
ABSTRACTS

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Exploring the effects of perceived values on consumer usage intention for electric vehicle in Thailand: the mediating effect of satisfaction

(pages 151-164)

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Keywords: perceived value, satisfaction, usage intention, electronic vehicle (EV), electromobility.

Abstract: Nowadays, electric vehicle innovation plays an important role in the market, transportation, logistics and supply chain in the electric mobility industry, contributing to environmental protection and reducing pollution. The commercial EV launched in Thailand which has been very popular with consumers, but it is also not widely used, and there are not many market surveys about customer usage intention. Therefore, it is necessary to study seriously. This study explores the impact of the perceived value of electric vehicle (EV) features on consumer usage intention to use electric vehicles in Thailand, with the mediating effect of customer satisfaction. The results showed that perceived value from using EV, consumer satisfaction, and usage intention of EV, there is a significant direct and indirect relationship. These findings have contributions and relevant expected benefits.

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Streamlining utilisation of the assembly line using computer simulation

(pages 165-173)

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Keywords: modelling, simulation, manual assembly, advanced industrial engineering.

Abstract: The increase in computer computing power and the development of simulation software make it possible to realise very accurate predictions of the impact of decisions on systems. The cost of investments in streamlining logistics and manufacturing systems is usually high. Therefore, verifying whether the implemented improvement will have a real intended impact on the system is necessary. The use of simulation helps reduce the risk of uncertainty in such projects. The article describes the simulation performed in the software Tecnomatix Plant Simulation 15.2 and their use in its described methodology for simulation study with achieved results. The study was carried out to streamline manual assembly in a company engaged in the production of car seats, namely car rear seats and their manipulation processes. The simulation itself was supposed to answer the question of whether it is possible to produce faster customer line tact and whether it is possible to reduce the number of workers without influencing line performance. The very design of the content and number of simulation experiments was realised in two main aspects. These aspects are whether changing the organisation of the workplace will bring the desired effect and whether the installation of new equipment can improve performance even more. The resulting solution helped reduce the investment uncertainty and estimated that the best two solutions would increase the assembly line performance by 0.94% or 6.89%, respectively.

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Methodologies for characterization, evaluation, and improvement of logistics in the food supply chain

(pages 175-190)

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Keywords: characterization, evaluation, logistics, improvement, methodologies.

Abstract: The food supply chain (FSC) is made up of producers, traders and processors who bring the product from supply to demand through logistical processes. Food supply chains require specific methodologies for their current diagnosis, evaluation and improvement. Logistics in food supply chain requires to be managed according to its nature. This article identifies the different methodologies through a systematic literature review of publications from 2005 to 2022, using Web of Science, Scopus and Google Scholar search engines, in order to establish the state of the art. As a result of this review, a new taxonomy is proposed and includes the following methodological groups: management, qualitative, quantitative, multi-criteria decision-making (MCDM), statistics, machine learning, mathematical modelling, discrete simulation, system dynamics and others. The methodologies of characterization, evaluation and improvement are classified into two main groups of logistical means and modes. The performance measures most commonly used in the methodologies by the researchers were also identified. From the article, discussions, challenges and trends are generated to identify possible future research and different gaps.

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A new model for cost estimation construction project using Hybrid importance regression ensemble method

(pages 191-198)

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Keywords: cost factor, Importance Regression Ensemble Method, K-Nearest Neighbor Method, construction.

Abstract: Cost estimating entails gathering and evaluating historical data, as well as using quantitative models, methodologies, tools, and databases to forecast the cost of a program in the future. At the early stages of the building design process, the cost is considered one of the most important elements in making decisions. During the design phase of a project, cost estimating is quite essential. To complete a construction project successfully, it is critical to design a usable model and method for cost estimation in construction projects. For the above reason, this study has developed a hybrid method to conduct an accurate cost estimation in construction projects in Iraq. This study also conducted a rigorous survey to find five main influential factors with thirty-six sub-factors in the Iraqi market. It was evaluated through previous studies, questionnaires, and surveys of twenty projects to build a matrix factors database for construction projects. This work gathered the construction cost factors from relevant research and expert views. In the second step, the researcher ranked the factors within the Importance Regression Ensemble Method then the K-Nearest Neighbor Method was applied to specify the effect of the near-effective factors on the cost. The outcome of this study will be helpful to construction professionals in estimating a construction project effectively.

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Impact of dividend policy on stock prices

(pages 199-208)

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Keywords: stock price, dividend policy, capital structure, profitability, Universitas Pekalongan.

