision froman external consultants into the Tangerang Customs Office (TCO) to improve public services. The purpose of thispaper is to examine which tools/techniques are implemented into the TCO together with their impact as viewed by the formal leaderwithin theorganization.

The research takes a case study approach based on visiting the TCO, by using the Library Research method on Activities Report VSM training, implementation of lean tools, and in-depth interview with formal leader.

This paper reflects on the implementationof a Lean approach into the TCO in order to understand which tools are relevant and have had an impact.This research showed that lean implementation have led to tangible and intangible benefits. Tangible benefit appeared in reduction of the average customs permit processing time, although average submitted documents increased. Intangible benefits include a better understanding of Lean concept and methods and its application know-how, a rise in employees motivation and morale by executing employees improvement proposal as a bottom-up approach..

To date the implementation of Lean as a business improvement methodologies are still under researched within public services in Indonesia. The majority of papers to date focus on presenting case studies of what happened outside of Indonesia. This paper attempts to go beyond that in order to present framework to help in understanding, implementing and challenging the concept ofLean in public services in Indonesia

Keywords:

Lean Government, Value Stream Mapping, Public sector organizations, Business process re-engineering

The Effect of Inquiry-based Learning (IBL) and Project-based (PjBL) on the Development of the Critical Thinking Disposition (CTD) of Prospective Teachers of Electronic Engineering Education at Universitas Negeri Jakarta, Indonesia

Wisnu Djatmiko, Fakultas Teknik – Universitas Negeri Jakarta
Suyitno Muslim, Fakultas Teknik – Universitas Negeri Jakarta
Suyono, Fakultas MIPA – Universitas Negeri Jakarta

Abstract:--

Learning strategies are considered to have a facilitative effect or hinder the development of students' CTD. The purpose of this study was to determine the effect of IBL and PjBL on students' CTD development. 84-students study five electronic materials which are grouped using simple random sampling for each learning strategy. The pretest-posttest experimental design and paired sample and independent sample t-test were used to validate the effectiveness of each learning strategy. CTD instruments derived from California Critical Thinking Disposition (CCTD) are used to measure students' CTD data obtained at the end of each lesson. The results showed that the CTD of prospective teachers of electronic engineering education increased in the IBL and PjBL groups. In the IBL group (N = 42) the average value of students' CTD increased significantly (alpha = 0.05) from 163.24 (pretest) to 174.81 (posttest) with t-Statistic = 14.53 > t-Critical one-tailed = 1.68 with N-gain = 0.31. In the PjBL group (N = 42) the average value of students' CTD also increased from 162.52 to 168.38 with t-Statistic = 15.52 > t-Critical one-tailed = 1.68 with N-gain = 0.16.

Keywords:

inquiry-based learning, project-based learning, development of critical thinking disposition, effect of learning strategies.

The Influence of Dynamic Capability and Collaboration Strategy on the Company Positional Advantage (A Study of Airports in Indonesia)

Ferdian Agustiana, Binus University
Diyah Budiastuti, Binus University

Abstract:--
The service performance of several airports under the auspices of Angkasa Pura is on par with other world class airports. It is important to create a company positional advantage for airports in Indonesia. But there are still facts about the problem with this. In this regard, the purpose of this study is to examine the effect of dynamic capability and collaboration strategy on company position advantages in the airport industry in Indonesia. The research design is quantitative research approaches. The type of research used in this study is verification. The survey method applied is an explanatory survey. The unit analysis in this study is airports in Indonesia. The observation unit is the airport management in Indonesia. The research data collected was in the time span of cross section one shoot. The population in this study is all airports in Indonesia. Samples is taken as many as 50 airports. Analysis of causality in this study using Partial Least Square. The results of study reveals that the company position positional advantage is more dominantly formed by collaboration strategy and supported by dynamic capability. The results of this study have implications for airport management that the development of company position advantages can be carried out by developing collaboration strategies, especially in terms of cooperation with institutions, followed by cooperation with logistics and transportation vectors, regional airports, private stakeholders, airlines, and tour operators. These efforts are supported by the development of dynamic capability, which prioritizes to the aspects of reconfiguration strategy, seizing capacity and sensing capability.

Index Terms—
dynamic capability, collaboration strategy, company positional advantage.

