effort, price and Profit of manufacturer in online channel are higher than advertising effort, price and profit of retailer in traditional channel, respectively. Conversely, in centralized scenario, advertising effort, price and profit of manufacturer in online channel is lower than the advertising effort, price and profit of Retailers in traditional channel, respectively.

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Abstract

Trust is an essential factor in many kinds of human interactions, allowing people to act under uncertainty and with the risk of negative consequences. In electronic commerce (EC) because the product not introduced like traditional business, the role of building trust is more prominent so that the trust between stores and customers in e-commerce can build relationships based on mutual trust and create important and positive impact on intention to purchase the product. Trust has an important influence on electronic customers activities and thereby on e-commerce success especially in B2C (business to consumer) model. Many factors influence the level of trust in the EC. One of the key factors to promote the level of trust is vendor's web site.

The role of vendor's web site as the interface that is directly associated with online customer and as the symbol for the introduction of the vendor and the products is very critical. The rationale behind this approach is to gain insight into how and why people trust or distrust a website and to gather information about website characteristics related to trust and distrust.

The statistical population of this research are all Iranian users of electronic stores and the sample size is 384. In the process of research, the theoretical model of research includes the impact of four factors which are electronic store, security, website content and structure on trust and distrust. The model variables are identified and asked in form of a questionnaire through members of the sample. After data collection we evaluate research model by using structural equation with Smart-PLS 2.0 software. The research results confirmed the impact of all four factors on trust and distrust. Ultimately these factors are ranked in terms of impact on the trust and distrust. The most important factor to build online trust was identified security while electronic store was the most effective factor on distrust.

SURVEY OF STACKELBERG AND CENTRALIZED APPROACHES IN DYNAMIC ADVERTISING AND PRICING FOR DUAL CHANNEL SUPPLY CHAIN

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Abstract

In last two decades, with increasing access to the Internet, like the social networks and other web-based medias, costumer's distributors and producers show are interested to have closer relations with each other. In this paper, we examined dynamic advertising and pricing equilibrium strategies of a dual channel supply chain members, based on Stackelberg and centralized game models through differential game theory approach. Because analyzing interactions among a set of members in a supply chain could better described by tools of game theory. supply chain members can compete or cooperate with each other to promote and optimize their payoffs. Supply chain consists of a Manufacturer and one retailer. Manufacturer provides the product for the final consumer by two traditional and online channels. By a closer look, online channel, manufacturer tries to sell products to the final consumers as a retailer without intermediators such as retailers or distributors. The retailer's local advertising has a positive and direct effect on its sales. This leads them to compete between manufacturer and retailer at the retail level. Both of them, attempt to gain more profits and effects on the competitor's profit in the retail level through both online and traditional channels by controlling sale prices in order to obtain the optimal pricing strategies in the presented differential game of.

Behavior of the advertising decision, selling price and profits of each member in the chain were modeled in these scenarios and analyzed using a numerical example. In addition, the total profit of supply chain in each of scenarios was compared. According to the results of Numerical analysis, in Stackelberg scenario, advertising

the planning process, policy choices and economic performance. The accuracy of forecasting is an important factor affects the quality of the decisions that generally has direct and non-strict relationship with the quality of decisions. This is the most important reason that why endeavor for improving the forecasting accuracy has never been stopped in the literature. Electricity demand forecasting is one of the most challenging areas forecasting and important factors in the management of energy systems and economic performance. Determining the level of electricity demand is essential for careful planning and implementation of the necessary policies. For this reason electricity demand forecasting is important for financial and operational managers of electricity distribution. The unique feature of the electricity which makes it more difficult forecasting in comparison with other commodity is the impossibility of storing it in order to use in the future. In other words, the production and consumption of electricity should be taken simultaneously. It has caused to create a high level of complexity and ambiguity in electricity markets data. Computational intelligence and soft computing approaches are among the most precise and useful methods for modeling the complexity and uncertainty in data. In this paper a soft intelligent method by combining mentioned methods is proposed in order to electricity demand forecasting. The main idea of the proposed model is to simultaneously use advantages of these models in modeling complex and ambiguous systems. Empirical results indicate that proposed model can achieve more accurate results rather than its component (Seasonal auto-regressive Integrated Moving Average models, artificial neural network) and also other current single forecasting methods such as classic regression, Seasonal Auto-Regressive Integrated Moving Average-fuzzy models and support vector machine.

Key Words: Computational intelligence and soft computing tools, time series forecasting, seasonal demand of electricity, multilayer perceptron, seasonal auto-regressive integrated moving average models.