Abstract: This study aims to test and analyze the research model by using dividend policy as an intervening variable on the effect of firm value and capital structure on firm value. Other variables influencing the stock price are investment opportunity set, trading volume activity, and profitability. The objects of this research are companies included in the LQ45 index on the Indonesia Stock Exchange during the period 2012 - 2021. The analytical tool we use is path analysis to test the effect of exogenous variables on endogenous variables, including testing direct and indirect effects. The results of testing 177 samples over a period of 10 years resulted in the finding that the dividend policy with the DPR (Dividend Payout Ratio) indicator was unable to mediate funding policy and firm value in increasing stock prices. Another study found that factors that increase SP (stock prices) in a positive and significant direction of influence are ROE (Return On Equity), and DPR (Dividend Payout Ratio), while other variables such as PER (Price Earning Ratio) and DER (Debt to Equity Ratio) do not significantly increase SP (Stock Prices) despite the positive direction of influence. While the factors that can reduce SP (Stock Prices) in our study are DAR (Debt to Assets Ratio) and TVA (Trading Volume Activity), and other factors that do not significantly reduce SP (Stock Prices) even though the direction of influence is negative are PBV (Price to Book Value) and ROA (Return on Assets).

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A systematic literature mapping of current academic research linking warehouse management systems to the third-party logistics context

(pages 209-228)

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Keywords: WMS, warehouse management systems, third-party logistics operator, systematic literature review.

Abstract: Academic research on third-party logistics operators selecting warehouse management systems is scarce at best, based on found 86 area-specific studies written in English. Only 17 studies had mentions of 3PL and WMS but did not directly reference 3PL using WMS. Eighty-six studies covering four main categories contributed to understanding ongoing research in WMS characteristics and the 3PL context. One category is warehouse characteristics relevant to WMS, and the others concern the warehouse management system as its taxonomy, functions, features, and deployment considerations. Within these four categories, 17 subtopic areas were identified. WMS deployment considerations had the highest number of subtopics (ten), being the most focused area for WMS selection considerations for the system's successful implementation and operation usage. WMS functions and features category contained only a subtopic, indicating a need for additional research on operational functions in management systems and 3PL operations context. Award-winning 3PL validated our findings, utilizing their extensive industry experience. Based on the 3PLs validation review, fast-developing and technology areas, such as digitalization and the newest warehouse management technologies, were the only areas missing from the academic literature. Research is carried out to map the missing specific digitalization, technology-based research, development, innovation possibilities, and WMS sustainability-related knowledge gaps. By addressing the knowledge gap in existing literature, the study significantly contributes to understanding WMS utilization in the 3PL context, providing new insights into WMS characteristics overview, advancing research in 3PL logistics selecting WMS, and defining future research venues of WMS aspects.

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Evaluating low-carbon policy alternatives to support electric vehicle transition: evidence from Bogota-Colombia

(pages 229-240)

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Keywords: electric vehicle, low-carbon policy, energy transition, transport, simulation.

Abstract: The transition from fuel-based vehicles to electric vehicles (EVs) is fundamental in the decarbonisation process of countries – it has become an option to reduce greenhouse gases (GHG). This transition involves transformations of the transport sector that are influenced by transport policy. However, policy makers sometimes experience delays in implementing such a policy, which produces drawbacks in the long-term. The paper aims to assess low-carbon policy

alternatives for mitigating the delays in the electric vehicles transition, supported by a simulation model. To simulate, the model uses the historical data of pollution and temperature generated by the Bogota's transport sector in Colombia. Results contribute to understanding the role of low-carbon policy on the reduction of CO₂ emissions in the transport sector. Also, a dynamic perspective shows how the EVs transition in the case of Colombia influences on the desired target policy, such as the Paris Agreement and the intergovernmental panel on climate change (IPCC).

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Ordinal regression analysis of traffic collision accidents in Jordan 2021: factors and severity assessment

(pages 241-250)

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Keywords: collision, injuries, ordinal, factors, severity.

