

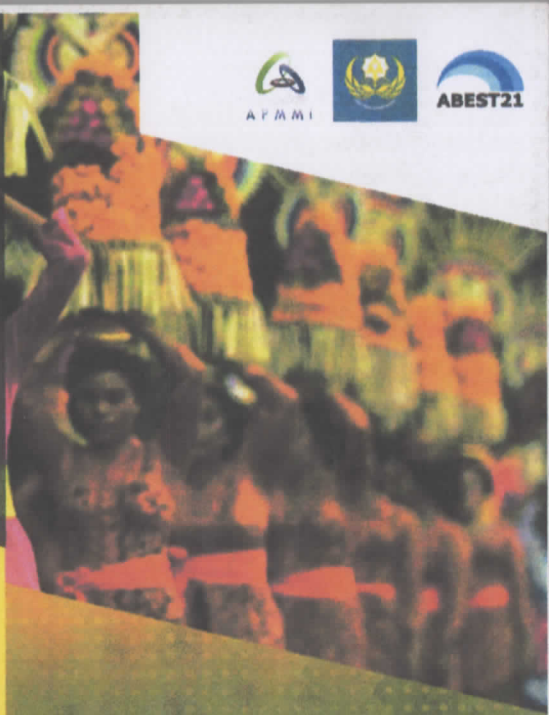
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30<sup>th</sup> - 31<sup>st</sup> July 2018

## MARKETING (PEMASARAN)

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## BIAS ASPECT IN DECISION MAKING FOR BUYING LIFE INSURANCE IN INDONESIA

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Faculty of Business & Economics, University of Surabaya

### ABSTRACT

*This research aims to learn about the irrationality in Indonesian society when making purchase decision related to life insurance. This irrationality caused by the multiple aspects such as excessive optimism, representativeness bias, overconfidence, herding effect, availability, confirmation bias and framing effects. This study will describe how the life insurance purchase decisions are seen from seven aspects of bias. This research is positivism basic research in quantitative and descriptive. This research data obtained by survey method where this method using questionnaires. The number of samples in this study was 160 people. The results of this description will be used to address the main problem of this research. Aspects of representativeness bias are not used in this study because the respondent data reliability is very low. Descriptive statistical test results from this study indicate that only availability bias and framing effects contained in life insurance purchase decision. Aspects of availability bias are a dominant aspect of life insurance purchase decision. In addition, this study also indicates that there are differences between men and women. The aspect of availability bias and framing effect occurred on men, but for women only framing bias effect occurred. This study also indicates that there is difference bias result in terms of different age of respondent and the duration of life insurance ownership. Overall, this study shows that there is no bias aspect in the life insurance purchase decision.*

*Keywords: irrationality, excessive optimism, representativeness bias, overconfidence, herding effect, availability, confirmation bias, framing effect*

## ANALYSIS OF USER SATISFACTION ON WEBSITE JOURNAL ONLINE (CASE STUDY BULLETIN HEALTH SYSTEM RESEARCH)

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### Abstract.

This research is a study that focuses on the quality of the website viewed from the perception of end users (end users). The method used in this study is a quantitative method to see the quality of website services with the level of user satisfaction online journal. To evaluate the quality of online journal websites in Bulletin Health Systems Research using WebQual theory which is a technique or measurement scale of website quality based on end user perception (end user). The results of this study indicate that the online user satisfaction BulHSR journal is influenced by the quality of the website, especially the quality of information. Quality of information is the most influential factor in providing a sense of satisfaction for its users. Information management still needs to be improved in order to get the best quality of information as expected by users, so that it can add to their heart's satisfaction.

**Keywords:** online journal, Webqual, User Satisfaction

MARKETING STRATEGY LUWAK COFFEE AS ATRACTION OF AGROINDUSTRY PRODUCTS  
WITH  
SWOT COMBINATION METHOD AND ANALYTICAL HIERARCHY PROCESS (AHP) ON  
AGROWISATA NEGARI

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**ABSTRACT**

The whole company is always trying to be creative and innovative so that the resulting product can achieve the expected goal. The intense competition also motivates the management of the company as well as the business people in the field of agrotourism especially agrotourism civet coffee to provide the best service to its customers. According to Michael E. Porter in (Warren J. Keegan, 2007: 2), in the competition strategy there are five forces that affect competition consisting of: threats from newcomers, threats from replacement products or services, bargaining power of suppliers, bargaining from buyers, and competitive competition. So to win the competition, a company must always seek innovation in order to meet the needs of consumers are always changing. Therefore it is necessary to formulate marketing strategy that is in accordance with the company's condition by mengaisis SWOT and AHP so that the future is expected Agrowisata Negari Coffee Luwak can be more developed and the company's goals can be achieved.

From this problem, the purpose of this research is to know the variables that become strength weakness, opportunity and threat faced by Agro Tourism Negari Coffee Luwak in marketing its products and how to compile and recommend alternative of effective and efficient marketing strategy for Agrowisata Negari Kopi Luwak. This research was conducted at Agrowisata Negari coffee luwak at Desa Singapadu, Bali. The sample in this research consist of three people namely General Manager, Head of Production, Director of Sales and Marketing. Especially for external respondents, the consideration is the respondent understand about marketing strategy so that all respondents are considered competent. Respondents from 15 consumers consisting of 5 guests repeaters who often buy coffee Luwak products so that more know the taste and quality of coffee products. Ten of new consumer who later likely to be a guest repiter. Data analysis technique is done by SWOT analysis and AHP (Analytical Hierarchy Process) method. The result is found grow and develop, consisting of market penetration strategy, market development, and product development.

**Keywords:** Marketing Strategy, SWOT, AHP (Analytical Hierarchy Process)

THE EFFECT OF PRODUCT QUALITY ON CUSTOMER SATISFACTION  
AND WORD  
OF MOUTH IN PLN PRE-PAID CUSTOMER IN SURABAYA CITY

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**ABSTRACT**

The success of current pre-paid electricity program is not only measurable from the growing number of subscribers. This research tries to describe how the implementation of pre-paid electricity program so far when viewed from the side of community response. The research will distribute questionnaires to 385 electric customers in Surabaya who previously used postpaid system and now convert to pre-paid. The research will focus on customer satisfaction level so far over the quality of the product from the pre-paid electricity is better compared to previous postpaid electricity and how the reaction of the respondents to voluntarily communicate the prepaid electricity to other parties.

Data analysis using partial least square method with the help of SmartPLS 2.0 program. The results of the statistical analysis shows that the overall variable of product quality has no significant effect on customer satisfaction but is determined by other variables outside of this study. Only customer satisfaction has a significant influence on word of mouth. Managerial implications and improvement suggestions for PLN have also been described at the end of this part of the study.

**Keyword:** Product Quality, Customer Satisfaction, Word of Mouth, Prepaid Electricity.

EFFECT OF CUSTOMER RELATIONSHIP MANAGEMENT TO CUSTOMER SATISFACTION  
AND  
CUSTOMER LOYALTY IN PT XYZ

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**ABSTRACT**

Customer Relationship Management (CRM) is an idea of developing relationships with customers as well as possible to be loyal and more profitable for the company. In the application of CRM many companies apply the methods, and technologies that support this customer relationship to increase sales. CRM is now an issue of the company's leading business marketing strategy to increase their sales.

PT XYZ is a market leader in industrial chemicals that has implemented CRM program. The CRM model that been running has never been evaluated at all to ascertain whether this marketing strategy can help improve corporate profits and customer loyalty. The research will be conducted by distributing questionnaires to 120 active customers from PT XYZ engaged in electricity related industries then analyzed using partial least square method with the help of SmartPLS 2.0 program. The result of statistical analysis shows that the overall of CRM variables process, technology, and human resources have a significant influence on customer satisfaction. Meanwhile, only technology variables significantly increases the influence between CRM to customer loyalty, while the process variable and human resources are not significant. Customer satisfaction is also found to have a significant relationship to customer loyalty. Managerial implications and improvement suggestions for PT XYZ have also been described at the end of this section of the study.

