

Jana Stávková (ed.)

PEFnet 2014

Abstracts

Brno, November 20, 2014

European scientific conference
of doctoral students

European scientific conference PEFnet 2014 was organized by the Faculty of Business and Economics, Mendel University in Brno, as the 18th doctoral conference.

Conference organization

Doc. Ing. Arnošt Motyčka, CSc., dean of FBE
Prof. Ing. Jana Stávková, CSc., vice-dean of FBE

Programme committee

Prof. Ing. Jana Stávková, CSc.
Doc. Ing. Svatopluk Kapounek, Ph.D.
Doc. Ing. František Dařena, Ph.D.
Mgr. Ing. Naďa Birčiaková

Contents

SESSION BUSINESS ECONOMICS

BÉDIOVÁ, M. <i>Price for Ski Lift Tickets and Quality of Ski Resorts</i>	9
BIELIKOVÁ, T. <i>Corporate Bankruptcy and its Macroeconomic Determinants</i> . . .	10
BRAITINGER, M. M. <i>The “Wear” of Machinery and Equipment as a Decision Criterion for Investment</i>	11
ČÍKOVÁ, E. <i>Business Success: Organic Farms in the Czech Republic</i>	12
DREXLER, D., VAN WICHELEN, S., SOUČEK, M. <i>Research Methods to Identify the Effects of Dairy Product Labels on Consumer Behavior</i>	13
ELMRABET, M. M. <i>Customer Perception of Libyan Hotel Services</i>	14
ELMRABET, M. M. <i>Main Issues of Libyan Hotel Management</i>	15
FICOVÁ, A., ŠIPKO, J. <i>The Impact of Debt Crisis on Performance of Firms in Slovakia</i>	16
GRMELOVÁ, Z., HABÁŇOVÁ, M., RIEDEROVÁ, S., PINKOVÁ, P. <i>Determinants of Capital Structure: A Case of Czech Manufacturing Industry</i>	17
HÜRTER, M. <i>Critical View on the New Leadership Model</i>	18
JANIŠ, V. <i>Benchmarking of Competitors’ Products in E-commerce</i>	19
JEŽOVIČOVÁ, K., NETOPIĽ, T., TURČÍNKOVÁ, J. <i>Dopytové podmienky v odvetvovom prostredí spracovania ovčích produktov na Slovensku</i>	20
JUNGWIRTHOVÁ, L. <i>Potenciál využitií sociálních médií v sektoru zdravotnictví</i> . .	21
KOKRDOVÁ, R. <i>Zobrazení nejistoty spojené s uzavřenými leasingovými smlouvami ve finančním výkaznictví nájemce / Consideration of Uncertainty Associated with the Lease Contracts in Lessee’s Financial Reporting</i>	22
LITZMAN, M., KOUBA, L. <i>Employment Structure Shifts Caused by the Law Environment: Theoretical Model</i>	23
MAN, P., VYKLIČKÝ, M., HEIDU, R. F. <i>Analysis of Selected Variables Influencing the Tender Prices in the Czech Public Procurement</i>	24
MITÁČEK, R. <i>Alternative Use of Discriminant Analysis: Odds Betting Case</i> . . .	25
MOMOT, T., VASHCHENKO, O., AVANESOVA, N., CHUDOPAL, A. <i>Corporate Governance Intelligence: Minority Shareholder’s Aspects (Evidence from Ukraine)</i>	26
MOTLÍČEK, Z., DUBOVÝ, R., HALÍČKOVÁ, K. <i>Vliv politiky řízení čistého pracovního kapitálu a zavádění nefinančních ukazatelů společenské odpovědnosti na výkonnost podniků v České republice</i>	27
ORIOLO, T. <i>Consulting Services and Their Assignment Criteria: the View of Management Consultants on How Customer Firms Select Consultancies and Their Services</i>	28
RADIMĚŘSKÝ, M., VESELÁ, L. <i>New Trade Theory: Case of the Czech Republic</i> . .	29
SKÁLOVÁ, E. <i>Challenges for Wine Tourism in the South Moravia Region</i>	30

STARNOVSKÝ, J., STRAKA, J. <i>Born Global Enterprises: Are They Different?</i> . . .	31
TUZOVÁ, M., TOULOVÁ, M. <i>Uppsala Model's Applicability in Case of Internationalization of Czech SMEs</i>	32
VAN WICHELEN, S., SOUČEK, M., DREXLER, D., DUFEK, O., MOKRÝ, S. <i>Product Placement in Music Videos: Measuring the Effects on Brand Awareness among Generation Y</i>	33