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Abstract
One of the important issues between venture capital and entrepreneur is the challenges posed by asymmetric information and benefits' contrast between them. The main target of this research is to design a contract not only reduces benefits' contrast between the parties but also creates an interactive incentive for each of them. In some countries such as Iran, contract parties are facing with decision making under ambiguity. In this study, while presenting different models for measuring ambiguity and the effect of active investment, an optimal mathematical model has been proposed in order to maximize the venture capitalist and entrepreneur's profit. Eventually by using Karush-Kuhn-Tucker method, an optimal value for each variable has been determined. The results show that the level of entrepreneur effort, directly affects on the final revenue of the project. Also, increasing the level of entrepreneur ability increases his effort level and ultimately increases the profit of the incentive contract for venture capitalist.

Key Words: Active investment, ambiguity, asymmetric information, incentive contract design, venture capital.

DESIGNING OF INCENTIVE CONTRACT FOR VENTURE CAPITAL UNDER ASYMMETRIC INFORMATION WITH AN EMPHASIS ON AMBIGUITY AVERSION OF PARTIES

THE EFFECT OF CONTENT AND STRUCTURE CHARACTERISTICS OF WEBSITE ON ONLINE CUSTOMER TRUST AND DISTRUST

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velop an engineering-statistical model. Then, the methodology is used for solving a real problem. As a case study, Laser Assisted Micro-Machining (LAMM) system is chosen. The problem is studied by some researches, before. So, it is proper to compare the proposed methodology by the previous ones in literature. In continue, the compare is done.

ESTIMATING AND H-STEP-AHEAD FORECASTING CONDITIONAL VALUE AT RISK OF TEHRAN STOCK EXCHANGE INDEX; NEW HWES APPROACH

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Abstract

Risk forecasting has an important role in making the right decisions of managers and financial activists to invest in companies and institutions for future periods. On the other hand, wrong decisions of managers can have undesirable consequences for their organizations. Therefore, the most important issues for investors is risk forecasting in future periods. In order to achieve their predetermined strategies and strategies, economic firms will have to undertake various activities. Investment can be considered as one of the key pillars of these activities, which involves accepting risk. Because of the importance of the issue, the concept of risk management has been developed to protect capital against harmful risk-taking effects, which is not about risk aversion but rather to turning threats into opportunities. In other words, risk management refers to a process that identifies its types in intimidating conditions to deal with the first risk, and then, in the next step, optimally controls the risk. One of the known tools for calculating

risk is the Conditional Value at Risk)CvaR(. Therefore, in this paper, it has been tried to first use the Generalized Auto Regressive Conditional Heteroscedasticity methods to estimate the Conditional Value at Risk and then after determining the benchmark model Forecasting daily(one-step-ahead), weekly(five-step-ahead) and by using the classic method and the Holt Winters exponential smoothing with two and three parameters methods. The data used daily logarithmic returns of the automobile industry index from April 2010 to September 2016. Five back testing consist of unconditional Coverage test, Conditional Coverage test, Joint test, Lopez loss function test and Blanco and Ihle loss function test have been used to assess the estimating and forecasting of Conditional Value at Risk . Regarding the performance of the model of the Holt Winters exponential smoothing multiplicative method with Three parameters at 95 Percent and 99 Percent confidence levels, this model is known as a superior method in daily, weekly forecasting of Conditional Value at Risk.

SHORT TERM SEASONAL FORECASTING OF ELECTRICITY DEMAND USING SOFT INTELLIGENT HYBRID MODELS

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Abstract

Forecasting methods are one of the most efficient available approaches to make managerial decisions in various fields of science. Forecasting is a powerful approach in

Abstract

Due to the market globalization, implementation of the integrated approaches among various operations in a supply chain network has become one of the fundamental decisions for the manufacturers to gain more benefits and competitive advantages for their production systems. Most of the production scheduling studies assumes job sequencing without attention to the delivery concept or by assuming delivery after production hieratically and separately. Also, the ability of the organization to coordinate their operational decisions with final customers, increase customer satisfaction, followed by competitive advantage and ultimately more profitable for the organization. Given the importance of production, transportation and delivery of products to final customers in organizations that are customers are in wide geographical locations, in this study, the optimized network is developed for integrated decisions of production, transportation and delivery of finished products to the customer. Thus, the joint scheduling of production and delivery operations as both pivotal and important operations in the manufacturing system is studied with an integrated vision in this paper. A mixed integer programing (MIP) model is developed to formulate the proposed network in flow shop system. In proposed network, transportation of orders to the center of customer areas is done via direct delivery method and delivery within the customer area is done by routing. The models objective function is to minimize total cost for the integrated model, which includes sum of the production cost and delivery cost. In order to assess model performance and in the absence of standard numerical example, some numerical examples are randomly generated in different sizes and then solved to show the efficiency of the proposed model. As well as to evaluate the impact of various decisions on the objective function of the proposed network, the detailed sensitivity analysis was conducted to evaluate the impact of various factors on the network.