Keyword: Customer Relationship Management (CRM), Customer Satisfaction, Customer Loyalty.

IMPACT OF SERVICE QUALITY TOWARD CONSUMER SATISFACTION AND CUSTOMER  
LOYALTY: CASE STUDY IN INDONESIAN COMPANY

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**ABSTRACT**

PT X is a company in Surabaya which running in production of conveyors and other fabrication services. Competition in the manufacturing support industry today is very tight, many similar competitors offer similar services and products. Competition is not only in product sales but also in terms of service quality. Currently PT X currently facing a significant problem, declining in sales turnover from year to year. Declining sales turnover indicates that there are things that need to be improved and improved in internal PT X itself where this problem from year to year cannot be overcome.

The research focused on the aspect of service quality, customer satisfaction, and customer loyalty where based on experience during this aspect which often got many complaints from customers. The research was conducted by distributing questionnaires via post to 63 companies that are still active to become PT X customers until now. Data analysis using partial least square method with the help of SmartPLS 2.0 program. The results showed that the quality of service significantly influence customer satisfaction and customer satisfaction has a significant effect on customer loyalty. Quality of service has no direct effect on customer loyalty, such influence through customer satisfaction. Keyword: Service Quality, Customer Satisfaction, Customer Loyalty.

**THE INFLUENCES OF ELECTRONIC WORD OF MOUTH (E-WOM), BRAND IMAGE, PRODUCT KNOWLEDGE ON PURCHASE INTENTION**

**I Gusti Ayu Imbayani., SE.,MM**  
(Universitas Mahasaraswati Denpasar)

**ABSTRACT**

*At the time of the current era of globalization, developments in science and technology has indirectly a huge influence in the economy. Internet users in Indonesia in 2017 is 143.26 million people. The increasing use of the internet and social media is now easier for people to share information about the new phenomenon one of it is Go-Jek. Word of mouth used to happen personally now spread of internet brought up less personal, so-called electronic word of mouth (e-WOM). The development and use of the Internet is increasingly widespread by making companies inevitably have to provide online services, including websites or other online services in order to improve the brand image, product knowledge and purchase intentions.*

*This research is intended to determine how much influence of e-WOM, brand image, product knowledge on purchase intention in Go-Jek. Collecting data using questionnaires with nonprobability sampling with technique accidental sampling method on 220 respondents. The data analysis technique that uses multiple linear regression. The results of this study indicate that the e-WOM, brand image, product knowledge have positive and significant effect on the variable purchase intention*

**Keyword:** e-WOM, brand image, product knowledge purchase intention

**DESIGN OF E-COMMERCE ENTERPRISE ARCHITECTURE KAROSERI IN PT. ABC USING TOGAF ARCHITECTURE DEVELOPMENT METHOD**

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**ABSTRACT.**

PT. ABC is an assembly company of vehicle houses built on chassis or chassis of special bus or truck (karoseri). The problem experienced is on the competitiveness of the company. The company still runs the main business activities in conventional way using Microsoft Office Word and Excel applications. The next issue is customer service. Companies have difficulty managing customer orders because of customer locations that are not always reachable quickly by the company. Researchers use the architecture enterprise approach with the e-commerce model and the Open Group Architecture Framework (TOGAF) framework. The results of this study are found in the following areas: Business Architecture There are 3 findings, Information System Architecture Data there are 7 findings, Information System Architecture Application: There are five (5) newly created applications, Phase Technology Architecture: There are 5 new technology made, Migration Planning: There are 6 factors that may be influential in the course of migration. Implementation Governance: There are 4 recommendations. Architecture Change Management: There are 3 proposed architectures.

**Keywords:** e-commerce, enterprise architecture, TOGAF, SI / TI design.

## FINANCE (KEUANGAN)

1. DETERMINING THE CONTEXT ESTABLISHMENT IN THE IT RISK MANAGEMENT PROCESS AT THE POLITEKNIK NEGERI BALLITS  
(2. Ida Bagus Gde Kresna Adi Jaya)
2. DETERMINANT FACTOR FOR NET INTEREST MARGIN( CASE STUDY ON "X" BANK IN SURABAYA MAIN BRANCH)  
(7. Bambang Indriawan )
3. MEASURING BANKING CRISIS IN INDONESIA: CRISIS AND DEFAULT INDEX (CD INDEX) APPROACH (15. Musdholifah Musdholifah)
4. DEVELOPMENT OF FIRE SAFETY RISK EVALUATION FOR POWER PLANT BY INTEGRATION HOUSE OF RISK (HOR) METHOD AND ISO 55001: 2014 (CASE STUDY: STEAM POWER PLANT OUTSIDE JAVA ISLAND)  
(18. Dimas Hadiansyah Hamka)
5. BUSINESS RISK ANALYSIS OF CRUDE OIL TRANSMISSION ON TEMPINO-PLAJU PIPELINE PT PERTAMINA GAS USING MONTECARLO METHOD  
(22. Dedi Mariadi)
6. PROFITABILITY EVALUATION OF CAPITAL INVESTMENT WITH NET PRESENT VALUE (NPV) AND INTERNAL RATE OF RETURN (IRR) METHOD IN PT GUDANG GARAM GROUP TBK KARAWANG, WEST JAVA  
(27. Arief Priyono)
7. INFLUENTIAL FACTORS ON QUALITY OF FINANCIAL REPORTING AT VILLAGE CREDIT INSTITUTION (LPD) IN DENPASAR CITY  
(35. Ni Putu Shinta Dewi)
8. FITNESS FUNCTION EVALUATION USING HOT FIT MODEL APPROACH.EMPIRICAL STUDY: BADAN PENGELOLAAN KEUANGAN DAN PENDAPATAN DAERAH - SURABAYA CITY GOVERNMENT  
(37. Radya Senoputra)
9. DETERMINANT OF DEIVIDEND POLICY IN THE CONSUMER GOODS INDUSTRY (41. Erni Masdupi)
10. ANALYSIS OF THE EFFECT COMMODITY PRICES ON IDR EXCHANGE RATE AND DOW JONES INDEX ON THE COMPOSITE STOCK PRICE INDEX IN INDONESIA STOCK EXCHANGE  
(47. Siti Hernita Oktavia)

## DETERMINING THE CONTEXT ESTABLISHMENT IN THE IT RISK MANAGEMENT PROCESS AT THE POLITEKNIK NEGERI BALI

Ida Bagus Gde Kresna Adi Jaya<sup>1,4</sup>, Raden V. Hari Ginardi<sup>2,5</sup>, Rita Ambarwati<sup>3,6</sup>

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### ABSTRACT.

The Stage of Context Establishment in risk management is an important step because it defines the specific objectives of risk management activities and the scope of the risk management process. This research took place in the Management Information System Unit (Unit SIM), Politeknik Negeri Bali, Indonesia. Based on initial interviews and internal document review, the Unit SIM had not carried out the risk management process. Therefore, the objective of this paper was to discuss the phase of Context Establishment in Unit SIM, Politeknik Negeri Bali in detail. Focus Group Discussion (FGD) model was applied as a methodology to obtain statements about activities in the Context Establishment phase, including: Scope of Risk Management Process, Determine the Risk Appetite, Risk Tolerance and Risk Capacity, Determine the Risk Criteria, Determine the Target Time of Handling Risk. The results of the statement of each activity in the Establish the Context phase were then used as reference in conducting IT risk assessment process and prioritizing risk response in Unit SIM Unit, Politeknik Negeri Bali.

