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to :

Sri Hartini

*for the significant contribution as **Presenter** during the conference
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Semarang, July 14th , 2021



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2nd Asia Pacific Conference on
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Optimum Route Design for Paper Waste Transportation using Sequential Insertion: Waste Bank in Grobogan

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Abstract

Increasing the volume of waste will be a source of problems if it is not managed properly. The scattered waste requires challenges in the optimal collecting system and route design. Large volumes of waste paper are more valuable when sold to manufacturers. This study intends to design an optimal route for transporting waste. The model used is capacitated vehicle routing problem with a waste bank as an intermediate facility. Problem-solving is done by using the Sequential Insertion algorithm with the help of Mahlab software. The object of research was carried out on the transportation of paper waste at a waste bank in Grobogan. The transportation of waste from the waste bank has not been systematic, where the schedule has not been regular and has not considered the distance between the waste banks, the amount of waste and the capacity of the fleet. Transportation costs are sometimes more expensive than the profit margins from selling waste paper. This study has designed an optimal route with 2 scenarios. The first scenario is based on the current depot. Scenario 2 by designing depots in three regions using a Gravity Model. The research recommends the optimal route using scenario 2.

Keywords

Optimal Route, Vehicle Routing Problem, Sequential Insertion, Paper Waste, and Waste Bank.

1. Introduction

Waste and natural resource management should aim to reduce resource consumption and protect the environment and human health (Van Ewijk et al. 2018, Hartini et al. 2021, Hartini et al. 2020). Paper is one of the most important necessities in the world and becomes one of the most wasteful after being used. Paper waste comes from households, schools and offices. Paper production and consumption generates solid waste including industrial waste (206 Mt) and post-use waste (363 Mt) (Van Ewijk et al. 2018). Recycling paper waste means saving trees, energy, oil and water. Recycling paper can help governments tackle waste. Indonesia's paper consumption per capita is around 27 kg / person / year, which is equivalent to 11 reams / 11 trees. The discarded paper will produce methane which is worse for global warming than carbon dioxide. Saving 1 ton of paper by recycling will save 13 trees, 400 liters of oil, 4100 Kwh of electricity and 31,780 liters of water (Arfah 2017). Efforts to maintain the value of products, materials and resources in the economy as long as possible so that waste disposal can be minimized is a circular economy approach (Charonis 2013) which has become one of Indonesia's agendas until 2025 (Ministry of Environment and Forestry 2017).

In practice, paper waste occurs at scattered points, such as from schools, offices and communities. Thus, recycling paper waste requires an optimal collection point and route to collect it so that the utilization of paper waste can also be realized (Vinyes et al. 2013). The problem of paper waste includes operational technical aspects, institutional, financing and retribution, regulation/law, and community participation (Soemargono 1977). Meanwhile, operational and maintenance costs for waste transportation become a heavy burden due to the volume of waste that must be transported and the distance from the waste source to the TPA (Wahyono 2001).

The Ministry of Environment developed the Waste Bank as an initial collection point before recycling. Grobogan Regency has 213 waste banks at the village, school, and even office levels. The district government continues to encourage all villages to have waste banks. This study intends to design a route for transporting paper waste as the largest waste in a waste bank using the Vehicle Routing Problem (VRP) model. The research objective is to determine the optimal route by considering the location of the depot, the waste bank and the capacity of the transport vehicles used so as to minimize transportation costs.

The Relevance of Shorthand in the Modern Office from the Perspective of Human Resource Managers and Office Technology and Management Lecturers: A Case Study of Nigerian Colleges of Education of North-western States.

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Abstract

The art of writing a written symbol to represent a spoken sound is known as shorthand. This art has been around for quite some time. The secretary uses shorthand to record meeting proceedings. Parliament's daily proceedings were regularly documented in shorthand. Shorthand has played an essential role in company operations by providing a quick and precise way to record everyday activities. In addition to secretaries, other shorthand writers are referred to as stenographers. This paper looks at the importance of shorthand in today's secretarial employment. To collect data, the paper used purposive sampling and open-ended interviews. The study included 12 specialists, six from human resource management and six from office technology and management. Thematic data analysis was employed in the study, using pattern coding to establish themes. To assist data analysis, Nvivo 10 was used. According to the findings, shorthand is no longer relevant in the current workplace. Findings also revealed that technology has essentially supplanted the services that shorthand used to perform in offices, therefore, focus on benefits of technology in the teaching of the secretary should be prioritized. According to the recommendations, secretaries should not be taught shorthand during their training. The paper conclude that modern office technology competencies should be given greater attention in the teaching of the secretary, this would enhance productivity in the office.

Keywords:

Shorthand, Stenographer, OTME, HND, ND, NCE, NBTE

1. Introduction

Shorthand is the art of using a written sign to represent a spoken sound. Secretaries, journalists, and court reporters have long employed shorthand to perform sundry official tasks. Shorthand has a long and distinguished history, and it was once widely employed in offices all over the world. Technological improvements have changed the secretary's work pattern and style. When a graduate secretary was looking for work in the past, he had to have learned shorthand and typewriting, as well as a variety of other talents, depending on the role that needed to be filled. The speed with which a person can write in shorthand is measured. Shorthand and typewriting skills are coupled to assess an individual's ability. A shorthand speed of 100 words per minute is combined with a typewriting speed of 50 words per minute for holders of a national diploma (ND) certificate. A shorthand speed of 120 words per minute is paired with a typewriting speed of 60 words per minute for higher national degrees (HND). The national certificate in education (NCE) Qualification for shorthand is linked to shorthand speeds of 100 words per minute and word processing speeds of 50 words per minute. However, stenographers, who learn typewriting and shorthand, are sometimes referred to as secretaries. These varying rates are determined by an organization's secretarial service requirements. Shorthand skills, on the other hand, help secretaries improve their listening skills, focus, and accuracy, according to Amoor and Magaji (2015). Shorthand helps secretaries enhance their vocabulary and improve their spelling skills (Okoro, 2017).