ENGINEERING-STATISTICAL APPROACH TO ADJUSTMENT AND

CALIBRATION COMPLEX MODELS CASE STUDY: LASER ASSISTED MECHANICAL MICRO-MACHINING PROCESS

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Abstract

Real systems face with uncertainty. Two categories are defined for uncertainty: Aleatoric Uncertainty, and Epistemic uncertainty. The first one is unbiased, and often defined in a probabilistic framework. The second is biased, and it is less naturally defined in a probabilistic framework. One goal of uncertainty quantification is to convert epistemic uncertainties to aleatorics, to apply probabilistic analysis.

One of the activities done, calibrating a model, is statistical adjustment. Statistical adjustment is defined by the process of calculating auxiliary variables. Model calibration is studied to be done through minimal adjustments. Minimal adjustment is an adjustment procedure that brings the computer model closer to the data by making minimal changes to it. The probabilistic quantification of predicted experimental and computational outcomes with identified and quantified uncertainty is sometimes termed predictive estimation.

To forecast accurately and make decisions, this uncertainty must be modeled. In this research, different approaches for modeling and quantifying uncertainty are studied. One approach is engineering approach, which is time consuming and unrealistic, due to its simplifying assumptions. The second is based on data gathering, called statistical approach, which is not correct out of the data range, and lacks physical interpretation. Some researchers compounded these two approaches and defined engineering- statistical approach which is more useful, fast, and realistic. Besides, for large scale systems, usual techniques of model solving are inadequate. In such cases, surrogate models are used.

Uncertainty quantification consists of four steps: verification, validation, calibration and uncertainty propagation, In this research, a methodology is defined to de-

into account the factors influencing water volume for a given year. The model aims to capture and quantify affecting factors that influence the water level in each year. Then a dynamic model is built which can analyze the water level in a number of consecutive years. In order to verify the model, its results are compared with available data. Then sensitivity analysis is performed. The model can perform different type of scenario analysis by defining the value of some variables and updating the probabilistic value of other variables. Three scenarios are defined and explained for illustrations. The methodology offered in this paper enables policy makers and decision makers to investigate and analyze their policies and actions in order to revive the lake.

A NEW MATHEMATICAL MODEL FOR SIMULTANEOUS DOCK ASSIGNMENT AND VEHICLE ROUTING WITH SOFT TIME WINDOWS WITHIN CROSS-DOCKS

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Abstract

In today's competitive world of distribution, companies are trying to reduce total costs by decreasing their expenses at every step of operations. One of these costs is the transportation cost. On the other hand, customers expect better and faster services and faster loading and transportation of goods and services are the ways to satisfy this request. One of the ways to achieve faster loading and transportation is to use cross-docks. A cross-dock is a warehouse, which is used to have a more efficient distribution within a supply chain. In this warehousing strategy, goods are usually stored in the cross-dock for less than 24 hours and several docks are assigned for loading (unloading) goods on (from) the trucks, which depart (arrive) from (at) the cross-dock. One of the purposes of using cross-docks in supply chains is to reduce the distribution costs by managing the material flow. In addition, the purpose of cross-dock management is to reduce the operational and distribution costs, which gradually result to reducing the total cost of a supply chain. There are several problems in cross-dock management. Two of which are more important than others are: dock assignment and truck routing. Having considered these problems simultaneously, we can significantly reduce the total cost. In this paper, we address a dock assignment and truck routing problem within cross-docks and propose a mixed integer mathematical model for the problem. Also according to the importance of customer's visiting time, in the proposed model customers time windows also are considered. Regarding the NP-Hardness of the mentioned problem, we propose a meta-heuristic algorithm based on Simulated Annealing (SA). For evaluating the performance of the proposed algorithm, we solve several problems with small dimension with proposed algorithm, a Tabu Search (TS) algorithm and exact method (GAMS software). In addition, several problems with large dimension solved by SA and TS and results are compared. These comparisons demonstrate the outperformance of the proposed Simulated Annealing (SA) algorithm.