**Keywords:** Context Establishment, IT Risk Assessment, IT Risk Management.

## DETERMINANT FACTOR FOR NET INTEREST MARGIN (CASE STUDY ON "X" BANK IN SURABAYA MAIN BRANCH)

Bambang Indriawan

### ABSTRACT

The main purpose in business entity, include in Bank is to gain sufficient profit in order to keep continue and develop. This research is to analyze about the effect of *Loan to Deposit Ratio*, *Operating Cost*, *Non Performing Loan* and *Interoffice Account (IA)* toward *Net Interest Margin* on PT. Bank X Surabaya Main Branch, by using financial report from year of 2011 until 2015. Analysis Methode which is used to examine the proposed hypothesis is *Multiple Regresion Analysis (MRA)*. This research concludes that both partially and together *Loan to Deposit Ratio*, *Operating Cost*, *Non Performing Loan* and *Account amongst Office* has an effect towards *Net Interest Margin (NIM)* in PT. Bank X Surabaya Main Branch. Variable *Loan to Deposit Ratio*, *Operating Cost* and *Interoffice Account (IA)* has a positive impact to *Net Interest Margin*, while variable *Non Performing Loan* has a negative impact to *Net Interest Margin*. This means that in order to survive and develop, bank needs to increase credit, increase efficiency and manage credit problems through prudence principles.

**Key Word :** *Loan to Deposit Ratio*, *Operating Cost*, *Non Performing Loan*, *Interoffice Account* dan *Net Interest Margin*.



MEASURING BANKING CRISIS IN INDONESIA: CRISIS AND DEFAULT INDEX (CD INDEX)  
APPROACH

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ABSTRACT

The global financial crisis is still a threat to every country because of the contagious effect caused. As a developing country, Indonesia is also potentially affected by the global crisis. Some financial crises affecting Indonesia's economic conditions include the Asian crisis 1997-1998, the US subprime mortgage crisis of 2008, the European crisis of 2011, and the slowdown in China's economy in 2015. As a financial institution that plays an important role in the financial system in Indonesia, banks have a wide range of risks that could potentially lead to a banking crisis. Predicted banking crisis needs to be done so that systemic risk can be minimized. This study aims to measure the prediction of banking crisis in Indonesia. The Crisis and Default Index (CD Index) can be used to predict the crisis by calculating four risks: credit risk, liquidity, interest rate changes, and exchange rates. The sample of this research is conventional bank with research period during 2008-2016. CD Index calculation results show that in 2008 there were 12 banks predicted to experience crisis, in 2009 there were 10 banks categorized by the crisis, in 2010 there were 11 banks predicted crisis, in 2011 there were 10 banks declared a crisis, in 2012 as many as 13 banks identified crisis, in 2013 there were 10 banks categorized as crisis, in 2014 as many as 13 banks identified crisis. Whereas in 2015 the number of banks identified by the crisis declined to 9 banks and in 2016 the number decreased again to 8 banks predicted to experience banking crisis. Bank KEB Hana Indonesia is the bank with the lowest probability of crisis compared to other banks during the study period. In contrast, Bank Resona Perdania and Bank Permata are banks that need to be monitored for risk management because of their high probability of crises compared to other banks during the study period.

**Keyword:** banking crisis, CD Index, systemic risk, Indonesia  
JEL Classification: G210;

DEVELOPMENT OF FIRE SAFETY RISK EVALUATION FOR POWER PLANT BY  
INTEGRATION HOUSE OF RISK (HOR) METHOD AND ISO 55001: 2014  
(CASE STUDY: STEAM POWER PLANT OUTSIDE JAVA ISLAND)

Dimas Hadiansyah Hamka<sup>1\*</sup>, Adithya Sudiarno<sup>2</sup>

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Nopember Surabaya, Indonesia

ABSTRACT.

The risk of fire in power plants is the latest issue of concern to the electricity company. Several incidents of fire due to self combustion of coal dust occur within 2015 - 2017. Several preventive programs in the form of coal dust control and the improvement of coal handling facilities to the provision of fire fighting infrastructure have been carried out continuously, but the main problem in the implementation of further work programs are finding the right policy in evaluating the biggest risk of the cause and determining the priority of mitigation. Integrating House of Risk methods with ISO 55001: 2014 is assessed as an alternative to some of the previous methods that already exist and will be able to support the establishment of fire safety risk mitigation policies. A holistic review of business processes taking into consideration emerging risk agents in addition to risk events, risk impacts and the occurrence of risk agents, then the method used will be able to generate a selected list of prioritized preventive action. The results showed 41 risk events with 28 identified risk agents. Based on the results of identification, selected 17 risk agents to be carried out the design of preventive action. There are 8 proposed preventive actions to reduce the probability of the occurrence of risk agents that can lead to business interruption of the company.

**BUSINESS RISK ANALYSIS OF CRUDE OIL TRANSMISSION  
ON TEMPINO-PLAJU PIPELINE PT PERTAMINA GAS USING MONTECARLO METHOD**

Dedi Mariadi , Dr. Ir. Bambang Syairudin M.T.

**ABSTRACT**

PT Pertamina Gas Central Sumatera Area (PTG CSA) is one of the operational areas of PT Pertamina Gas which plays an important role in transmission of crude oil from SPPP Tempino, Jambi to KM 03 Sei Gerong in Palembang area, with a length of 265 Km and 8" diameter pipe. Crude oil is transmitted by  $\pm$  9000 BOPD from Contractor Cooperation Contracts (KKKS) located in Jambi and South Sumatera working area to be processed into fuel oil at Refinery Unit III Pertamina (Persero) in Plaju.

The volume of crude oil transmission through the Tempino-Plaju pipeline from 2011 increased until 2013 and subsequently decreased until 2017. Tendency to decrease the transmission volume due to several factors will be discussed in this research. Business risks other than operational risks also contain other risks that could lead to a decrease in volume of crude oil transmission through the Tempino-Plaju pipeline. This research will analyze the risks, especially business risks that exists in PT Pertamina Gas Central Sumatera Area and recommend mitigation actions to reduce the likelihood and impact of existing risks so the frequency and impact of risks that occur can be minimized. There are several ways to overcome the problems related to operational risk of gas distribution, one of them is through supply chain risk research and simulation based mitigation design. Monte Carlo simulation will be designed and proposed by processing data in software called *Crystal Ball*. With this research the company can utilize risk identification result and perform appropriate risk mitigation to be included in company's RKAP.

**Keywords:** volume of transmission, business risk, operational risk, monte carlo, mitigation.

**PROFITABILITY EVALUATION OF CAPITAL INVESTMENT WITH NET PRESENT VALUE (NPV)  
AND  
INTERNAL RATE OF RETURN (IRR) METHOD IN PT GUDANG GARAM GROUP TBK  
KARAWANG, WEST JAVA**

Arief Priyono ,: Prof. Dr. Ir. Budi Santosa, M.Sc., P.hD

**ABSTRACT**

In 2018, PT GGG plans to develop a new factory in Karawang area, West Java. Management will require the new plant will also be supported with a factory of packaging. Currently PT GGG is faced with three options in fulfilling the development plan of the packaging factory is whether to move an existing machine from the factory in Surabaya or still buy new machines from Switzerland or France in accordance with the needs of the company.

The most feasible investment option chosen by PT GGG to increase its packaging production capacity by 30% at a new plant in Karawang West Java is the second alternative of purchasing a new machine from Switzerland. The alternative is chosen because it can produce the greatest NPV value when compared with other alternative that is Rp 1.341.290.049.333. Profitability of this investment proposal is also very high that is equal to 245.25% so that allows the company although it should come out big investment in front but will have the return of capital in the first year.

After the sensitivity analysis is done for pessimistic and optimistic condition, alternative proposal 2 can also be said still feasible to be implemented because it has positive NPV. This means that this investment proposal has a very small risk of loss if it will be run because of high profitability and not easily affected by changes in economic conditions.