Abstract: One of the significant challenges that the world is confronting is road traffic accidents. The aim of this study is to determine the key factors contributing to traffic collision accidents and to utilize an ordinal regression model to identify the factors that contribute to accident severity. This will be achieved by fitting a suitable equation based on a dataset obtained from the Traffic Institute's database for the year 2021. The findings from the ordinal logistic regression analyses indicate that weather conditions, road surface, speed limit and illumination levels are significant factors that contribute to the severity of crashes with p-values of 0.003, 0.085, 0.025 and .002 respectively. Hour of the day, day of the week, week and governorate are insignificant in collision accidents in Jordan in 2021. In this comprehensive study on traffic collision accidents in Jordan during 2021, our analysis has revealed some significant findings. Our data indicates that the peak period for traffic collision accidents was between 18:00 to 18:59, and Thursday was found to have the highest number of incidents. In terms of the month, July recorded the highest number of accidents. It was also noted that Amman had the largest share of accidents. These findings highlight the need for increased awareness and stricter enforcement of traffic regulations during peak periods and in high-risk areas.

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Design of logistic criteria to establish healthcare facilities in vulnerable regions in Mexico

(pages 251-265)

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Keywords: vulnerable communities, medical supply, distribution networks, facility planning.

Abstract: According to the World Health Organization (WHO), health inequities refer to those dimensional, measurable, and avoidable differences between socially, economically, demographically, or geographically defined population groups. In Mexico, despite several advances in health services and infrastructure, there are health inequities in rural communities, particularly those with indigenous population. These communities have limited or non-existent healthcare facilities, medical equipment, transport infrastructure, medicines, and human resources such as doctors and nurses. In this work, a conceptual design of a healthcare network is proposed to serve a region with several rural communities with limited healthcare resources. The designed network allocates rural communities to the most appropriate facilities based on (a) a vulnerability community index, and (b) a facility service index. The application of the conceptual network led to a hierarchical referral scheme between communities and different types of healthcare facilities to improve medical services and infrastructure planning. These results can support the decisions aimed to expand already existent facilities, replace multiple basic facilities with an appropriate number of larger and more advanced facilities, and determine the transportation infrastructure required to reach these facilities.

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Optimization and process development methods in the production of sugar from Cuban sugar cane

(pages 267-278)

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Keywords: Cuba economy, sugar production, process optimization, multi-stage collection, CORELAP method.

Abstract: Cuba's economy has fluctuated strongly due to COVID-19 and natural disasters. In addition, sugar production, which is Cuba's main export product, also fell sharply. In the absence of underdeveloped industrial technologies and digitization, Cuba currently has to allocate its resources with even greater consideration. That's why utilization and optimization of sugar production and transport can take advantage of its inherent potential and reserves. After presenting the history of sugar production and its current, mainly local, technology, we present three simple methods, which do not require very professional knowledge nor expensive software or hardware to optimise these processes. We recommend the establishment of basic collection points, which would operate as specific logistics centres, with the role of service provision and pre-production in addition to the collection. Also, the paper proposes a method that can be used to design layouts in 3D, making the current sugar production process more compact and efficient.

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Evidence from United Arab Emirates universities on effective human resources policies for employee perceived performance

(pages 279-289)

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Keywords: human resources practices, Likert scale questionnaire, performance evaluation and planning, United Arab Emirates Universities, UAE.

Abstract: The current research is to ascertain the effect of human resources (HR) policies and procedures on employees. The study is based on the quantitative method. The employees at the United Arab Emirates universities are the selected audience. Google Forms was used to disperse the survey, where 100 responses were collected in this study. The questionnaire adopted a Likert scale of seven points. Tests such as factor loading, internal consistency, Convergent Validity (AVE), Discriminant validity, Coefficient of determination (R^2) and adjusted (R^2), Path Coefficient (β), and t-test through ADANCO were conducted. This research shows that performance evaluation of all other variables, such as compensation, promotion practices, training and development, and employee involvement in decisions, has a really beneficial impact on PEP. The current research helps universities to plan the practices of HR and increase the PEP of their teachers. This is because it has the potential to provide professors, academic leaders, and supervisors with fresh perspectives that will aid in the spread of knowledge and the efficient operation of the academic workplace. Employee turnover in UAE government agencies is affected by management style and a lack of employee empowerment, according to the study. There were signs that workers' distaste for centralized leadership influenced their desire to remain with their current employers. Many research papers have been done on this topic in developed countries. However, none of these studies has been accomplished.

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Lean 4.0 in port management: an alternative to support the development of the circular economy in the sector

(pages 291-304)

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Keywords: circular economy, lean port terminal, port management, Lean 4.0.