SESSION ECONOMICS AND FINANCE

BALCAROVÁ, P. <i>National Competitiveness and Productivity: the Case of the Transition Economies</i>	37
BUKOVINA, J. <i>The Impact of Sentiment on Stock Prices</i>	38
CANTINI, S. <i>Waste Management as a Competitive Advantage: A Twist on Resource Decoupling</i>	39
DOBEŠOVÁ, A. <i>Vysvětlení asymetrií v monetárním transmissním mechanismu pomocí změn v průmyslovém mixu / Explaining Asymmetries in Monetary Transmission Mechanism by Changes in Industry Mix</i>	40
DUFEK, M. <i>Likvidní efekt nekonvenční monetární politiky ECB</i>	41
FORMANOVÁ, L. <i>The Role of Real Estate Tax in the Czech Tax System</i>	42
KRCHNIVÁ, K., SRNOVÁ, A., SEMERÁD, P. <i>The Impact of the CCCTB Depreciation Rules on Corporate Income Tax Liability</i>	43
KRCHNIVÁ, K. <i>The Assessment of the European Parliament Amendment on the CCCTB</i>	44
KŘÍŽ, P. <i>The New State Aid Legislation: Comparison of Revisions with Focus on RDI Aid</i>	45
KUPČÍK, P., GOTTWALD, P. <i>Development of the Sharpe Ratio of Pension Funds in Visegrad Countries, Switzerland and Sweden in the Period 2005–2013</i>	46
LAŠTŮVKOVÁ, J. <i>Relationship Between Bank Liquidity and Equity: the Czech Banking Sector</i>	47
MÁDR, M. <i>Politické prostředí a přímé zahraniční investice v evropských postsocialistických ekonomikách a v zemích Latinské Ameriky</i>	48
OLBRECH, V. <i>The Determinants of Economic Performance: Evidence from the Czech Republic and Germany</i>	49
SEMERÁD, P., SRNOVÁ, A., KRCHNIVÁ, K., KORÁB, P. <i>The Amendments of the Value Added Tax Act and its Impact on Evasion of the Tax on Fuels</i>	50
SRNOVÁ, A., KRCHNIVÁ, K., SEMERÁD, P. <i>Economic Consequences of the Re-exposure Draft for Lessors / Ekonomické dopady Re-exposure draft pro pronajímatele</i>	51
VYSKOČILOVÁ, A. <i>Ekonomický dopad negativních externalit z dopravy na stát a další subjekty v podmínkách České republiky</i>	52

SESSION INFORMATICS

FALDÍK, O. <i>Component Based Systems and System Tasks Based on General Systems Theory</i>	55
KASEM, E., HŘEBÍČEK, J. <i>Sustainability Reporting Using ICT Tools</i>	56
KLEIN, R., HAMMERSCHMIEDT, M. <i>Technical Innovations for Education Program ARI</i>	57
KOZÁK, T., DAŘENA, F. <i>Určení vhodného počtu a struktury shluků pomocí jejich hierarchického uspořádání</i>	58
KRUPNÍK, J. <i>Stopwords Removal Influence on Text Mining Task Results</i>	59
MUROŇ, M. <i>Building Wi-Fi Based Indoor Geolocation System for Android</i>	60
OSTŘÍŽEK, F., ČÍŽEK, R., PÁNEK, M., HAMMERSCHMIEDT, M. <i>Design and Implementation of Indoor Autonomous Robot Platform</i>	61
POTÁČEK, P., PŘICHYSTAL, J. <i>Refaktorižace aplikace T_EXonWeb</i>	62
PRIŠČÁKOVÁ, Z. <i>Solution of the Cloud Computing Based on the System Response</i>	63
ŘEZNÍČEK, P., DAŘENA, F. <i>Vyhledávání podobnosti v datech s využitím singulárního rozkladu / Searching Similarities in Data Using Singular Value Decomposition</i>	64
ŠTURMA, M. <i>Automatized Configuration of Virtual Machines</i>	65
ŠVEHLA, O. <i>Aktuální stav data retention v ČR</i>	66
ŠVEHLA, O., KOLAJA, J. <i>Development of a Robot for Competition Bear Rescue</i>	67
TELENSKÝ, V., PŘICHYSTAL, J. <i>Kooperativní práce na dokumentech v aplikaci T_EXonWeb</i>	68
VYBÍHAL, J., PŘICHYSTAL, J. <i>Tvorba nového uživatelského rozhraní aplikace T_EXonWeb</i>	69
VYBÍRAL, D. <i>Using Gesture Controlled Application to Present Point Cloud Data</i>	70
VYTEČKA, M. <i>Computer Vision: Detection of a Machine Parts on a Conveyor Belt</i>	71
ZERDALOGLU, S. <i>Snížení rizika dopadu nevyžádané pošty v univerzitním prostředí</i>	72
NCHOR, D. <i>The Dynamics of the Shadow Economy of Nigeria: The MIMIC Approach</i>	75
KLEPÁČ, V. <i>Assesing Probability of Default: Merton Model Approach</i>	76
Index of Authors	77

SESSION
BUSINESS ECONOMICS

Price for Ski Lift Tickets and Quality of Ski Resorts

Monika Bédiová^a

Abstract

The paper summarizes scientific approaches to researches on the field of price for ski lift tickets and quality of ski resorts. The knowledge of the monetary value of the different attributes a consumer receives when purchasing a ski lift ticket is of great importance for ski resort managers. Information about existing models and trends from scientific journals are analysed. Multiattribute models are widely used in researches dealing with a price for lift tickets and quality of ski resorts. The results will be useful for researchers and practitioners who deal with tourist destination choice in particular for ski resorts operators. This paper represents the initial phase of the project aimed at researching the topical factors with their relationships and links influencing satisfaction and loyalty of ski resort visitors in selected countries.