**Key words :** Net Present Value, Internal Rate of Return, Capital Investment.

**THE INFLUENCES OF ELECTRONIC WORD OF MOUTH (E-WOM), BRAND IMAGE, PRODUCT KNOWLEDGE ON PURCHASE INTENTION**

I Gusti Ayu Imbayani., SE.,MM  
(Universitas Mahasaraswati Denpasar)

**ABSTRACT**

At the time of the current era of globalization, developments in science and technology have indirectly a huge influence in the economy. Internet users in Indonesia in 2017 is 143.26 million people. The increasing use of the internet and social media is now easier for people to share information about the new phenomenon one of it is Go-Jek. Word of mouth used to happen personally now spread of internet brought up less personal, so-called electronic word of mouth (e-WOM). The development and use of the Internet is increasingly widespread by making companies inevitably have to provide online services, including websites or other online services in order to improve the brand image, product knowledge and purchase intentions.

This research is intended to determine how much influence of e-WOM, brand image, product knowledge on purchase intention in Go-Jek. Collecting data using questionnaires with nonprobability sampling with technique accidental sampling method on 220 respondents. The data analysis technique that uses multiple linear regression. The results of this study indicate that the e-WOM, brand image, product knowledge have positive and significant effect on the variable purchase intention

**Keyword:** e-WOM, brand image, product knowledge purchase intention

**INFLUENTIAL FACTORS ON QUALITY OF FINANCIAL REPORTING AT VILLAGE CREDIT INSTITUTION (LPD) IN DENPASAR CITY**

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Universitas Mahasaraswati  
Denpasar Ni Putu Lisa  
Ernawatiningsih  
Universitas Mahasaraswati Denpasar

**ABSTRACT**

This study aims to determine "Influential Factors on Quality of Financial Reporting at Village Credit Institution (LPD) in Denpasar City". The data used in this study is primary data in the form of answers to questionnaires and secondary data in the form of financial statements owned by each LPD sample in Denpasar City.

The criteria used as the basis of sample selection in this study is the LPD reporting financial report data to PLPDK in 2016, which is as much as 35 LPD spread across the city of Denpasar. Sampling using non probability sampling technique with purposive sampling technique. The analysis technique used is multiple linear regression using SPSS.

Based on the results of research conducted by spreading 105 questionnaires and obtained the results that the level of understanding of accounting, internal regulatory agency functions, and quality of accounting information system positively affect the quality of financial statements of LPD in Denpasar.

**Keywords:** Level of Accounting Understanding, Function of Internal Supervisory Board, Quality of Accounting Information System, Quality of Financial Statement, Village Credit Institution.

## ECONOMICAL EVALUATION OF P FIELD LLP PROJECT USING FACTORIAL DESIGN

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### ABSTRACT

P field is a Gas field in Mahakam area, Indonesia. Founded in 1984, It has been producing since 1999 through 8 offshore platform and up to 171 wells. After being produced for 18 years, reservoir pressure of the field has significantly decrease and will eventually stop flowing at current operating pressure. In order to extend the life of the field, one of the possible effort that can be done is lowering the operating pressure to Low Low Pressure condition (LLP).

An economical evaluation has been performed for pilot LLP project on Platform 4 and Platform 5. The results is that Platform 4 is not economic while Platform 5 deemed economic. However, the evaluation only consider uncertainties on gas prices, while other uncertain parameters such as production profile, cost profile and start-up date were not captured. This approach caused difficulties on decision making. This paper elaborates development of similar economic evaluation the remaining six platforms. The objective is to come up with a method which properly integrates important uncertainties and eventually ranks the economical feasibility of LLP project on the six platform.

The workflow of the study begins with data collecting, consists of measured and interpretative data. It is followed buy a development of production profile using nodal analysis, material balance and GasPal simulator. Then, the cost profile is built assuming fix and variable cost followed by cashflow evaluation. The next step is to capture the uncertainties using factorial design with Plackett-Burman design method. Combinations of runs are developed based on min, base and max values of several factors which considered sensitive by sensitivity analysis.

The end product is a distribution of NPV and IRR for each platforms, which is used to define the rank

**Keywords :** *Economical Evaluation, Nodal Analysis, Material Balance, Uncertainties, Factorial Design, Plackett-Burman, NPV, IRR*

## DETERMINANT OF DEVIDEND POLICY IN THE CONSUMER GOODS INDUSTRY

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### ABSTRACT

The aim of this research is to analyze the impact of profitability, leverage and company size on dividend policy of consumer goods company that listed in Indonesia Stock Exchange (IDX). This research used four control variable such as tax, investment opportunity, growth and total asset turnover. Population of this research is consumer goods company listed on IDX in the period of 2010-2016. Based on purposive sampling, 147 company-year observations were selected as samples of this study. There are 18 outliers, hence the final sample of this study is 129 company-year observations. To answer the research questions, the multiple regressions were used. The findings research indicate that profitability has a positive and significant effect on dividend policy; leverage significantly and negatively influences dividend policy and company size unsignificantly and positively affects dividend policy of consumer goods industry that listed on IDX.

**Keyword:** Dividend Policy, Profitability, Leverage, Company Size

ANALYSIS OF THE EFFECT COMMODITY PRICES ON IDR EXCHANGE RATE AND  
DOW  
JONES INDEX ON THE COMPOSITE STOCK PRICE INDEX IN INDONESIA STOCK EXCHANGE

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ABSTRACT

Capital market is one of today's economic instrument that has developed very rapidly. One way to measure the performance of capital market is a stock index. Many factors can affect the stock index, such as domestic interest rates, foreign exchange rates, international economic conditions, the country's economic cycle, inflation rates, tax regulations, the amount of money in circulation (M. Samsul, 2008). The purpose of this study was to analyze the effect of variable, Oil Prices, World Gold Prices, Exchange Rate of Rupiah, and Dow Jones against IHSG. The analytical method used in this study is multiple regression analysis performed with SPSS 24. Before doing multiple regression analysis, we must do a classic assumption test. This is necessary so that the regression equation is BLUE (Best, Linear, Unbiased, Estimator). Results from this study indicate that Gold Price and Rupiah Exchange rate, negatively affect the IHSG. While the variables of Oil Prices, and Dow Jones index had a positive effect on IHSG. The value of adjusted R square is 59.7%. This means that 59.7% IHSG movement can be predicted from the movement of the seven independent variables.

**Keywords:** IHSG, macro economy, the world capital market *integration, globalization*

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## AUDIT INFORMATION TECHNOLOGY GOVERNANCE OF HIGHER EDUCATION IN ASPECT IT ASSETS, RESOURCES AND CAPABILITY FOR QUALITY ASSURANCE PRINCIPLE IN GOOD UNIVERSITY GOVERNANCE

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### ABSTRACT

Application of Information Technology (IT) is an organization's means to enhance competitiveness and achieve organizational goals. With good governance then the utilization of IT will be more leverage and in accordance with organizational goals. This research used case study on polytechnic in Indonesia. Polytechnic is a higher education institution that support on certain applied mastery. Based on the results of self-evaluation one of polytechnic in Indonesia will implement Good University Governance (GUG). Management of IT governance in higher education is required to comply with IT policy and relevant to its business processes. The purpose of this study is to obtain the current level of capability and the level of IT process capability expected in Asset, Resources, and IT capabilities. Also get the level of implementation of quality assurance principles at Good University Governance on polytechnic in Indonesia. The framework used as a guide for the IT audit process in this research is COBIT 5 focus on IT-related Goal 11. It is expected that the level of implementation of GUG in the organization can optimize the use of IT assets, resources, and IT skills in higher education.

**Keywords:** Good University Governance, IT Audit, IT Governance, COBIT 5 Framework

## AUDIT IT FOR HIGHER EDUCATION BASED ON GUG USING COBIT 5 FRAMEWORK

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### ABSTRACT.