Despite the fact that shorthand skills assist secretaries in becoming better writers and in taking minutes of meetings, the current course outline obtained does not adequately fulfill the desired aims of teaching shorthand in the Nigerian colleges of education to achieve the above-mentioned benefits. Another shortcoming in the present OTME minimum standard is the allotment of credit hours for shorthand theoretical and practical. Four (4) hours per week for shorthand theory and practicals is insufficient to successfully instruct pupils in shorthand. These credit hours are insufficient to deliver the results that Okoro claims to have obtained (2017). Shorthand is given more credit hours in Nigerian polytechnics than what it is in the Nigerian colleges of education, according to the

Measuring the Risk Level of Retail Sector for COVID-19 Infection

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Abstract

The pandemic outbreak costs millions of people die because of the spread of the disease. According to the CDC, death rates are four times greater in 30-to 39-year-olds than in 18-to 29-year-olds, and 600 times higher in those 85 years and older. The retail sector is classified as convenience stores, clothing stores, and department stores. Based on the gathered data, the majority of the respondents of this research study are below 21 years old and at 30 years old retail workers (e.g. staff, vendors, and employers). The researchers would like to discuss and measure the risk levels of each employee of different ages and gender towards COVID-19 infection. This study does not only measure risk levels for certain age groups and gender but other factors as well, such as, their behavior, health, exposure, and social policy which are found originally from Resilience Innovation Knowledge Academy (RIKA) India. Online survey questionnaires via Google Forms were distributed to the said respondents. Pearson correlation in line with Hopkins, 2000 correlation coefficient value was utilized and to ascertain the level of correlation of sub-factors to incorporate the significance of these sub-factors towards COVID-19 infection. Results found that factors such as the use of face masks, frequency of handwashing, sanitizing before touching the face, following social distancing, anxiety about the situation, and trust in government measures significantly contribute to COVID-19 infection. Recommendations, possible solutions, and prevention are discussed in this paper.

Keywords

OSHA Standards, Retail Workers, Retail Sector, COVID-19, Risk

1. Introduction

1.1. Background of the Study

Enormous research papers have been constantly emerging for the past months since it is known as a very severe pandemic since the last decade especially how the Coronavirus affected the health and safety of all retail workers. The retail industry is often seen as an economic heavyweight since it employs about 1 in every 12 people in OECD (Organization for Economic Co-operation and Development) nations and contributes nearly 5% of GDP. (Sulaiman, M. et al., 2020). Nowadays, such employees from retail industries are exposed to various people, specifically co-workers or co-employees, and as well as in the outdoor environment which depicts higher risks of stimulating COVID-19 disease which is contagious especially when exposed to a higher number of people. Although reducing transmission was already implemented such as social distancing, travel restrictions, stay-at-home orders, and school and non-essential business closures. (Lan F, Suharlim C, Kales SN, et al., 2020). However, government officials of different countries have been opening limited opportunities to retail industries. As a result, retail owners then took advantage of this situation which called for the attention of retail workers to travel away from their homes to their designated destination where the warehouse, office, and shops are located. Regular workers were first alarmed by the COVID-19 pandemic since the risk of infection from one person to another was extremely high, and according to government rules, individuals were asked to remain inside to break the Novel Coronavirus chain. (Kalogiannidis., 2020).

Additionally, in most companies, the 'Health and Safety Section,' a subset of human resource management, is in charge of ensuring the health and safety of all workers. Employees are productive assets, and their health and safety are

Use of Blockchain in Vehicle Manufacturing Life Cycle Concept

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Abstract

“With the advent of Industry 4.0 , Blockchain is the new technology which current in its nascent stage but seems to have high prospectus in the coming decade. In todays senario when each application and tool is getting tied to the digital thread and each aspect of the data related to product is captured with sensors and exceptional devices thus making its place in Internet of things. This high diverse spectrum of data has changed the way will work in future. These technologies are bound to exponentially change the speed of growth. In such time we need to have strong foundation like Blockchain which will bring in more transparancy, trust , privacy , appropriate access sharing , and will channel the chaos inherant to these new technology coming in.

As rightly said by B. Bias, C. Bisiere, Executive Director American Blockchain Council : Blockchain in simple terms “Wherever people, processes, businesses, governments, or the social good requires proof of identity, ownership, transactions, or commitments; Blockchain technologies promise to meet those needs with a degree of trust and integrity never before possible” .

Keywords Blockchain, Lifecycle, Vehicle, Hyperledger

1. Introduction

The Blockchain is finding its strong place in the mainstream because of its unique properties tied in to the foundational making and it stands on the ground of shared network where relevant information can be seamlessly shared between different entities , which can be said to be immutable due to its timestamps tied to it , to bring in more transparency and tracking for any changes , these information transactions are said to be carved in stone , meaning any changes to that information will be updated to all the stakeholders / entities tied in to that blockchain network. These networks being access controlled, authorization driven which will grant freedom for complete transparency. Blockchain is devised such that it guarantees unhackable security against the unauthorized entity. With the advent of the new concept called Bitcoin, which was introduced in circa 2008, Blockchain was developed as a solution to bring the trust factor in dealing with cryptocurrencies, it was inducted into mainstream of peer-to-peer money transaction without getting bank, internet platform or any type of third-party interference,