Key words

ski lift ticket, price, quality, ski resort, skier

^aIng. Monika Bédiová, e-mail: xbediova@node.mendelu.cz, Department of Marketing and Trade, Faculty of Business and Economics, Mendel University in Brno

Corporate Bankruptcy and its Macroeconomic Determinants

Tatiana Bielíková^a

Abstract

The weakening of financial health of a company has negative consequences for its activities. Weak financial health can also lead to the consequences with a broader scope due to the network of trade relations, especially creditor ones. It is therefore necessary to focus on the quality assessment of the financial health of the company by identifying internal and external factors that affect the financial situation of the company. Some macroeconomic indicators may provide the consideration of the impact of external factors and also of the development of the economic environment. The present paper deals with the impact of macroeconomic indicators on the decline of the corporate sector, which is represented by the financial failure of businesses. The aim of this paper is to examine character and intensity of the link between the number of declared bankruptcies and the evolution of key macroeconomic indicators. The evaluation of foreign authors' research in the field helps us to achieve the aim of the paper and to identify the macroeconomic indicators with the greatest influence. The important part of the paper is the consideration of the potential of macroeconomic indicators' implementation in models of the corporate failure prediction.

Key words

corporate bankruptcy, determinants of corporate bankruptcy, macroeconomic indicators

^aIng. Tatiana Bielíková, e-mail: tatiana.bielikova@umb.sk, Department of Quantitative Methods and Information Systems, Faculty of Economics, Matej Bel University in Banská Bystrica

The “Wear” of Machinery and Equipment as a Decision Criterion for Investment

Michael M. Braitinger^a

Abstract

Ensuring a nearly 100% availability of production facilities is the main task of maintenance. Management works with technical process systems such as reactive or preventive maintenance to assess the status quo of machines and technical facilities management. Regardless which system is in use, the result has to be evaluated economically as a part of the value chain. By determining these costs and technical analysis, management can make a decision about the further economically astute use. In the context of an empirical long-term observation in the years 2008 to 2013, the overall equipment efficiency (OEE) has been investigated in production facilities in the beverage industry. During this period, the management behaviour and their decision system was observed on the subject of maintenance. This paper shows which method the management uses to evaluate the maintenance results. Management priority for the decisions about the further life of the equipment were made primarily based on the economical evaluation of accrued costs.

Key words

preventive and reactive maintenance, long-term empirical observation, overall equipment effectiveness, management decisions, intervention point

^aDipl.-Ing. Michael M. Braitinger, e-mail: michael.braitinger@scb-consulting.de, Faculty of Business and Economics, Mendel University at Brno

Business Success: Organic Farms in the Czech Republic

Elen Číková^a

Abstract

This paper is a part of research done within elaboration of the dissertation thesis of the author. The presented work introduces the opinions of the authors dealing with the issue of the business success, and it also introduces the models of the business success. Further on, there are mentioned researches that state the reasons for transition between organic and conventional farming. The paper concludes with the plan to further elaborate the approach of using FADN database (i.e., source of information of European Commission about economic situation of farms) for differentiation of farms by three criteria: structural characteristics, financial characteristics, and subsidies. These criteria will be modified to Czech conditions and can help in identification of specific success factors for organic farms, which also represents the objective of author's dissertation.

Key words

business, business success, models of business success, organic farming, organic farm, common agricultural policy of EU

^aIng. Elen Číková, e-mail: E.Cikova@seznam.cz, Department of Management, Faculty of Business and Economics, Mendel University in Brno

Research Methods to Identify the Effects of Dairy Product Labels on Consumer Behavior

Denis Drexler^a, Steven Van Wichelen^b, Martin Souček^c

Abstract

The article aims to determine research methods, which will be used in the IGA project “Effects of labels on consumer behavior”. The first part of the article describes external researches and their results. At the forefront are the results of research focused on labels of dairy products. These results will be used for comparison with the results of own research. In the second part of the article the chosen research methods are described. Special attention is given to eye-tracking as one of the methods of neuromarketing. Besides eye-tracking the article describes qualitative methods such as biofeedback, in-depth interviews and focus groups. Finally, another chosen method involves quantitative research based on survey questionnaires.

Key words

labels, dairy products, consumer buying behavior, eye-tracking

^aIng. Denis Drexler, e-mail: xdrexle1@node.mendelu.cz, Department of Marketing and Trade, Faculty of Business and Economics, Mendel University in Brno

^bMgr. Steven Van Wichelen, e-mail: xvanwich@node.mendelu.cz, Department of Marketing and Trade, Faculty of Business and Economics, Mendel University in Brno

^cIng. Martin Souček, Ph.D., e-mail: martin.soucek@mendelu.cz, Department of Marketing and Trade, Faculty of Business and Economics, Mendel University in Brno

Customer Perception of Libyan Hotel Services

Mabrok M. Elmrabet^a

Abstract

The paper focuses on analysis of customer feedback questionnaires in five-star hotels located in Libyan capital Tripoli. Coming from the answers of 42 hotel guests the paper identifies the key weakness to be connected with room-keeping services and porters of the hotels. This was also reflected by the customers in their improvement proposals, which most frequently included the necessity to pay more attention to the hygiene and cleanliness of the hotels, and to provide employees with continuous training in their professions. There also represent author's recommendation, which can actually be realized in a relatively short term period, and can bring the necessary improvement of guest satisfaction, being the key to a success of any hotel.