Governance is needed in the era of information technology which increasingly rapid. Governance is not required by the company but also by Higher Education. Governance in higher education with companies cannot be equated because there is a difference between GUG and GCG. The purpose of this research is to determine the difference between GUG and GCG and find IT processes that need to be assessed on the principle of transparency in GUG and also search for the IT process that has the most significant impact. This study was conducted with theoretical exploration and using literature review with direction from experts. This research found that the capability level in the case study university has an average level 1 and the significance process is high. Originality of this research is the combination method to conduct an IT audit based on GUG which focuses on aligning business strategy with IT for transparency principle. The implication for this research is that higher education can conduct a self-audit for IT technology to know the capability level for GUG.

**Keywords:** Business Strategy, IT Governance, IT Audit, Good University Governance, COBIT 5.

## A COMPARATIVE ASSESSMENT OF RANDOM FOREST AND SVM ALGORITHMS, USING COMBINATION OF PRINCIPAL COMPONENT ANALYSIS AND SMOTE FOR ACCOUNTS RECEIVABLE SEAMLESS PREDICTION, CASE STUDY COMPANY X IN SURABAYA

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### ABSTRACT.

Currently, data mining techniques have been widely applied to the assessment or prediction of credit scores for customers in the banking industry (credit scoring), and the most commonly used method is classification. Although there are no consistent conclusions on which algorithms are better, recent studies suggest combining multiple classifiers, i.e. ensemble learning, may have a better performance. Based on previous studies, this research conducts a comparative assessment of the performance of a popular ensemble and single classification methods, i.e. Random Forest and SVM, to predict customer's payment capabilities using a sample dataset of manufacturing industry within the period of three years. To improve the accuracy, this research will use oversampling and feature selection using SMOTE and PCA to get a balanced dataset, optimal features and reduce multicollinearity. As a result of this research, Random Forest produces better classification with 83.21% accuracy and AUC 94.9%, while SVM with 76.6% accuracy and AUC 82.3%.

**Keywords:** Ensemble learning, Random Forest, SVM, Credit scoring, Data mining, Receivables.

REQUIREMENTS ENGINEERING OF E-LEARNING AT MASTER OF TECHNOLOGY  
MANAGEMENT INSTITUT TEKNOLOGI SEPULUH NOPEMBER

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**ABSTRACT.**

Recently the application of Information and Communication Technology (ICT) in educational institution (college and school) automatically has become a mandatory needs even though it is not obliged by the authorities as the application of ICT can be one of indicators of educational institution success. The needs of effective and interactive learning concepts based on information and communication technology can be overcome with the use of Web-based E-Learning, therefore students can study anytime and anywhere without being limited by space and time. Based on the identification of the problems mentioned above, the author limit the problem to be discussed in this research into the implementation of e-learning system in Master of Technology Management with the Head of Study Program as a stakeholder thus it require special approaches such as elicitation method to analyze the needs and performed the analysis and design phase afterwards to produce a suitable system which can be used in Master of Technology Management of Institut Teknologi Sepuluh Nopember based on the comparison of needs with existing systems such as Edmodo, Moodle and Google Classroom.

**Keywords:** E-Learning, Requirement Engineering

THE EMERGENCE OF A NEW REFERENCE GROUP: SOCIAL MEDIA INFLUENCER

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**ABSTRACT**

Family and celebrity are considered as two groups of reference having a greater impact on purchase decision. In a family, there are roles that each role can lead to different purchasing behavior toward brand. Celebrity endorsement was known to be an effective way to promote the product, if the consumer be able to capture the message delivered by the celebrity. However, their impacts may be deteriorated since technology grows very rapidly and social media becomes new platform for connecting a product or brand to consumers. Social media influencer (SMI) now has role in influencing consumers' purchase decisions and drives purchases. This article aims to discuss about SMI and its possibility as a way to influence purchase decision. It is concluded that SMIs tend to have a significant influence toward consumer behavior through influencing their followers. Considering benefits of using SMI, it can be a good alternative for marketers to connect and communicate with the consumers.

**Key words:** social media influencer, reference group, family, celebrity.



## ANALYSIS AND DESIGN OF SELECTION SYSTEM SCHOLARSHIP RECEIVER CANDIDATE

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### ABSTRACT.

Scholarships are very important for the continuity of education of children who are in families with low middle-class economy. According to the education and cultural offices there are 45 million more active students from elementary school level to high school / vocational school level. The government launched flagship program that is Program Indonesia Pintar. Where children from lower middle class get help from government. This helps the continuity of children's education. However, the variables used still tend to be minimal to determine who is eligible for a scholarship. And also the way it is done is still fairly simple to determine who is entitled to help. The method used to analyze is Analytical Hierarchy Process (AHP) method. While for development purposes provided DFD and ERD for its development. And also use the Use Case Diagram to describe the performance modeling of the system in the design. The results of the study indicate that there are 6 criteria that can be used as the assessment of parental salary, parent's job, parental status, number of siblings, geolocation, and the average value of students. The results of this study also indicate that the system using AHP is more appropriate in giving the sequence of students receiving the scholarship. The system design of ERD, DFD, and Use Case Diagram shows that the system is easy to use and easy to maintain.

**Keywords:** Scholarship, AHP (Analytical Hierarchy Process), Use Case Diagram

## IMPACT ANALYSIS OF WAREHOUSE MANAGEMENT SYSTEM ON INVENTORY ACCURACY AND WORK PERFORMANCE IN EXCISE STAMP MATERIAL WAREHOUSE

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### ABSTRACT

Excise stamp materials is a proof of tax payment of company to country for selling products to end consumer. In Indonesia, issuing and distribution process of tax stamp are supervised and governed by Directorate General of Custom and Excise. Seeing how huge transactions nominal each year and excise stamp value itself as monetary goods, therefore all process related to storing, moving and usage should be executed by company according to regulation and law. Warehousing activity in PT. SSS excise stamp material warehouse are already supported by Enterprise Resource Planning (ERP) software to simplify transactional process, planning and stock monitoring. Warehouse Management System is used to improve in-time inventory accuracy and increase work efficiency and effectiveness in warehouse. This system implementation worth of IDR 412,375,000. This research aim to analyze WMS impact towards several aspects such as Work performance which analyzed with Value Stream Mapping and Time Motion Study, Financial aspects measured with Cost-Benefit Analysis also Inventory accuracy. Questionnaire conducted with 7 employees who directly involved in excise stamp business process to find out system impact toward Traceability aspects. Result shows that implementation of warehouse management system successfully increase work performance, reduce operational cost, escalate inventory accuracy and gave far more better traceability..

**Keyword:** Warehouse, Excise Stamp, Warehouse Management System, Work performances, Inventory

THE EFFECT OF EQUITY COMPENSATION TO TURNOVER INTENTION BY WORK DEDICATION AND  
WORK ABSORPTION AS AN INTERVENING VARIABLE  
(Study On Honorary Nurse at IA Moeis Hospital Samarinda)

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ABSTRACT

A high turnover rate will have a negative impact on the organization, this can create instability and uncertainty about labor conditions and human resources improvement. The factors encourage job satisfaction give all to person's decision to move or quit. Given the fluctuating turnover intention rate in the last three years at Moeis Hospital, the purpose of this study was to determine the effect of equity compensation, work dedication, work absorption on turnover intention.

Using the saturated sample of the entire population of honorary nurses at IA Moeis Hospital as many as respondents. Data was analyzed by using analysis tool named SEM-Smart PLS version 3.37. The results show from five hypotheses made, there were two rejected hypotheses, namely; there is a positive and insignificant impact of work dedication on turnover intention; and the last one there is positive effect and no significant work absorption to honorary nurse turnover intention at IA Moeis Hospital Samarinda.

Keywords : equity compensation, work dedication, work absorption, turnover intention.