OPTIMIZED INTEGRATED PRODUCTION, TRANSPORTATION AND DELIVERY IN FLOW SHOP SYSTEM: MATHEMATICAL MODELING AND APPLICATION IN PRODUCTION SYSTEMS

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MEASURES DEA TO EVALUATE PERFORMANCE OF SUPPLY CHAIN (CASE OF STUDY: ELECTRIC POWER SUPPLY CHAIN IN IRAN)

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Abstract

Decision making units (DMUs) with network structure can be operated into series subsystems where each subsystem in the series may consist of parallel divisions or may not. In this case, the system efficiency shows the performance of the system, series subsystems, and parallel divisions. The mixed structure network DEA models are developed into deterministic linear programming models under the assumption of constant return to scale (CRS) with undesirable outputs. In this study, the performance of the supply chain of Iran's power industry has been evaluated in a series- parallel structure. The supply chain includes the sixteen regions of generation, transmission, and distribution subsystems, which are interconnected in series format. Power plants and power distribution companies are also considered in the calculation of efficiency scores with a parallel and independent divisions. The main contribution of the paper are 1) to develop the constraints for evaluating parallel divisions using a constant lambda coefficient in a network-slack based measure models; 2) to determine the origin of inefficiency in generation, transmission, and distribution subsystems, power plants, and distribution companies; 3) to consider the all types of inputs, intermediate measures, the desired and undesired intermediate and final outputs; and 4) to consider the real case study at the level of the Iranian power industry. The Network DEA Models of the paper is to evaluate the performance of the system and multi subsystems which are formed of unequal and parallel divisions. The proposed models provide the origin of the inefficiency for system and subsystems. Also, the findings shown that the efficiency percentage of efficient DMUs for the system, generation, transmission, and distribution subsystems are respectively 12.5, 31.25, 31.25, 25.

MODELING SUSTAINABILITY OF THE URMIA LAKE BASIN USING DYNAMIC BAYESIAN NETWORK

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Abstract

Lake Urmia in north-western of Iran is one of the largest permanent hyper-saline lakes in the world and the largest lake in the Middle East. During the past decade, the lake has shrunk significantly and the water level has fallen dramatically. Problems of Urmia Lake has been mainly caused by human intervention in various forms from one hand and natural elements such global warming and drought from another hand. Lake Urmia is unbalanced and unsustainable development outcome of current conditions in the river basin management and uncontrolled exploitation of renewable water resources of the basin. Sustainability is defined as keeping the lake's water level at its ecological level (around 1274 m above sea level). At this level the lake can continue its normal ecological performance. Several factors influence the entering water to the lake including rainfall as well as outgoing water from the lake including evaporation and agriculture water. The research presents a model using Dynamic Bayesian Network to assess the sustainability of the Lake. At first a baseline model is designed to take

Sustainability issues have spread to almost all branches of science, and studies in this area are on the rise. In this regard, supply chains have not been neglected and multi-objective models have been developed with regard to sustainability dimensions. Although most models in the field of sustainable supply chains consider only two economic and environmental dimensions, and social issues has been less considered by researchers. What is clear is that human beings are the most valuable capital on this planet, and the lack of focus on social matters, especially in the quantitative supply chain models, is due to the complexity of modeling this dimension.

In this paper, along with economic and environmental dimensions, one of the most important social issues, the society healthy nutrition style of human, including customers, employees and other sectors of the society, has been considered. This way, a centralized two-echelon supply chain for agricultural products is considered.

Deterioration and disposal of inventories in the warehouse and during transportation, the downward demand substitution, warehouse capacity limitation as well as non-linear holding cost are some specifications of the problem taken into account. A multi-objective linear mathematical model is proposed to model the problem and by applying a real case data, sensitivity analysis is done for main parameters. The numerical results show a significant interrelationship between the process of production and consumption in the direction of sustainability especially for the case of deteriorating agricultural products. In this way, the key role of supply chain managers not only in production planning, but also in providing a model for sustainable consumption of food and improving nutrition style will be declared.