Key words

customer feedback, hotel management, hotel services, customer satisfaction, room-keeping

^aIng. Mabrok Mohamed Elmrabet, e-mail: elmrabet60@yahoo.com, Department of Management, Faculty of Economics, VSB-Technical University of Ostrava

Main Issues of Libyan Hotel Management

Mabrok M. Elmrabet^a

Abstract

The paper focuses on identification of the major issues faced by hotel employees, specifically managers, in Libyan capital, Tripoli. Research was done based on questionnaire survey, and it identified the lack of training, and discrepancy of responsibility and authority to be the main issues that need a lot of attention not only from the hotels themselves, but also from the government and its educational policy. These findings well correspond with the qualification structure of employees, which shows the awareness of the employees about those issues, representing the necessary condition for being able (and willing) to change the situation.

Key words

hotel management, education and training, qualification, infrastructure, responsibility, authority

^aIng. Mabrok Mohamed Elmrabet, e-mail: elmrabet60@yahoo.com, Department of Management, Faculty of Economics, VSB-Technical University of Ostrava

The Impact of Debt Crisis on Performance of Firms in Slovakia

Antónia Ficová^a, Juraj Sipko^b

Abstract

The paper explores impact of debt crisis on corporate firms with 3000–3999 employees in Slovakia. First, we examine at 95 percent probability of following variables: profit (€), working capital (million €), revenue (€), return on equity (%), return on assets (%), net debt/ebitda, investment, cash (€), capital expenditure (€), assets (%). We found that 91.27 percent of the variance of debt ratio is being explained by changes in the variables x , model is high significant. Second, we explore performance of firms in comparison between 2010 and latest available data of 2013. Findings indicate an increase of assets. Conclusions pointed out that if a firm want to increase their financial performance, it is necessary to make changes in time.

Key words

debt crisis, performance, firms, corporate finance

^aIng. Antónia Ficová, e-mail: antoniaficova@hushmail.com, Faculty of Economics and Business, Pan European University, Bratislava

^bdoc. Ing. Juraj Sipko, PhD., MBA, e-mail: juraj.sipko@gmail.com, Faculty of Economics and Business, Pan European University, Bratislava

Determinants of Capital Structure: A Case of Czech Manufacturing Industry

Z. Grmelová^a, M. Habáňová^b, S. Riederová^c, P. Pinková^d

Abstract

The objective of the study is to identify the factors influencing the capital structure of Czech medium-sized enterprises in selected industrial branches, namely the manufacture of beverages, the manufacture of chemicals and chemical products and the manufacture of motor vehicles, trailers and semi-trailers. The data come from financial statements of selected enterprises and cover year 2013. All enterprises are of medium-size and have a legal form of private limited company. Based on the secondary research on studies of capital structure, four explanatory variables have been selected to analyse the capital structure. These are size, tangibility, profitability and liquidity. The capital structure refers to a combination of equity and long-term liabilities. The correlation and regression analyses have been used to develop the statistical framework. With regard to capital structure determinants, the obtained results indicate strong intra-industry variations. Based on this finding, theories on capital structure determinants seem not to be applicable on companies of all sizes and industries.

Key words

capital structure, liquidity, size, tangibility, profitability

^aBc. Zdeňka Grmelová, e-mail: xgrmelov@node.mendelu.cz, Department of Business Economics, Faculty of Business and Economics, Mendel University in Brno

^bBc. Markéta Habáňová, e-mail: xhabano1@node.mendelu.cz, Department of Business Economics, Faculty of Business and Economics, Mendel University in Brno

^cIng. Sylvie Riederová, e-mail: xriedero@node.mendelu.cz, Department of Business Economics, Faculty of Business and Economics, Mendel University in Brno

^dMgr. Ing. Pavlína Pinková, e-mail: pinkova@node.mendelu.cz, Department of Business Economics, Faculty of Business and Economics, Mendel University in Brno

Critical View on the New Leadership Model

Michael Hürter^a

Abstract

The world of today is dominated by a fast changing and complex working environment. What does that or what could that mean for the modern leadership models. Is the New Leadership Model by Manz and Sims the answer to that? Or is the New Leadership Model only one of many new models which is discussed in science so far? The concept of Super Leadership is a counterpart to the classical theories which understand leadership as a controlling tool with some add ones. Beside some other versions of leading styles like The Strongman, the Transactor, the Visionary Heroes and the Super Leaders the Super Leadership has a long term target to develop employees as good as possible. The Super Leadership concept is based on 6 phases from the important starting point—Self Leadership—to Assistance self leading of employees. It is not so easy to change a leadership model in a company or wherever leadership is part of an organization. There is a new role understanding for managers necessary in combination with some different skills of all participants. So the conclusion is that the Super Leadership model is only one theory and not the only true way of personal leadership. Reasons for efficiency are hard to identify, because a lot of different causes are relevant for results regarding that matter (skills of employees and managers, different tasks, company culture, etc.). Super Leadership will find only a place in the modern world if better structures and cost reductions can be gained. And that is not certain.

Key words

management models, superleadership, leader, self-leadership, employee empowerment, intrinsic motivation, leadership models

^aMichael Hürter, MBA, e-mail: huerter-michael@t-online.de, Sectorial and Branch Economics, Faculty of Economics and Management, Slovak Agricultural University of Nitra

Benchmarking of Competitors' Products in E-commerce

Vít Janiš^a

Abstract

This paper is about qualitative research conducted in order to improve competitive position and identify competitive deficiencies of an e-commerce project called Tripomatic. In order to fulfill its aims and goals, a panel of experts was established and a method of benchmarking of competitors' products was employed.