AN EXPLORATION IN BUSINESS MODEL VIEW OF ICT INFRASTRUCTURE AND SERVICE COMPANY:  
INDONESIA COMPANY CASE STUDY

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ABSTRACT

The development of information and communication technologies (ICT) worldwide shows a great promise. In Indonesia, many companies are becoming aware of the use of ICT to help and grow existing businesses. Nowadays, the core component of every big enterprises and ICT are becoming emerge as one. Improper use of ICT will cause the serious problem and the existence of ICT infrastructure and service company becomes necessary. The present study explores the view of ICT infrastructure and service company business model. A case study of a private XYZ company is conducted to describe the ideal business model. The primary and secondary data were collected related to the necessary information to build the XYZ company business model. The result of analysis shows the general idea of how the ICT infrastructure and service company work. The model can be used as a contribution reference for stakeholder such as entrepreneurs and governments in creating a symbiotic mutualism.

Keyword: ICT Infrastructure and Services, Business Model, Case Study, Indonesia Company.

## UNDERSTANDING THE BUSINESS MODEL OF SORBITOL MANUFACTURE AS A SUBSTITUTION MATERIAL OF SUGAR CANE: A CASE STUDY IN INDONESIA

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### ABSTRACT

The present research explores the sorbitol manufacturing from the business model point of view. Sorbitol as known as sugar alcohol is one kind of sweetener which has the one-third fewer calories and half sweetness of sucrose. In industrial world, sorbitol was used for intermediate material and additive substance. In modern society consume sorbitol as a substitution of sugar cane for dietary and reducing diabetes risk. In Indonesia, awareness about healthy lifestyles began to grow, so it is possible to expand sorbitol market. Promising sugar substitute. A business model canvas (BMC) and several marketing models such as segmentation, targeting, positioning (STP), product, price, place, and promotion (4P) are used as the analysis tool. The X company was selected as a case study. The result in this study can be used as the depiction of sorbitol business, especially for entrepreneurs, related companies, and governments. Supporting the development of sorbitol product will help the sustainability of this business and reducing the risk of diabetes.

**Keyword:** Sorbitol, Business Model Canvas, STP, 4P, Healthy Lifestyles

## FITNESS FUNCTION EVALUATION USING HOT FIT MODEL APPROACH. EMPIRICAL STUDY: BADAN PENGELOLAAN KEUANGAN DAN PENDAPATAN DAERAH - SURABAYA CITY GOVERNMENT

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### ABSTRACT.

The largest source of state income in Indonesia comes from tax revenue. As the second largest city in Indonesia, Surabaya has become the first city for the Tax self-management since 2011 managed by the city government one of them is the Land and Building Tax. In optimizing the tax services, since February 2017 taxpayers may apply online through web-based applications. Until recently, the website still operating and no evaluation has been done. Therefore an evaluation is required for the existing service site. There are several methods that can be done in providing evaluation like Task Technology Fit (TTF) Analysis, End User Satisfaction, Technology Acceptance Model (TAM), and Hot Fit Model. Hot Fit Model is a complete model and most suitable to the existing problem conditions because it handles Human, Organization, and Technology. This research's result proposed hypotheses some already fulfilling and the rest of them still not enough. The most influential factors based on this research are Service Level > Quality of Information > Satisfaction System > System Quality > Utilizing System.

**Keywords:** Fitness Function, HOT Fit, Land and Building Tax, and Tax.

**DESIGNING THE PERFORMANCE MEASUREMENT SYSTEM AND SNI ISO 9001:2008 QUALITY OBJECTIVES OF PT AMM USING CASCADING BALANCED SCORECARD METHOD AND AHP** Jarot Kusumo Wibowo

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**ABSTRACT**

All this time, PT AMM has only apply SNI ISO 9001:2008 which as quality management system, wherein the measurement of organizational performance using quality objectives. SNI 9001:2008 gives only general overview, there is no priority and it can not be used as reference in decision making. PT AMM requires performance management system that is comprehensive and synergistic with quality objectives of SNI ISO 9001:2008. The preferred method is the cascading balanced scorecard which cascade process means to distribute down (vertical alignment) the company's strategic objective to the department. After the determination and stipulation of the strategic objectives and key performance indicators then subsequently weighted each criterion using AHP (Analytical Hierachy Process). Weighting with AHP based on questionnaire that given to company respondents to see priority on each strategic objective and key performance indicator (KPI). Then measured using OMAX (objective Matrix) to see the performance of the company and department achievement. The use of Traffic Light Systems to see the achievement of company and department are already reach the condition that need improvement or already show the good performance. The design of performance measurement system of PT AMM, generates 17 strategic objectives and also 36 quality objectives. Implementation of company performance measurement system gives result ( Current Performance Indicator) which obtain from scoring (OMAX) that is equal to 7,931 in 2016 and 5,197 in 2017. PT AMM performance in 2016 and 2017 conclude in mediocre category, it has not reached target and still need improvement in achieving the target. The design of performance measurement system of production operation department, generates 9 strategic objectives and also 23 quality objectives. Implementation of department performance measurement system gives result ( Current Performance Indicator) which obtain from scoring (OMAX) that is equal to 8,604 in 2016 and 6,986 in 2017. Production operation department performance in 2106 is categorized as good but in 2017 it reaches mediocre category, it has not reached target and still need improvement in achieving the target

**Key Words :** Quality Objectives, SNI ISO 9001:2008, Cascading Balanced Scorecard, Analytical Hierarchical Process, OMAX (Objective Matrix), Traffic Light Systems, Current Performance Indicator.

**OPTIMIZING TIME AND COST ON THE BILLING BUSINESS PROCESS USING GOAL PROGRAMMING**

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**ABSTRACT.**

Business billing process is one of the important business processes in a company. No matter what type of company is, billing is a list of receivables owned by the company and is the obligation of the customer to make payment. there are 3 terms of billing such as term cash before delivery, term after the goods received and terms of payment with a period of time. the time spent in completing payment term cash before delivery is 110 minutes with waiting time on the waiting activity for payment to the customer, while for the goods received is 206 minute and for term of payment with a period of time is 300 minute. in this study the method used to optimize the time and cost is to use goal programming, before the business process will be drawn and simulated using YAWL (Yet Another Workflow Language) and then evaluated with algorithm alpha ++ there is a mining process. this paper is a continuation of this researcher's paper before on the optimization of time and cost. the results of this research are the realization of the right business processes and the efficient use of time and cost by reducing waiting time in the process business.

**Keywords:** Optimizing, Business Process, Goal Programming.

## OPTIMIZING STRATEGY FOR REPLACE AND REPAIR OF WARRANTY SERVICE PROBLEMS

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### ABSTRACT.

warranty service is important in buying and selling process. with warranty service, customers will be safe when buying the products we sell. there are two types in the warranty process according to the damage. if damage is severe then the goods will be replaced. then if the damage is medium and light then the product will be repaired. the problems that occur are on the process of repair and replacement. usually companies only refer to the cost of repairs alone but do not attach importance to other variables that contribute to the cost incurred by the company for the repair and replacement process. so the comparison between repair and replacement is less than optimal. then, here the author will do the optimization on warranty service. there are many methods that can be used for optimization problems. from some of these methods, the authors chose integer programming method to optimize which process is better between repair and replacement. integer programming method is one part of linear programming. the difference is integer programming forces the result of optimization to be integer, linear programming is not. therefore, integer programming can be used to make decisions by incorporating the problem into supporting variables within the specified limits. the results of such decisions will be more optimal than using the old way by simply referring to the cost of repairs. but in reality other costs also influence the decision taken between repair and replacement.

