
ABSTRACTS

*doi:10.22306/al.v7i1.149**Received: 08 Jan. 2020**Accepted: 30 Jan. 2020***EVALUATION OF SUPPLIERS' QUALITY AND SIGNIFICANCE
BY METHODS BASED ON WEIGHTED ORDER**
(pages 1-7)**Silvia Maláková**Technical University of Košice, Faculty of Mechanical Engineering, Letná 9, Košice, Slovak Republic, EU,
silvia.malakova@tuke.sk (corresponding author)**Peter Frankovský**Technical University of Košice, Faculty of Mechanical Engineering, Letná 9, Košice, Slovak Republic, EU,
peter.frankovsky@tuke.sk**Vojtech Neumann**Technical University of Košice, Faculty of Mechanical Engineering, Letná 9, Košice, Slovak Republic, EU,
vojtech.neumann@grob.de**Piotr Kurylo**University of Zielona Gora, Faculty of Mechanical Engineering, Szafrana 4, 65-516 Zielona Gora, Poland, EU,
p.kurylo@ibem.uz.zgora.pl**Keywords:** inter-operation transport, handling, transport trucks**Abstract:** Slovakia has become one of the leading automobile manufacturers in Central Europe, mainly due to the presence of three global automakers - Volkswagen (Bratislava), PSA Peugeot Citroën (Trnava) and Kia Motors (Žilina). There is the automotive industry necessary for the development of the Slovak economy as decisive industry. Many businesses work right for the automotive industry. A substantial part of these companies is engaged in plastic products, such as the production of large-size plastic mouldings such as dashboard, car door trim and the like. These mouldings are produced on large-size injection moulding machines, with massive injection moulds. One of the problems of these companies is the handling of these massive forms, which can weigh tens of tons. The article is devoted to the design of the transport device, which is designed for the transport of this type of moulds, which is able to easily and safely secure moulds of various dimensions and transport them from the press to the mould warehouse, or vice versa from the mould warehouse to the injection press. There is the strength calculation of the structure is solved using FEM in conclusion.*doi:10.22306/al.v7i1.150**Received: 23 Jan. 2020**Accepted: 05 Feb. 2020***USING OF OPTIMIZING METHODS IN INVENTORY MANAGEMENT OF
THE COMPANY**
(pages 9-16)**Katarína Teplická**Technical University of Košice, FBERG, Letná 9, 042 01 Košice, Slovak Republic, EU,
katarina.teplicka@tuke.sk (corresponding author)**Katarína Čulková**Technical University of Košice, FBERG, Letná 9, 042 01 Košice, Slovak Republic, EU,
katarina.culkova@tuke.sk**Keywords:** deficit, inventory, model, optimization**Abstract:** Management of inventory presents an integral part of logistics and effective inventory management demands inventory optimizing since the stocks of the company bind financial resources and present high costs on stocking and maintenance of inventory. The aim of this contribution is to point out the possibilities of optimization the stocks of the

mining company in the process of extracting granodiorite. For optimization of stocks - granodiorite we can use EOQ inventory optimization model is used, which sets the optimal amount of raw material extracted in relation to economic indicators such as storage costs, the cost of securing the extracted material in the quarry, insurance costs and other types of costs. By EOQ optimization model, we found that optimum granodiorite extraction should be 38 tons per hour of granodiorite, which would mean low costs for the company in relation to securing the raw material. This model allows planning interventions in the mining process in terms of cost optimization, which is an important economic indicator for the company. The advantage of this EOQ model is the obtaining of important information about the state of the extracted raw material in the quarry Hradbová as well as on the volume of storage costs of the extracted raw material. Management of stocks raw material and minimization of costs represent economic benefits for the mining company.

doi:10.22306/al.v7i1.151

Received: 24 Jan. 2020

Accepted: 09 Mar. 2020

FLEET OPTIMIZATION BASED ON THE MONTE CARLO ALGORITHM

(pages 17-21)

Martin Lampa

VŠB – Technical University of Ostrava, Faculty of Materials Science and Technology, 17. listopadu 15/2172, 708 33 Ostrava-Poruba, Czech Republic, EU, martin.lampa@vsb.cz (corresponding author)

Andrea Samolejová

VŠB – Technical University of Ostrava, Faculty of Materials Science and Technology, 17. listopadu 15/2172, 708 33 Ostrava-Poruba, Czech Republic, EU, andrea.samolejova@vsb.cz

Keywords: management science, optimisation, simulation, vehicle fleet capacity, Monte Carlo algorithm

Abstract: With the development of computers and software products, there is now greater use of quantitative methods in industrial enterprises when making managerial decisions. One of the most applicable solutions to computer simulation algorithms is the Monte Carlo method. The application of the Monte Carlo algorithm lies in finding a relation between the individual variables, which are the solutions to the problem and represent the characteristics of random processes reproducible on computers. The aim of this article is to show the application of simulations from the Monte Carlo algorithm using the example of optimising vehicle fleet capacity so that the total daily costs spent on transporting goods are minimal.

