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[Chico Hermanu Brillianto Apribowo](#); [Meiyanto Eko Sulistyo](#); [Muhammad Hamka Ibrahim](#); [Agus Ramelan](#); [Subuh Pramono](#); [Joko Slamet Saputro](#); [Oktavian Listiyanto](#)

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[Muhammad Hamka Ibrahim](#); [Hari Maghfiroh](#); [Muhammad Nizam](#); [Chico Hermanu Brilianto Apribowo](#)

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Rosnani Ginting; Aulia Ishak; Alfin Fauzi Malik

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S. D. Sumbogo Murti; Fusia Mirda Yanti; Atti Sholihah; Asmi Rima Juwita; Joni Prasetyo; Meyly Ekawati Thebora; Edwin Pramana; Hens Saputra

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Design variables reactive power compensator using magnetic energy recovery switch (MERS) for induction motor

[Chico Hermanu Brillianto Apribowo](#); [Luthfy Mahkmudy](#); [Oktavian Listiyanto](#)

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[Chico Hermanu Brillianto Apribowo](#); [Abyan Habibie](#); [Zainal Arifin](#); [Feri Adriyanto](#)

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Design and economic analysis of floating PV-wind turbine plant for renewable energy supply in Indonesia

[Chico Hermanu Brillianto Apribowo](#); [Muhammad Hamka Ibrahim](#); [Muhammad Ramadhan Bagus Purnomo](#)

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Design and implementation of closed-loop controls for smart charging lithium ion battery UNS using switching technique boost converter

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Optimization of 4G LTE (long term evolution) network coverage area in sub urban

[Subuh Pramono](#); [Lia Alvionita](#); [Mustofa Danang Ariyanto](#); [Meiyanto Eko Sulisty](#)

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Analysis and optimization of 4G long term evolution (LTE) network in urban area with carrier aggregation technique on 1800 MHz and 2100 MHz frequencies

[Subuh Pramono](#); [Mustofa Danang Ariyanto](#); [Lia Alvionita](#); [Meiyanto Eko Sulisty](#)

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Design of a hydroponic monitoring system with deep flow technique (DFT)

[Subuh Pramono](#); [Arif Nuruddin](#); [Muhammad Hamka Ibrahim](#)

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Movement flexibility of autistic children during individual therapy using ABA Lovaas table modification with foldable table top

[Dwi Candra Purnamasari](#); [Sintha Sari Martaningtyas](#); [Lulu Purwaningrum](#)

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Maintenance strategy selection in a cement company: An integrated AHP-FAHP approach

[Masoud Rahiminezhad Galankashi](#); [Fatemeh Khorramrouz](#); [Mehran Esmaeilnezhad](#); [Farimah Mokhatab Rafiei](#); [Muhammad Hisjam](#)

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Implementation of lean manufacturing in an electronic assembly company

[Celine Koh Xian Lin](#); [Syed Ahmad Helmi](#); [Muhammad Hisjam](#); [Ahad Ali](#)

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Ergonomic improvement in a manufacturing company

[Tuan Ahmad Farhan Hakimi](#); [Syed Ahmad Helmi](#); [Muhammad Hisjam](#); [Ahad Ali](#)

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Photodegradation of batik waste with graphitic carbon nitride using UV-BLB

[Bagas Cahyadi](#); [Leony Inatsan Pertiwi](#); [Queenta Perdanita Putri](#); [Anatta Wahyu Budiman](#)

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An application of support vector machine to detect anomalies in time series data

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Internet reactor laboratory application design on android client devices

[Adi Abimanyu](#); [Damasus Riko Prijono](#); [Agus Arif](#); [Muhtadan](#)

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Design and implementation of autonomous solar powered iot farm monitoring system using MQTT over cellular network

[Muhammad Hamka Ibrahim](#); [Chico Hermanu Brilianto Apribowo](#); [Fahmi Ismail](#); [Bima Damar Jati](#); [Sony Adyatama](#); [Attar Al Mufashal Rasyid](#); [Bima Tri Prasetya](#)

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Design and implementation biogas production by anaerobic digestion for sustainable energy development: A case study residential in Indonesia

Chico Hermanu Brillianto Apribowo; Muhammad Hamka Ibrahim; Adhitya Pitara Sanjaya

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A Data Envelopment Analysis Approach for Assessing the Efficiency of Sub-sectors of Creative Industry: A Case Study of Batik Enterprises from Semarang, Indonesia

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Abstract. The creative industry (CI) is considered to promote human development while promoting the economic growth. It maintains and protects historical and cultural heritage, improve cultural capital, and foster communities as well as individual creativity. Although there is widespread classification of the CI, the Ministry of Tourism of Indonesia has classified CI into 16 sub-sectors, i.e., (1) advertising, (2) architecture, (3) interior design, (4) product design, (5) craft, (6) visual communication design, (7) fashion, (8) film, animation, and video (9) photography, (10) application and game developers, (11) music, (12) performing arts, (13) publishing, (14) fine arts (15) TV and radio (broadcasting), and (16) gastronomy/culinary. The creative industry is an industry that originates from the use of creativity, skills and individual talents to create prosperity and employment by generating and exploiting the individual's creative and creative power. Batik industry is one of Creative Industry in Indonesia which plays an important role in the economic development. However, the Batik are facing difficulties in many areas, especially in spending their scarce resources efficiently. A case study to assess the efficiency of the Batik enterprises has been conducted by applying the data envelopment analysis in Semarang, Indonesia. The results show that from ten assigned Batik enterprises, there are nine enterprises' that are considered efficient, while the rest are regarded as inefficient. This research is expected to give some advantages to the Batik enterprises' regarding how to use their limited resources in an efficient way.