**Keywords:** Optimizing, warranty service, repair, replace

## PERFORMANCE MEASUREMENT OF CONTRACT WORKER IN XYZ GOVERNMENT AGENCY USING PERSONAL BALANCED SCORECARD METHOD

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**Abstract.** One of the good governance bureaucracy system implementation of Surabaya City Government is developing performance-based payroll program (e-performance) specially for Civil Servant. However, agencies in Surabaya do not have the full use of civil servants as their human resources, thus involving contract workers as supporters of government performance processes. The purpose of this research was to determine key performance indicator (KPI) and strategic target in XYZ Institution, to determine the importance of each KPI criterion, to know the performance of individual contract workers at XYZ Government Agency and to provide improvement recommendations from the current employee performance. The unit of analysis of this research was performed at the General Section in the Sub Division of Administration with the administrative position as the administrative contract worker. This study used a survey with questionnaire data collection techniques and questionnaires sheet as the design. The method used was personal balanced scorecard by formulating strategic targets and KPI by stakeholders from XYZ Agency. The weighting method used was Analytic Network Process (ANP) method. Based on the research, the results obtained were described as follows: the formulation of KPI and Strategy Target had been formed with the highest level of KPI weight of Total Tardiness KPI (0.1532). Total performance of the best contract worker performance was Mr. C (6.253) while the smallest total performance achievement was Mr. K (3.346). Recommendations of this research: Provide rewards, provide coaching, conduct regular control and evaluation systems, provide socialization and provide slogans in the corner of the room about performance improvement.

**Keywords:** Contract Worker, KPI, strategic target, PBSC, ANP

## APPLICATION OF DELPHI-TOPSIS METHOD IN CONTRACT TYPE SELECTION FOR PRODUCED WATER TREATMENT IN BP FIELD XYZ COMPANY

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### ABSTRACT

Produced water treatment is one of critical process in oil and gas production process, since the treated water must comply with the specification as regulated by the government prior to discharging to environment. Fail to comply with discharged water specification will lead to revocation of operational permit and even subject to criminal act.

BP field of XYZ Company has a produced-water treatment facility to treat its 8.000 barrel/day of water, as by-product of its 6.000 barrel oil and 60 MMscf daily productions. The treatment is performed mechanically and with chemical injection. For chemical provision, XYZ Company has a multiyears material contract, where the contractor supplies the same chemical brand along the contract duration. However, changes in the fluid properties of BP field leads to inefficiency of such chemical brand performance, causing the increase of chemical consumption up to 5-6 times higher. Referring to such issue, further study shall be performed to select the best contract type from three available alternatives: material contract, material contract with personnel and service contract. Defining the criteria and assessing the ranking of alternatives was performed by Delphi and TOPSIS method. From this study, it is concluded that the best contract type to be implemented in produced water treatment in BP field, XYZ Company is the service contract with the highest preference value (0.5885), followed by material contract with personnel (preference value 0.4568) and material contract (preference value 0.4038).

**Keywords:** produced water treatment, Delphi, TOPSIS.

## PRODUCTION AND INCOME OVER FEED AND CHICK COST (IOFCC) OF BROILER CHICKEN WHICH FEED THE FERMENTED DRAGON FRUIT SKIN RATION (*HYLOCEREUS POLYRHIZUS*)

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### ABSTRACT

The objective of the research is to know the production and the income over feed and chick cost (IOFCC) of broiler chicken which get the fermented dragon fruit skin ration (*Hylocereus Polyrhizus*). The design was Randomized Complete Design (RCD) with 3 treatments, 5 replications where each replication consisted of 10 DOC broiler chicken so total chicken used was 150 heads. Treatment given are: R0: ration of fruitless fruit skin of dragon, fermented; R1: ration with 5% flour of fermented dragon fruit skin and R2: ration with 7% fermented dragon fruit skin flour. Variable observed: final body weight, body weight gain, ration consumption, FCR, Income Over Feed and Chick Cost (IOFCC). The data obtained were analyzed by variance, if between the treatments were significantly different ( $P < 0.05$ ) then continued with the Duncan distance test. The results showed that the treatment of R1 and R2 was significantly different ( $P < 0.05$ ) on the final body weight, body weight gain, feed intake, FCR, Income Over Feed and Chick Cost (IOFCC) against R0. Conclusions of this study the use of dragon fruit skin flour (*Hylocereus Polyrhizus*) fermented to 7% in the ration affect the final body weight, body weight gain, FCR, ration, IOFCC broiler age 5 weeks and 5% without dragon fruit skin (*Hylocereus Polyrhizus*) fermented.

**Keywords:** broiler chicken, dragon fruit flour, body weight, FCR, IOFCC.

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ANALYSIS AND IMPROVEMENT OF HEALTH BUSINESS PROCESS SERVICE IN PUSKESMAS XYZ  
USING BUSINESS PROCESS IMPROVEMENT METHOD

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**Keywords:** Information System, Business Process Improvement.

**Abstract.** Puskesmas XYZ is one of the technical implementation unit of health office in Sidoarjo District in charge of organizing health development in the subdistrict of XYZ as well as health service providers, so that patient satisfaction to be something very important.

Although there had been no written complaints from the customer, but in its realization, the increasing number of patient visits per year instead cause problems for the health center. Based on the preliminary questionnaire to 60 respondents, many patients who still are not satisfied with the services provided. One reason for the dissatisfaction of patients to health care that is because the length of time of service. Therefore we need a continuous improvement (continuous improvement).

To get the whole description and weakness from existing business process, then the mapping of business processes supported by patient care data collection availability of human resources, facilities and technology as well as external customer and internal needs of the patient care process. The analysis is done per activity for each process and activity analysis approach to streamlining business processes to obtain a more effective, efficient and adaptive and supported by customer database information system. Improvement of existing business processes performed using the approach of Business Process Improvement and obtained a decrease of activity and the value of the proposed increased cycle time efficiency for each type of service. The following are the results of data analysis and computation time of existing and proposed for each type of service. New patient registration service: cycle time efficiency existing 11% and proposal 27,5%; old patient: cycle time efficiency existing 13,51% and proposal 46,34%; Field examination of general services: existing 93,57% and proposal 95,72%; Field examination of dental services: existing 90,18% and proposal 92,92%; Field examination of family planning services: existing 72,15% and proposal 0,8208; Drug-taking services existing 16,06% and proposal 16,67%.

EOQ AND SS ANALYSIS ON SPARE PART INDUSTRIES SHIPPING ESSECIALLY ON SACRIFICIAL  
ANODE WITH MONTE CARLO SIMULATION

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**Abstract.** The use of EOQ and SS in the shipping industry, especially on spare parts is not equal to the manufacturing industry in general, needs its own approach in accordance with the existing problems. This study discusses inventory planning of PT. Q where PT. Q sells several types of anodes which are spare parts of ships with units of pieces (pcs) to the customer but buys in kilograms (kg) to the supplier. This unit difference is main problem where PT. Q not only determine the optimal number of kilograms but also the right composition of the pieces (pcs) to meet the demand. On the other hand there is a limit where the average value of stock should not be more than Rp 30,000,000 and the anode demand itself has lumpy the characteristics that create uncertainty and difficult to predict. For that purpose EOQ is used to ensure the most optimal orders to suppliers to meet demand but EOQ does not consider the constraint on average stock values so that EOQ modified will be used to meet that constraint, while SS will ensure that the anodes will always be available to meet uncertainty demand. Monte Carlo will be used to determine the average / year demand based on historical data which will become the basis for EOQ and SS calculations. The average total investment in stock originally was Rp 86,783,198 which exceeded the specified constraint so that EOQ modified were used to make an average investment in stock to Rp 30,000,000 which is a specified constraint. SS can be determined with the help of Monte Carlo Simulation.

**Keyword :** EOQ ( Economic Order Quantity ), SS ( Safety Stock ), ROL ( Reorder Level ), SCM ( Supply Chain Management ), Monte Carlo Simulation.