doi:10.22306/al.v7i1.154

Received: 01 Feb. 2020

Accepted: 20 Feb. 2020

LOGISTICS OF CONTROLLING IMPLEMENTATION IN CONDITIONS OF MANUFACTURING ENTERPRISE

(pages 23-29)

Annamária Behúnová

Technical University of Košice, Institute of Earth Resources, Letná 9, Košice, Slovak Republic, EU, annamaria.behunova@tuke.sk

Lucia Knapčíková

Technical University of Košice, Department of Industrial Engineering and Informatics, Bayerova 1, Prešov, Slovak Republic, EU, lucia.knappikova@tuke.sk (corresponding author)

Marcel Behún

Technical University of Košice, Institute of Earth Resources, Letná 9, Košice, Slovak Republic, EU, marcel.behun@tuke.sk

Keywords: production costs, controlling, logistics implementation

Abstract: Market saturation creates a competitive environment among manufacturers, causing constant competition for customers. The offer affects the consumer by many factors, but we consider the selling price of the product to be the main influence factor. In order to achieve a competitive price of the product, it is necessary to know not only the market but

mainly the production costs of the company. Since production costs form the largest part of the sales price of the product, it is important for the manufacturing company to monitor and regularly adjust these costs so that the price of the product is competitive in the domestic or foreign market. As the cost of production, which in this particular undertaking is based on internal analysis and accounting documents, accounts for the largest part of the sales price of the product, it is important that the manufacturing company monitors and regularly adjusts it so that the product price is competitive on the domestic or foreign market. The aim of the presented research was to analyse the internal financial statements of a particular manufacturing company, to point out the critical values of production costs and to find a suitable solution for their subsequent optimization. In order to achieve the tactical, short-term goals of the company on the domestic and mainly foreign market, it is necessary to regularly control the costs of the company using a suitably chosen implementation management logistics, which is currently a progressive tool of business development.

doi:10.22306/al.v7i1.155

Received: 03 Feb. 2020

Accepted: 16 Mar. 2020

IMPACT OF LEGAL STANDARDS ON LOGISTICS MANAGEMENT IN THE CONTEXT OF SUSTAINABLE DEVELOPMENT

(pages 31-37)

Janusz Grabara

Al-Farabi Kazakh National University, Almaty, Kazakhstan and Czestochowa University of Technology, Czestochowa, Poland, janusz@grabara.eu (corresponding author)

Malika Dabylova

Al-Farabi Kazakh National University, Almaty, Kazakhstan, malika.dabylova@gmail.com

Gulnaz Alibekova

Institute of Economics of the Ministry of Education and Science of Kazakhstan, Almaty, Kazakhstan, galibekova77@gmail.com

Keywords: legal standard, logistics management, sustainable development, Commonwealth of Independent States, industry

Abstract: In the global context, logistics plays a key and sometimes a decisive role in the industrial development of countries. The legal regulation remains one of the important ways to solve the logistics tasks by enterprises efficiently. The purpose of this study is to assess the impact of legal norms on logistics of enterprises to support sustainable development. The article examines the state of logistics in the members of the Commonwealth of Independent States and their legal norms that affect the countries sustainable development. The research methodology is a survey of companies' managers and lawyers. The Kruskal-Wallis test, ANOVA analysis, Tukey's HSD test are used. Logistics management in enterprises should contribute to the protection of both environmental and social sustainability, because the growing number of customers supporting socially responsible enterprises is observed.

doi:10.22306/al.v7i1.158

Received: 06 Feb. 2020

Accepted: 17 Mar. 2020

THE BLACK OCEAN STRATEGY IN THAILAND LOGISTIC INDUSTRY THE CASE STUDY OF USED CAR SECTOR

(pages 39-47)

Kittichok Nithisathian

Stamford International University, Exchange Tower, G&LG Floor, 388 Sukhumvit, Klongtoey, Bangkok 10110, Thailand, kittichok.nithisathian@stamford.edu (corresponding author)

Josu Takala

University of Vaasa, P.O. Box 700, FIN-65101 Vaasa, Finland, josu.takala@uwasa.fi

Thanawat Srisuk

Stamford International University, Exchange Tower, G&LG Floor, 388 Sukhumvit, Klongtoey, Bangkok 10110, Thailand, 1701240016@students.stamford.edu

Yuanfeng Cai

Stamford International University, Exchange Tower, G&LG Floor, 388 Sukhumvit, Klongtoey, Bangkok 10110, Thailand, yuanfeng.cai@stamford.edu

Martin Goerlich

Stamford International University, Exchange Tower, G&LG Floor, 388 Sukhumvit, Klongtoey, Bangkok 10110, Thailand, martin.goerlich@stamford.edu

Thittapong Daengrasmisopon

Stamford International University, Exchange Tower, G&LG Floor, 388 Sukhumvit, Klongtoey, Bangkok 10110, Thailand, thittapong.daengrasmisopon@stamford.edu

