ABSTRACTS

POLYMER MATERIALS AND THEIR USAGE IN VETERINARY PRACTICE
(pages 109-115)

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Keywords: polymers, biomaterials, additive manufacturing, veterinary medicine.
Abstract: In the field of regenerative medicine and tissue engineering, the use of such materials has been included for a short time, serving not only as a replacement for damaged or missing tissue, but also as a support for the surrounding tissues and cells. Such materials should not only be passively tolerated by the cell, but should also actively promote the growth, differentiation and other processes involved in tissue regeneration. The latest approach is the use and development of bioresorbable and biodegradable polymeric materials. Such materials, with their biocompatibility, degradability and suitable mechanical properties, support the overgrowth of new tissue. The application of such materials is used not only in the human but also in the veterinary field. This study approaches the use of polymeric materials processed by additive technology in veterinary practice in several case studies. It presents not only the use of new methods of materials processing, but also an individualized approach and progress in therapeutic approaches.

SUSTAINABILITY AND INNOVATIVE LOGISTICS RELATIONSHIP WITH 3PLS PERFORMANCE IN MALAYSIA'S MANUFACTURING SECTOR
(pages 117-122)

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Abstract: The advent of SPV2030 and global Sustainable Development Goals (SDGs) spurred many countries into action to meet up with the national and global requirements as highlighted in the national and Global policies. Malaysia desires to achieve SPV2030, and it demands the cooperation of all sectors, including logistics, especially, Third Party Logistics companies and the Manufacturing sectors. Furthermore, it has been a great challenge to the world as the whole earth experience global warming. Therefore, all efforts are demanded to reduce or minimise the earth's warming. In line with these two important policies, SPV2030 and SDGs, this research study examines the influences of sustainability and innovative logistics on 3PLs performance in Malaysia's manufacturing sector. This study utilised a quantitative research method by preparing a good, structured questionnaire survey using systematic random sampling. About 333 copies of the questionnaire were distributed electronically, while analysis was done on 229 questionnaires, estimated as 69% of the total questionnaires. SPSS version 20 was used as software for the statistical analysis. The findings show that using innovation in green logistics as a moderation factor in the relationship between 3PLS service providers and key performance is significant. This fulfils the SPV2030 strategic thrust number 2 that Malaysia is to build resilient key new sectors. Furthermore, the findings on innovative green logistics also moderate the relationship between packaging services and operational performance, and this also fulfils a cardinal Sustainable development point goal.

COST, TRANSIT TIME, AND GHGS EMISSIONS MINIMISATION OF FREIGHT TRAINS: APPLICATION OF Q-LEARNING AND GENETIC ALGORITHM
(pages 123-132)

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Abstract: The purpose of this research is to address the multi-objective problem of minimising overall cost, transit time, and CO_2e emissions in Pakistan's railway system. A multi-objective problem is designed using integer linear programming and reinforcement learning. This study is generally applied to transportation network design and planning challenges that need balancing various objectives. Integer linear programming is used to design a multi-objective problem, and reinforcement learning is used to identify the shortest path for a railway network. Pareto front solutions are also generated using the genetic algorithm. Using the Q-learning method, we estimated and analysed the cost, time, and greenhouse gas emissions of current and future railway networks. According to our findings, the shortest railway track connecting Pakistan's provinces of Punjab and Sindh outperforms the current railways (Fareed Express) in terms of cost, time and emissions. A cost, transit time, and CO_2e emission reduction of 13% is possible when compared to the existing railway line.

QUALITY CONCEPTS IN PRODUCT DESIGN – SURVEY
(pages 133-139)

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Abstract: Without quality, nothing can be accomplished in the current competitive world. Quality is one of the fundamental features in product design concepts. By building the design based on the concept idea, product design concepts enable the exploration of several ideas. The following factors, which are given below: 1. Beauty or outlook 2. Cost; 3. Performance 4. Guarantee and warranty 5. Life expectancy the degree of product design may be evaluated using a variety of quality management technologies, such as Quality Function Deployment (QFD), Six Sigma, and Statistical Quality Control Techniques. With the use of modelling software applications, prototyping and testing is a technique to confirm the quality of product design. Consumers will only purchase high-quality products, according to the literature. By structuring the survey questionnaire, a detailed survey on the fundamental characteristics of product design concepts has been attempted in this work. Employees of various organizations and students at higher education institutions and technical institutes are the respondents taken into account in this work.

MODELS OF IMPROVING EMPLOYEE PERFORMANCE AND JOB SATISFACTION IN PT. PERKEBUNAN NUSANTARA III
(pages 141-148)

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Abstract: Having superior employees is the hope of every company leader. The superiority of human resources can be seen from the maximum performance of employees. Employee performance problems in state-owned companies such as PT. Nusantara III Plantation in Indonesia continues to be studied on an ongoing basis. The main focus of this research is to find a model of employee performance and job satisfaction that is influenced by creativity and transformational leadership. Data collection by distributing questionnaires to 230 employees at PT. Perkebunan Nusantara III. The findings of the researchers found that an employee's creativity and transformational leadership are directly integrated with job satisfaction and employee performance. Through job satisfaction, an employee is able to give his best in carrying out his duties and responsibilities.

CREATING A MODEL OF THE PRODUCTION HALL USING 3D PRINTING
(pages 149-153)

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Keywords: SolidWorks, Twinmotion, 3D tlač, KISSlicer.
Abstract: The aim of this article is to create a scale model of the production hall using 3D printing as a visualization tool. The article describes the process of creating and preparing 3D models in the SolidWorks modelling program. Visualization is handled by Twinmotion architectural software, where the production hall also includes a machine park approaching the real image of the original hall.