A MATHEMATICAL MODEL FOR DESIGNING OF PRODUCTION LINE USING RELIABILITY OPTIMIZATION APPROACH UNDER UNCERTAINTY

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Abstract

In related research about reliability optimization, often less attention has been paid to the practical aspects such as market demand for each product, space need for installation of facilities and work stations, financial resources and available capacity. The purpose of this paper is using of reliability optimization approach in designing of production line in order to increase the production of products through minimizing idle time due to breakdown of facilities. Most previous researches in reliability studies assumed that the parts of the system are known a priori and stochastic distributions are given. But in this research, we consider uncertain environment. In this paper, an integer non-linear multi-objective programming model with interval parameters is presented. We try to design the production line with addressing reliability optimization approach under uncertainty. The aim of this model is to determine the optimal number of production lines with regard to budget, space, capacity and demand for product limitations; so that reliability of whole system and total summation of holding cost and inventory shortage cost are respectively maximized and minimized. First, we discuss mathematical aspects of interval parameters: mean, variance and ordering the interval numbers. Then we present some notations and assumptions of our considered problem and build our proposed mathematical model. As we have considered two objectives; maximizing reliability and minimizing total cost, to solve the proposed model we apply a multi-criteria method. The proposed method is global criterion method. To test the model, three instances of the problem are generated randomly and solved by MAT-LAB software. The uniform and normal distributions are used to generate random data of each instances. The results showed the desirability of the proposed model. The dealed problem is NP-hard and to solve large instance of the problem it is necessary to develop heuristic or meta-heuristic methods.

PROPOSING MODELS BASED ON NETWORK SLACK-BASED

grated flow chart for the creation and validating the simulation. Performance model constructed on a 4-storey building with basement projects implemented. In different percentages risk allocation in project cost simulation and optimization of 37%, is determined; The value of the building during construction acquires relative to the cost of the construction will be discussed, with a total storage material loss as a benefit, the benefit-cost ratio, the current model has been checked Finally, scenario planning and analysis, conclusions and recommendations for future research are presented.

USING GAME THEORY FOR MODELING OF GREEN SUPPLY CHAIN STRATEGIES WITH GOVERNMENT DECISION MAKING; 3-PLAYER MODEL

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Abstract

In this study, a new dynamic game model with perfect and complete information has designed for strategies of main players (government, manufacturer and costumer) in order to select of green supply chain path by using game theory. At first, a general conceptual definition for different regions of green supply chain has presented and shown the effects of motion of each level to other level on incomes and costs. Then, main variables and parameters have described and the games and their pay-off functions of players modeled in strategic form and three-dimensional matrix. In order to make the model more efficient, the decision making variables and the parameters of pay-off functions of players are formulated in a more practical and more detailed through which the outcomes of pay-off functions will be more accurate.

The pay-off function of players is formulated for each combination of games and each player independently. Then, the different results of players' pay-off and the impact of them on selection of strategies (games) have analyzed. In addition, it has been found that how the games of other players affects each other strategies and their decisions. The Nash Equilibrium has considered as a problem solving methodology, which it determines the optimal games to maximize pay-off function of players .In addition, it has shown that the best games are selected among optimal games by using of the Nash Equilibrium backward Induction. In the following, in order to test the model, a numeral analysis has applied. After problem modeling and solving, its results show that in this new 3-player model, logging customers to the model makes it more effective than the previous models, and the pay-off functions of players (especially government and manufacturers) are more economical. In the end of this study, the conclusion and some suggestions about future study are presented.

DEVELOPING A THREE-OBJECTIVE MATHEMATICAL MODEL IN ORDER TO PLAN A SUSTAINABLE SUPPLY CHAIN FOR DETERIORATING AGRICULTURAL PRODUCTS

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Abstract

With increasing population, food supply has become one of the major challenges facing governments and nations. On the one hand, the management of food waste and the excessive use of fertilizers and chemicals in the production of food products, on the other hand, have very detrimental effects on the environment and human health.

Abstracts of Papers in English

OPTIMIZATION OF QUANTITATIVE REWORK RISK ALLOCATION BY CHECKING BENEFIT TO COST BEHAVIOR USING SYSTEM DYNAMIC APPROACH

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Abstract

We are facing in construction projects with a set of risks we face, and one of the major problems in Construction projects misallocation of risk. The allocation of risk between the parties in the contract, the decision is a major factor leading to the success of the project. risk allocation is carried out both qualitative and quantitative. Risk allocation process of how the division of responsibilities between the various factors project risk. Although much research has been done on how to allocate risk, but all the research and qualitative approach based on a questionnaire survey of experts was conducted. In the current study, quantitative risk allocation approach using system dynamics-Fuzzy has been done. given the complexity and dynamics of the environment project and affected by the risk allocation process to various factors, system dynamics approach, an approach was considered suitable for such environments; Also according to the uncertainty of the data and the unknown nature of some of the factors affecting the process, annexation fuzzy logic dynamic system can be effective information on the uncertainties in the behavior of the system. Given that many risks in construction projects occur, Optimal allocation were carried out for risk of rework, including the risks common in the construction industry. For this purpose, to identify factors associated with the risk of rework boundary charts model and then made a qualitative charts and continue using the software Vensim, inte-