Abstract: Ports and terminals are directly related to world economic development due to international trade. In this sense, port management has expanded actions in terms of sustainability and mainly linked to circular economy (CE). The port environment is not alien to society's developments and for that it needs to improve its efficiency and operability, reducing the waste of time, processes and waste generated within it. In this context, this research links the Lean 4.0 concept with the circular economy as an alternative for the development of the port sector. The study is based on highlighting the challenges and advantages of implementing CE in ports through Lean 4.0. To achieve the objective of this research, a literature review was carried out based on the Systematic Research Flow - SSF method proposed by Ferenhof and Fernandes (2016), followed by a content analysis based on Bardin (2011). Based on the findings, it was possible to list the key elements linked to Lean 4.0 correlated with the circular economy to stimulate the sustainability of the port sector. It was identified that Lean 4.0 presents itself as a simplifier for the implementation of the circular economy culture, since it enables the alignment of people to identify waste, stimulates innovation and the development of a culture aimed at continuous improvement in the sector.

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Exploring the drivers and barriers to digital transformation adoption for sustainable supply chains: a comprehensive overview

(pages 305-317)

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Keywords: digital transformation, sustainable supply chains, barriers, drivers, literature review.

Abstract: In today's manufacturing industry, digital transformation has become a focal point for academia and practitioners due to its potential to drive supply chain management and sustainability outcomes. This transformation provides numerous opportunities to improve strategic, tactical, and operational capabilities to meet sustainability goals. However, the high level of uncertainty associated with digital transformation programs has created doubts among many manufacturing companies about the successful adoption of digital transformation in their supply chain processes. While previous studies have examined digital transformation technologies and their implementations in supply chains, little attention has been given to the drivers and barriers associated with adopting digital technologies for sustainable supply chains, especially in the context of manufacturing. Therefore, this study aims to fill this gap by providing a comprehensive overview of digital transformation adoption in manufacturing supply chains and identifying the critical drivers and barriers to successful digital transformation implementation. A total of six barriers and eleven drivers have been selected from the literature. Finally, this study provides insights for decision-makers to overcome the main barriers that hinder the successful implementation of digital technologies in supply chain functions, which can lead to a higher ethical supply chain level from a sustainability and operational efficiency perspective.

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Performance of Vietnamese shipping firms: a four random components stochastic frontier approach

(pages 319-329)

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Keywords: technical efficiency, stochastic frontier analysis, Vietnamese shipping firms.

Abstract: This study aims to measure the overall technical efficiency score and analyze its determinants in the Vietnamese shipping industry. The data used in the study is the enterprise census data set collected by the General Statistics Office of Vietnam from 2016 to 2020. A major difference in this study compared to other empirical studies about the efficiency in

Vietnam is that we applied the stochastic frontier analysis with four random components. The results of measuring efficiency scores show that: The average overall technical efficiency (OTE) score of Vietnamese shipping firms is 0.539. In which the persistent technical efficiency (PTE) score averaged 0.883 and the transitory technical efficiency (TTE) score averaged 0.60. It shows that the potential for operational efficiency of Vietnamese shipping firms is still very large. The results of the analysis of the determinants of OTE showed that. Internal firm characteristics such as firm size, firm age, return on equity of firm have a positive effect on OTE. And state-owned firms are less efficient than non-state firms. Besides, factors such as participation in international shipping, the quality of economic institutions also have a positive relationship with OTE. However, financial constraint, specifically the level of credit outstanding, is the main cause of slowing OTE growth.

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Sources of sustainable competitive advantage and direction of development: a study on pharmaceutical SMEs

(pages 331-344)

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Keywords: sustainable competitive advantage (SCA), small and medium-sized enterprises (SMEs), sense & respond, operations strategy, southern Vietnam.

Abstract: To cope, preserve market position, and achieve sustainable competitive advantage (SCA), companies should put operations strategy into action systematically and coherently. In this vein, the purpose of this study is to evaluate small and medium-sized (SME) pharmaceutical firms in southern Vietnam considering their current strategic orientation, development path, and sustainability of competitive advantage. The method used in this research is Sense and Respond (S&R), supported with combination of different tools. The data has been gathered from six companies utilizing two questionnaires: "Manufacturing strategy index (MSI)" and "S&R". The results show that, all case companies act as Analyzer both in the past and in the future when employing operations strategy. In all case companies, quality found to be the most important competitive priority in the past and future, and the main source of competitive advantage. Furthermore, spearhead technology and knowledge (T&K) found to be the main source of risk in operations strategy and SCA. The Weak Market Test demonstrates that the research results are consistent with the actual situations of the case companies. The research concludes that S&R method works well in evaluating the operative SCA of pharmaceutical SMEs.