Aside from its contribution to Tripomatic, the main benefit of this paper is that its methodology can be generalized and used for benchmarking of any product or service in the field of e-commerce.

The key finding of conducted research is that Tripomatic significantly lags behind its competition in terms of mobile apps.

Second most important group of findings relates to social functions and better engagement of users. They should have the possibility to participate in creation of content. Not only would it mean better engagement of users, it would also save company's own resources and fasten development of the project.

Key words

e-commerce, internet, benchmarking of competition, panel of experts, strategic planning, SWOT, travel

^aBc. Vít Janiš, BA (Hons), MSc., e-mail: vit@janisovi.cz, Department of Management, Faculty of Business and Economics, Mendel University in Brno

Dopytové podmienky v odvetvovom prostredí spracovania ovčích produktov na Slovensku

Kamila Ježovičová^a, Tomáš Netopil^b, Jana Turčínková^c

Abstrakt

Tento článok sa zaoberá dopytovými podmienkami v spracovateľskom odvetví s ovčými produktami na Slovensku. Predovšetkým sa zaoberá ponukou a dopytom ovčích syrov, ale aj ich vývozom na zahraničné trhy. Táto analýza je doplnená o ekonomicko-matematické modely zaoberajúce sa zisťovaním vzťahu medzi dopytom a faktormi, ktoré ho môžu ovplyvňovať.

K dosiahnutiu potrebných informácií boli zozbierané externé dáta, ktoré bolo potrebné očistiť, aby mohli byť vyhodnotené dopytové podmienky a taktiež zostavené ekonomicko-matematické modely. Výsledná analýza informuje o miernych prebytkoch ovčích syrov na slovenskom trhu. Jedným z doporučení pre producentov je vyvážať prebytky na český a poľský trh, či zaistiť pomocou propagácie vyšší odbyt na Slovensku.

Kľúčové slová

dopytové podmienky, ovčia produkcia, vývoz ovčích syrov

Abstract

This article deals with demand-side conditions in the manufacturing sector related to sheep products in Slovakia. Especially it deals with the supply and demand of sheep's cheeses, as well as its export to foreign markets. This analysis is complemented by economic-mathematical models dealing with the relationship between demand and factors that may have an influence.

To achieve the necessary information external data was collected, adjusted and evaluated in terms of demand conditions so economic-mathematical models could be compiled. The resulting analysis informs about slight surplus sheep cheese on the Slovak market. One of the recommendations for producers is to export surpluses to the Czech and Polish markets, or secure it with a higher sales promotion in Slovakia.

Key words

demand conditions, sheep production, export of sheep cheese

^aIng. Kamila Ježovičová, e-mail: xjezovic@node.mendelu.cz, Ústav marketingu a obchodu, Provozně ekonomická fakulta, Mendelova univerzita v Brně

^bIng. Tomáš Netopil, e-mail: xnetopil@node.mendelu.cz, Ústav marketingu a obchodu, Provozně ekonomická fakulta, Mendelova univerzita v Brně

^cdoc. Ing. Jana Turčínková, Ph.D., e-mail: jana.turcinkova@mendelu.cz, Ústav marketingu a obchodu, Provozně ekonomická fakulta, Mendelova univerzita v Brně

Potenciál využití sociálních médií v sektoru zdravotnictví

Lucie Jungwirthová^a

Abstrakt

Tento článek poskytuje literární rešerši věnovanou využití sociálních médií v komunikaci zdravotnických zařízení směrem k pacientům. Mezi nejrozšířenější sociální média jsou řazeny sociální sítě, blogy, podcasty, wiki a online hry. Rešerše se zaměřuje především na sociální sítě, které nabízejí vícesměrný typ komunikace oproti tradičním médiím.

Článek popisuje specifikace sociálních médií a jejich výhody oproti klasickým komunikačním kanálům jako například nepřetržitou možnost komunikace, okamžité sdílení aktuálních informací, aktivní zapojení uživatelů, možnost získání rychlé zpětné vazby apod. Současně práce nabízí možné metody pro zhodnocení ekonomického efektu využití sociálních médií.

Klíčová slova

komunikace, pacient, sociální média, zdravotnictví

^aIng. Lucie Jungwirthová, e-mail: xdokoup3@node.mendelu.cz, Ústav marketingu a obchodu, Provozně ekonomická fakulta, Mendelova univerzita v Brně

Zobrazení nejistoty spojené s uzavřenými leasingovými smlouvami ve finančním výkaznictví nájemce

Consideration of Uncertainty Associated with the Lease Contracts in Lessee's Financial Reporting

Romana Kokrdová^a

Abstrakt

S procesem globalizace přichází i nutnost harmonizace finančních výkazů na mezinárodní úrovni. Příspěvek je zaměřen na nově navrhovanou metodiku vykazování leasingu v rámci konvergence IFRS a US GAAP, která by měla vést k přesnější orientaci při srovnávání finančních výkazů subjektů. Cílem příspěvku je provést vyhodnocení dopadu této změny na finanční výkazy nájemce a porovnat, jak se tento dopad změní při zohlednění prvku nejistoty, konkrétně při možnosti využít opce na prodloužení, při uzavření operativní leasingové smlouvy.