MEASURING WORKLOAD OF CALL CENTER OPERATOR IN PT.ADMINISTRASI MEDIKA TO  
CALCULATE  
OPTIMAL NUMBERS OF OPERATOR NEEDED

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**Abstract.** PT. Administrasi Medika (AdMedika) are leading company third party administrator (TPA) businesses. AdMedika services product is really broad and their business processes is really complex. AdMedika very depends on their call center operator as their connector between insurance member and the hospital. That's why call center operator performance is affected their company performance. In this research, will be conducted a research to measure the workload (physical and mental). After the workload is measured it will be the pivot for calculating the numbers of operator needed based on the workload measurement result. And in this research there will be comparison between calculating call center operator needed using erlang and full time equivalent method.

From the result of this study its know that some team have different workload (physical and mental) than the other team because the operator is not sufficient, and the best method for calculating operator needed in this case is using full time equivalent method.

**Key Words :** *Workload Analysis, Stopwatch time study, Full Time Equivalent (FTE), erlang, NASA-TLX*

OPTIMIZATION OF IT SERVICE DESK RESOURCE ALLOCATION IN AN OIL AND  
GAS COMPANY USING WORKLOAD ANALYSIS (CASE STUDY PT. X)

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**Keywords:** Workload Analysis, Service Desk, Resource Allocation, Service Costing, Data Analytics.

**Abstract.** Service Desk has been an integral part of an IT function in a company which act as a single point of contact (SPOC) for IT users in case of IT incident or to request IT service. In PT. X, an established oil and gas company in Indonesia, service desk function has been implemented according to ITIL best practices and outsourced to third party company. The service is renewed every three years by following strict procurement process according to relevant government policy (PTK 007).

PT. X need to ensure good quality of service desk service by developing Service Level Agreement (SLA) with users and maintain Key Performance Indicator (KPI) for service desk services. This KPI has been integrated in the scope of work of the contract and periodically reviewed. Currently the KPI result has been satisfying and above standard. As the current service desk contract scheme is based of fixed number of resource/personnel, there may be an indication that the current service desk resource is on over staff situation.

This research introduces workload analysis method to identify existing service inefficiencies and propose optimization of current service desk resource allocation which can be used as the basis for the new contract scope of work to reduce the service cost. Historical workload distribution will be assessed using descriptive data analytics from existing service desk ticketing system stored in company's IT Service Management tools database. The research result will help PT.X to optimize the service cost while still maintaining current service performance target.

## DEFINING GAS-LIFT STRATEGY IN BORNEO FIELD USING AHP APPROACH

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Borneo is a mature oil field located offshore the Borneo Delta (Figure 1). Its first oil was in July 1974 and today it is producing 10,000 bopd with 95 MMscfd. The initial development from 1972 to 2007 drilled 85 wells and reached a peak production in 1978 (60,000 bopd). During that time, the production optimization included gas-lift and also water injection. In 2008, a re-development of the field was launched using the existing platforms and production facilities. The field production increased only relying on natural depletion as the pipeline previously used for gas-lift was converted into production pipeline.

After years of production, the field is now facing a decline period as the oil, gas, and reservoir pressure are becoming more depleted. It therefore requires external energy, so called artificial lift, to help lift the oil from the reservoir to the surface. Among the available options, gas-lift injection is deemed as the suitable technique to overcome the issue. Gas-lift requires reliable gas source in order to have a continuous gas-lift injection. Based on the gas source availability, in Borneo field context, there are three possible gas-lift techniques that can be implemented, and they are: Auto Gas-Lift, Well to Well Gas-Lift Injection, and Gas-Lift using Gas Compressor.

This research focus on deciding which type of gas-lift technique is suitable for application in Borneo field using Analytical Hierarchy Process (AHP) method. This method is proposed as there are many aspects to be considered and yet they are often conflicting to each other. AHP analysis is performed by considering the pre-defined criteria such as: Safety and environment, technical, economics, and equipment aspect.

Keywords: AHP, Oil, Gas, Petroleum, Reservoir, Engineering

## ANALYSIS OF FACTORS THAT AFFECTING ERP IMPLEMENTATION PERFORMANCE USING ANALYTIC HIERARCHY PROCESS METHOD

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**Keywords:** AHP (Analytical Hierarchy Process), Analysis, ERP (Enterprise Resource Planning), Implementation Performance.

**Abstract.** ERP system is a concept used to plan and manage company's resources that cover funds, human resources, machines, tools, time, materials and capacities that have a wide influence from the top management to operational level in a company so that these can be utilized optimally to yield added value for all stakeholders of the company. Therefore, it is necessary to analyze what factors are influential in the implementation from the performance of ERP system as an effort to improve ERP implementation performance in accordance with priority ranking of identified factors. This research aims to analyze what factors that affect the performance of ERP on a property company at Surabaya. The problem identification of this research was obtained from interview results with the director of the company. The method used for data processing in this study is by decision-making method of Analytical Hierarchy Process (AHP). The results of data processed by AHP method is a prioritized ranking of factors from the results of the questionnaire. The results of this research found that the highest priority ranking of factors that affect the performance of ERP implementation in the company is the factor of quality ERP system in the first rank and the factor of user involvement in the second rank, then followed by other factors in the next rank. Based on the results of the analysis proves that the priority ranking generated in accordance with the problems that faced by the company.

## STUDY ASSESSMENT OF FLEXIBILITY SUPPLY CHAIN IN FABRICATION SERVICES

### COMPANY WITH ANALYTICAL HIERARCHY PROCESS METHOD

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#### ABSTRACT

The high competitiveness of the contractor and fabrication industries demands that each company has the right strategy to maintain its performance. Manufacturers are exposed to consumers who understand what they need and their qualifications. Flexibility becomes one of the factors considered to improve quality and win the market competition. Flexibility itself in the supply chain is a multidimensional concept with the aim of having the ability to respond to all forms of changes that occur both from within and from outside the company. In this thesis will be conducted research to analyze whether PT. FGH is flexible enough and able to respond to consumer demand by using Analytical Hierarchy Process (AHP) method. From the results of this study obtained the greatest value of supply chain flexibility at PT. FGH is 0.522 from indicator (DS2) that is information about fleet demand easily and quickly with suggestion of new strategy that can be done by company to improve quality is performing vendor registration in the form of partners based on company need.

**Keywords:** analytical hierarchy process, fabrication, flexibility, supply chain.

## ENTERPRISE ARCHITECTURE ANALYSIS AND DESIGN TO SUPPORT THE ACHIEVEMENT OF KPI USING TOGAF ADM

### (A CASE STUDY ON ENGINEERING DEPARTMENT PT. DEF)

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**Keywords:** Key Performance Indicators, Balanced Scorecard, Enterprise Architecture, TOGAF ADM, Engineering Department, Shopping Center.

**Abstract.** The determination of Key Performance Indicators (KPI) by using Balance Scorecard (BSC) approach is a way to quantify the performance of an organization. The size of the organization, the complexity of business processes and how to manage the information will affect the objectivity of individual performance appraisals that certainly affect the performance in section or department. The lack of information about the achievement of KPI that has been achieved or to be achieved is the cause of a person or department too late in performing the necessary actions to fix it. The growth of mobile device technology helps people to obtain information in real time, if managed with the appropriate framework will greatly help an organization in the implementing enterprise architecture that supports the achievement of KPI at the individuals and departments level. This research took place in the Engineering Department of PT. DEF which is one of the largest shopping center management in Indonesia. Based on initial interviews and internal document review, the Engineering Department requires an EA that can support the achievement of predefined KPI. Therefore, the objective of this paper was to discuss the EA analysis and design to support the achievement of KPI using The Open Group Architecture Framework Architecture Development Method (TOGAF ADM). The results of this research indicate that the enterprise architecture planning using TOGAF ADM can produce models of enterprise architecture (blueprint), the blueprint can be used as a guide in the procurement and development of IS / IT at Engineering Department.