INTRODUCTION

Small and medium enterprises (SMEs) are broadly acknowledged to have a vital role in the economic development. Both developed and developing countries believe that they could bring huge economic benefits by contributing to the entrepreneurship, employment creation, as well as income generation [1-3]. Particularly in the developing countries, the SMEs are considered as important not only since they create the employment but also because they employ unskilled workers who are abundant in such countries [4]. The SMEs gave big contributions to the employment growth and gave steady decline in poverty rate. Beyond the dark year, the SMEs even contributed more to economic growth compared to big enterprises due to their dependency towards formal markets and credits [5]. In fact, the SMEs represent more than 99% of the total number of enterprises in Indonesia and employ more than 97% of the entire workforce [6-7]. In addition, the SME sector exported as of 16% of total non-oil exports, and accounted for 57.94% of total gross domestic product (GDP) at current prices [7].

The creative industries refer to a variety of economic activities related to knowledge and data generation or exploitation. It may also be referred to differently as the cultural sectors [8] or the creative economy [9]. Howkins' creative economy comprises advertising, architecture, art, crafts, design, fashion, film, music, performing arts, publishing, R&D, software, toys and games, TV and radio, and video games [9]. The definition of CI refers to industry which has its origin in individual creativity, skill and talent, and which has a potential for wealth and job creation through the generation and exploitation of intellectual property [10].

Development of Neck Surface Electromyography Gaming Control Interface for Application in Tetraplegic patients' Entertainment

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Abstract. In the recent past, surface Electromyography (sEMG) signals has been effectively applied in control interfaces for robots, prosthetic hands, legs and other areas. Few works has focused on neck EMG control in spite of the neck being central to human movements and engagements. We propose a neck EMG model that estimates head movements and apply the signals to control a game developed in Unity 3D engine. The game involves randomly falling and accelerating objects. The user slides the games' player character (paddle) using neck EMG to intercept as many objects. EMG signal is rectified and FIR filtered and used to control the position of a sliding probe of the game in real-time. The paper utilizes an equation model and a Machine Learning model to translate the filtered signal to corresponding neck rotation. From the results, all the subjects reported accuracy of over 70% which confirm the applicability of the interface and ease of use in that there is little or no calibration needed. The control model using equation showed intuitive direction and speed control while the Machine Learning scheme offered more stable direction control but limited speed control of the sliding paddle. The control interface can be applied in multiple areas that involve neck activity e.g. in rehabilitation as well as gaming interface to enable entertainment for the disabled.

INTRODUCTION

The activity of muscles is observed as bio-electric potentials in human beings which constitutes electromyogram (EMG) signal. Surface EMG (sEMG) is the signal acquired from the surface/belly of the muscle group under consideration, usually recorded using surface electrodes. EMG studies in literature can be broadly categorized in to two categories; classification and regression [1]. The former is concerned with accurate prediction of patterns and grouped activity in to a sensible single or multiple action. There is a wide application of this for example in hand or finger prosthetics where voluntary control of certain muscle should correspond to a fine motor action like pinching, pointing and others. The other category of EMG control is concerned with regression and or finding a relationship between continuous muscle activity in a task.

EMG integration into daily activities takes different forms and shapes ranging from gesture and posture recognitions [2], robotic control [3], [4], [5], wheelchair control [6], muscle rehabilitations [7] to list but a few. An application field which is similar to the proposed research is the use of EMG signals in gaming environment [8], [9], [10]. A paper [11], sought to investigate how myo-gaming, a term used to describe application of myoelectric signals to gaming, improves EMG control and whether there are any performance improvements over time. The authors

Maintenance Strategy Selection in a Cement Company: An Integrated AHP-FAHP Approach

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Abstract. This study develops an integrated AHP-FAHP approach to select the best maintenance strategy for different equipment of a cement manufacturer located in Iran. Although the topic has been investigated in previous literature, it is less examined in cement manufacturers of developing countries. To fill this gap, this research has been conducted in three phases as follows. Firstly, the most important measures of maintenance strategy selection are developed and ranked using a questionnaire. Next, these measures are applied to choose the best maintenance strategy for different equipment of a case study using an Analytic Hierarchy Process (AHP). Finally, a Fuzzy AHP is developed to investigate the obtained results in an uncertain environment. The considered strategies include Corrective maintenance (CM), Reliability Centered Maintenance (RCM), Total Productive Maintenance (TPM), Preventive Maintenance (PM) and Predictive Maintenance (PDM). According to the obtained results, safety, cost, reliability and availability are the most important criteria of maintenance strategy selection. In addition, according to AHP, the PDM strategy is suggested for furnace, PM is suggested for electro filter machine and CM is suggested for crusher. These results are comparatively investigated by FAHP and some managerial insights are suggested.

INTRODUCTION

Availability is an important factor which should be considered in today's competitive markets. In this regard, companies have acknowledged the importance of maintenance planning and its role to improve the equipment availability. With the advent of mass production, the usage time of manufacturing equipment has been significantly increased. However, any manufacturing machine needs a comprehensive maintenance planning approach. Although the concept of maintenance strategy selection and the similar topics have been vastly investigated in previous literature, few studies have been conducted in cement manufacturing companies especially in developing countries. Therefore, it is essential to determine the most important measures of maintenance strategy selection, identify the proper Multiple-Criteria Decision Making (MCDM) approach to rank the alternatives and finally consider the uncertainty of decision makers' judgments. In other words, while maintenance strategy selection is an important topic which should be more investigated, it is less examined with regard to the required measures, appropriate MCDM approaches and uncertain nature of the problem. This ignorance is somewhat due to the intrinsic complexities linked with identification of proper criteria, variability of the available MCDM techniques and finally the fuzzy nature of decision makers' judgments. However, this research propose an integrated AHP-FAHP