Klíčová slova

leasing, IAS/IFRS, finanční výkazy, nájemce, aktivum, závazek, právo užívání

Abstract

Because of the process of globalization, there is a need to harmonize financial reporting system worldwide. The article is focused on newly proposed methodology how to report leases within the convergence IFRS and US GAAP. This new methodology should lead to better orientation while comparing financial reporting individual entities. The aim of this article is to evaluate the impact of this new methodology on lessee's financial reporting and to compare how this impact would change by adding an element of uncertainty, specifically the possibility of using option for an extended.

Key words

leases, IAS/IFRS, financial reporting, lessee, assets, liability, the right of use

^aBc. Romana Kokrdová, e-mail: xkokrdov@node.mendelu.cz, Ústav účetnictví a daní, Provozně ekonomická fakulta, Mendelova univerzita v Brně

Employment Structure Shifts Caused by the Law Environment: Theoretical Model

Marek Litzman^a, Luděk Kouba^b

Abstract

In this paper we discuss the abstract model explaining a relationship between legislative instability and macroeconomic aggregates through shifts in labour market structure. According to the model, goods produced in the economy should be divided on “tradable” made for the market and “non-tradable” made for purposes of law. If the “non-tradable” production rises, shifts in the labour market cause higher prices and lower production of “tradable” goods. The matter of legislative instability is demonstrated on the tax legislation.

Key words

legislation, labour market, labour force shifts, abstract model

^aIng. Bc. Marek Litzman, e-mail: xlitzman@mendelu.cz, Department of Economics, Faculty of Business and Economics, Mendel University in Brno

^bIng. Luděk Kouba, Ph.D., e-mail: kouba@mendelu.cz, Department of Economics, Faculty of Business and Economics, Mendel University in Brno

Analysis of Selected Variables Influencing the Tender Prices in the Czech Public Procurement

Petr Man^a, Martin Vyklický^b, Rudolf Franz Heiduc^c

Abstract

The authors present their results concerning quantitative analysis of secondary data obtained from the Journal of Public Contracts in the Czech Republic which is the integrated place for publishing of basic information about public contracts procured pursuant to Act No. 137/2006 Coll., On Public Contracts. On a sample of selection data, the authors have performed regression analysis with the purpose to examine correlation of an explained variable (the tendered price of a public contract) and selected independent variable of the described model. Using the linear regression analysis, the shape of the regression plane has been calculated, describing dependence of the tendered price on the number of submitted bids and the type of tender. With the use of Pearson correlation coefficient, a low positive dependence has been identified between the number of submitted bids in the tender and the difference of the price (defined as the difference of the anticipated value of the public contract and the offered price in the tender).

Key words

public procurement, factors of competition, correlation, regression analysis

^aIng. Petr Man, e-mail: petr.man@mendelu.cz, Department of Law and Social Sciences, Faculty of Business and Economics, Mendel University in Brno

^bIng. Martin Vyklický, e-mail: xvyklick@node.mendelu.cz, Department of Law and Social Sciences, Faculty of Business and Economics, Mendel University in Brno

^cIng. Rudolf Franz Heiduc, e-mail: xheiduc@node.mendelu.cz, Department of Law and Social Sciences, Faculty of Business and Economics, Mendel University in Brno

Alternative Use of Discriminant Analysis: Odds Betting Case

Radek Mitáček^a

Abstrakt

Diskriminační analýza patří mezi základní průzkumné techniky. Využití nachází kupříkladu v oblastech biologie u rozlišování rostlinných a živočišných druhů, na poli ekonomie je zřejmě jejím neznámějším využitím finanční analýza podniků (Altman, 1968) a určení jejich bonity či náchylnosti k bankrotu. Tento článek se zabývá rozšířením využití do oblasti průniku sportu a ekonomie a to konkrétně u kurzových sázek, kdy cílem je rozlišení výsledků zápasů a jejich následná správná predikce, přičemž dochází k „poražení“ bookmakera a zisku. Příspěvek je jen zevrubnou sondou do možností využití této techniky na souboru o nízkém počtu pozorování.

Klíčová slova

kurzové sázení, diskriminační analýza ekonomie sportu, fotbal

Abstract

Discriminant analysis is one of the basic exploration techniques. It has been widely used in the field of biology for the purposes of distinction of plant and animal species. The most common use in the field of economics is probably financial analysis (Altman, 1968), where the goal is to determine susceptibility of companies to the bankruptcy. The purpose of this paper is to introduce this technique as the method of sports and economics, odds betting concretely, where the goal is to differentiate outcomes of matches for later use as correct predictions. With this used practically, the person who bets could have a profit while winning over bookmaker. This paper is to be intended a shallow exploration of the possibilities of this technique used on the set of a low number of observations.