Keywords: Black ocean strategy, logistic industry, auto market, small and medium enterprise, cost and pricing

Abstract: The logistic is the core of Thai economy. While many business authors are focused on blue ocean strategy in pursuit of tapping into uncontested market space by using differentiation and low cost. There is another strategy that are most commonly use but not much revealed in the literature. It is named black ocean strategy and commonly use in logistic industry. It is the secret mantra from the past which still widely use in today business world. This paper has focus on used car sector as a part of logistic industry to study the viable of this strategy and found that black ocean is commonly used by used car companies. Since the automotive tax in Thailand is pretty high many logistic companies prefer to go for used car which is more economy. The study found that black ocean strategy is the viable tools to reduce the purchasing cost as well as increase the selling price for both logistic buyer and purchaser.

doi:10.22306/al.v7i1.159

Received: 09 Feb. 2020

Accepted: 01 Mar. 2020

LOGISTICS CONTROL OF THE RESOURCES FLOW IN ENERGY-SAVING PROJECTS: CASE STUDY FOR METALLURGICAL INDUSTRY

(pages 49-60)

Sergey Kiyko

PJSC "Electrometallurgical works "Dniprospeetsstal" named after A.M. Kuzmin", 81, Yuzhnoe Road, Zaporizhzhia, 69008, Ukraine, haidabrus@gmail.com

Evgeniy Druzhinin

National Aerospace University "Kharkiv Aviation Institute", 17, Chkalov St., Kharkiv, 61070, Ukraine, druzhinin105@gmail.com

Oleksandr Prokhorov

National Aerospace University "Kharkiv Aviation Institute", 17, Chkalov St., Kharkiv, 61070, Ukraine, o.prokhorov@khai.edu

Vitalii Ivanov

Sumy State University, 2, Rymskogo-Korsakova St., Sumy, 40007, Ukraine, ivanov@tmvi.sumdu.edu.ua
(corresponding author)

Bohdan Haidabrus

Sumy State University, 2, Rymskogo-Korsakova St., Sumy, 40007, Ukraine, haidabrus@gmail.com

Janis Grabis

Riga Technical University, 1, Kalku str, Riga, LV-1658, Latvia, grabis@rtu.lv

Keywords: energy-saving, metallurgical enterprise, logistics management, resource flow

Abstract: The multilevel model for the formation and assessment of resource flows of a metallurgical enterprise is presented, which, at the logistics positions, reconcile the enterprise flow processes at all management levels, providing procedures for regulating the parameters of material and financial flows due to parametric and structural coordination in the short period of time and system coordination and adaptation of goals in the long term period. Drawing on the theory of logistics, it is possible to define the resource flow in project management as an aggregate of the enterprise's own and attracted resources, considering in the process of interconnected and interdependent changes and movements carried out to achieve the objectives of the project. Optimization models of rational options selection for attracting additional

resources, which allow implementing energy-saving projects under conditions of suspending finances at definite time periods due to a change in the project implementation schedule are described.

doi:10.22306/al.v7i1.160

Received: 18 Feb. 2020

Accepted: 03 Mar. 2020

MODEL OF STOCK CONTROL AT SCRAP PROCESSING ENTERPRISES

(pages 61-64)

Rinat Vasilovich Faizullin

Kalashnikov Izhevsk State Technical University, 7 Studencheskaya St., Izhevsk, 426069,
Udmurt republic, Russian Federation, rf85@mail.ru

Olga Mihailovna Perminova

Kalashnikov Izhevsk State Technical University, 7 Studencheskaya St., Izhevsk, 426069,
Udmurt republic, Russian Federation, olgaa@istu.ru (corresponding author)

Keywords: stock control, safety stock, oligopsony, scrap processing enterprises

Abstract: For the effective functioning of scrap processing enterprises and optimization of the production capacities it is necessary to predict the optimal level of production stock based on logistical approaches and studying the demand for products. The paper proposes the model of stock control at scrap processing enterprises. It is considered that scrap processing enterprises are often functioning at the oligopsony market. It has been determined that the scrap market is a typical example of the oligopsony market. In the oligopsony market, enterprises are usually in a state that can be considered a state of equilibrium, when none of the market players is profitable to break this balance. Changes in market prices or price policies should be deliberate and justified. The relation of pricing models and stock control models at enterprises are considered. By regulating its price, the company can significantly and quickly change the number of scrap stocks. It is stated that an enterprise having its pricing system should track the number of scrap stocks. The method of stock controlling at the enterprise by changing its pricing policy is proposed. The model considers the expected value of demand, the price elasticity of supply and demand, storage costs, the stock volume at the warehouse and the specific loss due to unsatisfied demand. The inventory management model is based on modern models of scrap price forecasting, is an optimization model and is based on it proposed the algorithm for the functioning of the computer-aided system of stock control.