A Review of the Implementation of Experiential Learning Courses

Rodolfo B. Burac, Jr, College of Education, Dr. Emilio B. Espinosa Sr., Memorial State College of Agriculture and Technology a

Abstract:
This quantitative study dealt with the implementation of the Experiential Learning Courses. It aimed to measure the intended learning outcomes and the level of engagement, the challenges and benefits derived in the implementation of Field Study Courses. A 5-point Likert scale was used to measure the intended outcomes and the level of engagement of the respondents. The results show that the level of the intended learning outcomes measured was interpreted as very much achieved, and the level of participation of all the respondents was interpreted as very much participated. The results show that when experiential learning is implemented according to its processes, the intended learning outcome will be achieved. Further, the results imply that even if there are challenges in the implementation of the field study courses, the overall implementation is still successful.

Keywords :
learning outcomes, implementation, field study courses

Conceptual & Procedural Models in Competency Test Proficiency Assistance System based on Ubiquitous Learning

Basuki Wibawa, Fakultas Teknik, Universitas Negeri Jakarta – Indonesia
Rangga Firdaus, Teknologi Pendidikan, Universitas Negeri Jakarta, Ilmu Komputer, Universitas Lampung
Khaerudin, FIP Universitas Negeri Jakarta

Abstract:

The industrial era 4.0 has brought various challenges such as technology, strategy, business and people, where people or human resources become one of the main assets in a company and significantly determine competitive advantage in the market. Not only that, but also because the dynamics of change in the labour market are getting faster, which means outdated from existing competencies and increasing demand for new competencies. Sharing research and previous literacy is an inspiration to create and develop a system that has collaborative learning capabilities with various stakeholders, various teaching materials or content provided, as well as various services in learning innovation. The primary foundation of the system created in this study based on Ubiquitous Learning by combining three interrelated system development models between the Borg and Gall model as the backbone, Hanafin and Pack as the learning interaction process and the Waterfall model of the accompanying application system built. The establishment of the Conceptual Model and Procedural Model in a digital learning platform from national and international standard certification programs based on Profession and Competence provided by industry and associations, bridging the industrial and campus worlds to opportunities for new paradigms in the educational business process that will ultimately impact by increasing the competency ability of human resources in the field of informatics also students and lecturers in Indonesian informatics and computer education.

Keywords :

Assistance Systems, Educational Technology, Learning Innovation, Proficiency Testing, Ubiquitous Learning

Analyzing Sustainable Supply Chain Management Key Factors while Pandemic in Manufacture Industry in Indonesia

Adi Kurniawan, University of Indonesia

Abstract:
A pandemic situation that takes place in an affected area will directly impact an industry that involves as many resources as it does in a factory, especially if the epidemic is easily spread and or transmitted to others through its distribution media. This allows the imbalance of the production process and also the supply chain flow from the company, especially in the manufacturing sector, because the impact of this epidemic is very broad and allows the potential lockdown from the affected location if it takes a lot of victims, namely humans infected with the epidemic. Especially based on the classification of impacts ranging from those infected to the number of fatalities. The implementation of this pandemic-related policy is crucial for the supply chain order because it can create an imbalance in the global business economy in carrying out the production of their respective goods because the supply chain network is beginning to be disrupted due to the existence of this pandemic. Therefore we need a strategy to handle the impact of the pandemic on the supply chain so that later every company in the manufacturing industry can reduce the potential losses due to production failure due to the lack of supply of raw materials to produce goods.

Index Terms
SSCM, Key Factors, Pandemic, Manufacture, AHP.

System Dynamic Analysis Implementation in Risk Management of Labour Social Security Membership Policy

Dr. Poempida Hidayatulloh, UniversitasMercuBuana/BPJS Ketenagakerjaan

Abstract:

One of the challenges in overseeing an implementation of a policy is to foresee the risks that may arise with it. One may identify any risks without knowing the correlation among each element within them. This would commonly lead to a more tangled future policy making due to undesired archetypes occurrence. BPJS Ketenagakerjaan recently applied a policy to accelerate member acquisitions by adapting the Japanese Sharousi scheme. The Supervisory Board of BPJS Ketenagakerjaan ran a system dynamic model and further analyzed it, in order to capture the whole consequences of the policy implemented. Analyses of the model were elaborated in this paper. The analyses cover the correlating risk elements of the policy model. How each of them interact and influence one to another. Some simulation results were also presented. Furthermore, recommendations were made based upon the analyses.

Index Terms

Modelling Analysis, Policy, Risk Management, System Thinking.