Key words

odds betting, discriminant analysis, economics of sport, football

^aBc. Radek Mitáček, e-mail: xmitacek@node.mendelu.cz, Department of Statistics and Operational Research, Faculty of Business and Economics, Mendel University in Brno

Corporate Governance Intelligence: Minority Shareholder's Aspects (Evidence from Ukraine)

T. Momot^a, O. Vashchenko^b, N. Avanesova^c, A. Chudopal^d

Abstract

The paper is devoted to the Corporate Governance Intelligence System investigation as the part of the complex stakeholder-related approach to the Corporate Strategic Intelligence System (CSIS). The special attention is given to the minority shareholders activism in the system of corporate governance. Some existing methods of abusing minority shareholders rights, made by joint-stock companies executives are generalized. The recommendations for minority shareholder's rights protection are given. The necessity for the implementation of the stakeholders-oriented approach for the Corporate Strategic Intelligence System creation on the base of Enterprise Security Principles is substantiated.

Key words

corporate governance intelligence, minority shareholders, corporate governance, financial and economic security system, corporate strategic intelligence

^aTetiana Momot, Ph.D., e-mail: tvmomot@gmail.com, Department of Financial and Economics Security, Accounting and Audit, Faculty of Economics and Business Undertakings, O. M. Beketov National University of Urban Economy

^bprof. Oleksandr Vashchenko, Department of Financial and Economics Security, Accounting and Audit, Faculty of Economics and Business Undertakings, O. M. Beketov National University of Urban Economy

^cNina Avanesova, Ph.D., Department of Financial and Economics Security, Accounting and Audit, Faculty of Economics and Business Undertakings, O. M. Beketov National University of Urban Economy

^dAnna Chudopal, Department of Financial and Economics Security, Accounting and Audit, Faculty of Economics and Business Undertakings, O. M. Beketov National University of Urban Economy

Vliv politiky řízení čistého pracovního kapitálu a zavádění nefinančních ukazatelů společenské odpovědnosti na výkonnost podniků v České republice

Zdeněk Motlíček^a, Roman Dubový^b, Kateřina Halíčková^c

Abstrakt

Problematika řízení struktury majetku a kapitálu v podniku je stejně tak jako společenská odpovědnost v podnikové sféře velmi aktuálním tématem, přičemž oba faktory se velmi významně podílejí na determinaci ekonomické výkonnosti podniku. Další společnou charakteristikou obou témat je jejich atraktivita pro podnikatele kombinovaná s nedostatečnou sumou empirických zkušeností z podnikové praxe. Základem výzkumu je modelování jednotlivých prvků čistého pracovního kapitálu a certifikátů, které dokladují, že daný podnik je společensky odpovědný, a jejich vlivu na ekonomickou výkonnost reprezentovanou rentabilitou aktiv. Model je aplikován na skupinu středních podniků se sídlem v České republice, působících v odvětví Výroba strojů a zařízení. Výsledky naznačují, že umírněnější politika řízení aktiv i pasiv má pozitivní dopad na ekonomickou výkonnost, naopak se zvyšující se zadlužeností ekonomická výkonnost podniku klesá. Aplikování zásad společenské odpovědnosti do života podniku je pro zvolené odvětví méně významné. Získané výsledky mohou být způsobeny volbou ukazatelů měřících míru aplikace společenské odpovědnosti, zjištěné výsledky tedy nemusejí znamenat, že vliv sociální odpovědnosti na výkonnost podniku je zanedbatelný. Toto zjištění nabádá k dalšímu výzkumu, který by využil jiné nefinanční ukazatele, pomocí kterých by mohla být společenská odpovědnost podniku měřena lépe.

Klíčová slova

společenská odpovědnost podniku, čistý pracovní kapitál, nefinanční ukazatele, ekonomická výkonnost, normy ISO, rentabilita aktiv

^aIng. Zdeněk Motlíček, e-mail: zdenek.motlicek@mendelu.cz, Ústav podnikové ekonomiky, Provozně ekonomická fakulta, Mendelova univerzita v Brně

^bIng. Roman Dubový, e-mail: roman.dubovy@mendelu.cz, Ústav podnikové ekonomiky, Provozně ekonomická fakulta, Mendelova univerzita v Brně

^cIng. Kateřina Halíčková, e-mail: katerina.halickova@mendelu.cz, Ústav podnikové ekonomiky, Provozně ekonomická fakulta, Mendelova univerzita v Brně

Consulting Services and Their Assignment Criteria: the View of Management Consultants on How Customer Firms Select Consultancies and Their Services

Thomas Oriold^a

Abstract

This qualitative research is one part of a comprehensive study that deals with the view on how customer firms and their managers are able to assess and compare services and consultancies prior to assignment. Twelve expert interviews are a compliment prior to a quantitative research. The aim of these structured interviews is on the one hand the viewpoint collection of several management consultants to compare their view with the customers' view afterwards and on the other hand the reception of ideas how to modify questions for the quantitative research.

Consultants have the greatest impact on the decision of managers within customer firms. Criteria of further groups as consultancy, proposal and service do all have less effect on their decision in average according to interviewed management consultants. By assessing the importance of several proposal contents to customer firms the point "customer benefit" is on the very top according to interviewees. The point "location and facility of realisation" on the other hand was estimated by the lowest importance of all criteria. Time-based hourly or daily rates as well as lump sum agreements are preferred most by customers from the management consultants' viewpoint. Interviewed management consultants declared the most accepted fee range between 120 and 149 Euros per hour and between 1,000 and 1,249 Euros per day. A period-end settlement for fees and expenses is dominating all different types of invoicing. For managers in customer firms, transparency is a clear definition of the problem, scope, their work, time frame, cost-benefit and a contact person as well as the documentation of results and future predictions and recommendations according to experts interviewed.