Analysis of Safety Cost Structure in Infrastructure Project of Main Dam Based on Work Breakdown Structure (WBS)

Zaenudin Sakti Wibowo, Department of Civil Engineering, Faculty of Engineering, Universitas Indonesia

Yusuf Latief, Department of Civil Engineering, Faculty of Engineering, Universitas Indonesia

Abstract:

Work activities on construction projects can have problems caused by various things, one of them is workplace accidents. Early identification and analysis of potential hazards in each work package, implementation method, work activities, resources and the existing environment can prevent work accidents from occurring. But the application of an occupational health and safety management system is still not optimal, this is due to the absence of a separate budget in this sector. Thus, financing in this management system is taken from the project budget, which causes a reduction in the profits of the construction company. This study aims is to develop the safety cost based on Work Breakdown Structure (WBS). The research methode are survey research and descriptive analysis. The study results are the dam standardizedWBS, potential hazard sources, the preventive action to each potential hazards in each activity, finding the safety cost components based on WBSand the calculation of safety cost percentage in order to improve the OHSMS quality and reducing work accidents in the dam projects.

Keywords:

Work Breakdown Structure, Dam Project, Safety Plan, Cost of Safety

The Development of Planning and Controlling Procedure for Gas Well Drilling Projects to Improve Time Performance Based on PMBOK 2017. (Case Study of XYZ Gas Field Well Drilling Project in West Papua)

Archivito Aryo Santoso, Department of Civil Engineering, Faculty of Engineering, Universitas Indonesia, Kampus Baru UI Depok, Jawa Barat 16424, Indonesia

Yusuf Latief, Department of Civil Engineering, Faculty of Engineering, Universitas Indonesia, Kampus Baru UI Depok, Jawa Barat 16424, Indonesia

Abstract:

Lack of attention to proper procedures in the planning and controlling system is one of the main causes of delay of many projects. In the exploration project of gas field in West Papua, delay is one of the main problems that occur. Project delays during the exploration drilling period caused many losses mainly related to delays in the monetization period of the gas field, while the duration of the production sharing contract for the gas field with the Indonesian government cannot be extended in the near future. This research was conducted to provide development of the project planning and control system procedures for to improve the time performance of gas wells drilling projects on the XYZ Gas Field by using project management scientific principles based on the PMBOK 2017. The method used in this research is a risk analysis using a case study of XYZ Gas Field exploration drilling operations and also a survey to determine the dominant risk that can affect time performance of the project. Furthermore, preventive and corrective actions will be designed and recommended to develop the exploration well drilling project procedures so that time performance can be improved. The results in this research indicate that there are three aspects needed for the development of planning and controlling procedures of well drilling projects in the XYZ gas field; the project risk management system that is applied to all phases of the project life cycle, the application of a project management software and inclusion of project communication risk analysis in the risk management system. It is expected that the results of this study can provide input to ABC Co., the contractor managing the XYZ Gas Field in determining and making improvements to the performance of the drilling operation and completion of the development well and also the production well that will be carried out in the future.

Keywords:

control procedure, oil and gas well drilling, planning procedure, PMBOK 2017, project risk, time performance.

The Effect of environmental Personality and Locus of Control on Employees' Pro-Environmental Behavior

Yusriani Sapta Dewi, Universitas Satya Negara Indonesia

Abstract:

The research is aimed at finding out the effect of environmental personality and locus of control on employees' pro-environmental behavior. The research method used in this research was ex post facto with 2 x 2 factorial design. The object of this research were 32 employees of Universitas Satya Negara Indonesia (USNI) Jakarta, picked using random sampling technique. There were three variables in this research; pro-environmental behavior, environmental personality, and locus of control. The data were analyzed using two-way ANOVA and Tuckey test. The research results showed that 1) there were significant differences on the pro-environmental behavior of employees with accurate environmental personality and those with less accurate environmental personality; 2) there were significant differences on the pro-environmental behavior of employees with internal locus of control and those with external locus of control; 3) for employees with internal locus of control, their pro-environmental behavior was more positive if they have accurate environmental personality; 4) for employees with external locus of control, their pro-environmental behavior was more positive if they have less accurate environmental personality; 5) there is an influence of the interaction between environmental personality and locus of control on pro-environmental behavior. Therefore, it can be stated that pro-environmental behavior of employees is not only influenced by their environmental personality, but also by their locus of control. In other words, to improve employees' pro-environmental behavior, both environmental personality and locus of control need to be considered.

Keywords:

Environmental Personality, Locus Of Control, Pro-Environmental Behavior

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