Improved transparency of management consulting services can be an advantage for both managers and consultants. This transparency of contents and agreements can be the basis for a professional contract design and further the basis for a successful realisation and cooperation.

Key words

management consulting, business consultants, proposals, transparency of consulting services

^aDipl.-Ing. (FH) Thomas Oriold, MBA, e-mail: thomas.oriold@oriold-consulting.com, Department of Marketing and Trade, Faculty of Business and Economics, Mendel University in Brno

New Trade Theory: Case of the Czech Republic

Miroslav Radiměřský^a, Lucie Veselá^b

Abstract

Economic theory of international trade is represented by two different approaches. First one goes back to the origins of economics to David Ricardo's comparative advantages. In all its modifications, it is based on perfect competition, constant returns to scale and it produces so called inter-industry trade. On the another side stands new trade theory which is based on imperfect competition, increasing returns to scale and opens possibility to intra-industry trade. Main aim of this paper is to test these approaches on the Czech trade data. It will used export and import data based on SITC classification. Using Grubel-Lloyd index of inter/intra industry trade we will decide which theory fits empirical data better. And therefore which theoretical implication can be used in explaining Czech international trade.

Key words

new trade theory, comparative advantage, inter/intra-industry trade, Grubel-Lloyd index, SITC

^aIng. Miroslav Radiměřský, e-mail: miroslav.radimersky@mendelu.cz, Department of Marketing and Trade, Faculty of Business and Economics, Mendel University in Brno

^bIng. Lucie Veselá, e-mail: lucie.vesela@mendelu.cz, Department of Marketing and Trade, Faculty of Business and Economics, Mendel University in Brno

Challenges for Wine Tourism in the South Moravia Region

Eva Skálová^a

Abstract

The main objective of this paper was to provide a review of the present situation on the Czech wine tourism market and to identify possible challenges for the industry. As the Czech Republic and specifically the region of South Moravia is historically wine-growing area, this kind of tourism is highly appreciated activity in this area. In the introduction part the paper describes the importance of the tourism for the wine industry. It attempts to provide both a global and local point of view pointing out the historical background of the industry. It further brings literature review and accessible statistic data.

Second part of the paper focuses on the latest development of wine tourism in the Czech Republic and at the first time creates an image of quality certification of services in wine tourism as an tool of quality control. Following part than critically analyse present situation for the certification in the South Moravia region.

Discussion and conclusion provides a kind of forecast and comes up with challenges and issues that relate to the certification—such its control and a necessity of a revision.

Key words

wine tourism, quality certification, the South Moravia region, distribution channels

^aIng. Eva Skálová, MSc, e-mail: xsk1ov1@node.mendelu.cz, Department of Marketing and Trade, Faculty of Business and Economics, Mendel University in Brno

Born Global Enterprises: Are They Different?

Jakub Starnovský^a, Jakub Straka^b

Abstract

The paper deals with the phenomenon of Born Global Small and Medium-sized enterprises and the differences in internationalization process between these enterprises and other “traditional” SMEs in terms of the Czech Republic. It is focused on SMEs from ICT sector for which is typical high share of Born Global enterprises. Many authors often discuss and describe this type of SMEs in these days and claim that Born Global enterprises differ from other “traditional” SMEs especially in the internationalization process. They often mention the differences in process described in classical internationalization theories like Uppsala theory and other gradual based theories. In the research authors try to investigate if these differences exist also in terms of the Czech Republic.

The paper’s results are based on the primary questionnaire survey performed by authors in 2013. 239 Czech ICT SMEs participated in the electronic survey and for the results were used 103 questionnaires.

It was found out that Born Globals are different in almost all areas of internationalization than traditional SMEs. Born Globals have much more experienced managers, more information and more accurate information about their foreign markets, they choose more foreign markets, and more often choose geographical a psychological distanced markets than traditional SMEs. There was also confirmed that Born Globals should not go through the various stages of the internationalization process as Uppsala model expects. Also they are better prepared for adaption of their marketing activities to the target foreign market than traditional SMEs.

Key words

internationalization, SMEs, Born Global, ICT, traditional SMEs

^aIng. Jakub Starnovský, e-mail: xstarnov@mendelu.cz, Department of Marketing and Trade, Faculty of Business and Economics, Mendel University in Brno

^bIng. Jakub Straka, e-mail: xstraka3@mendelu.cz, Department of Marketing and Trade, Faculty of Business and Economics, Mendel University in Brno

Uppsala Model's Applicability in Case of Internationalization of Czech SMEs

Marcela Tuzová^a, Martina Toulová^b

Abstract

Uppsala model is according to literature one of the oldest models dealing with the internationalization process of enterprises. This model belongs to the phase models and is considered as quite appropriate model for explaining the internationalization behaviour of small and medium-sized enterprise (abbreviated to SMEs). According to these facts, this paper deals with the concept of Uppsala model and examines the validity of some its basic assumptions in conditions of internationalization process of the Czech SMEs. The main assumptions of the Uppsala model were verified on sample of 832 Czech SMEs operating in various sectors of Czech economy. On the basis of the data processing the Uppsala model cannot be applied without exceptions for conditions of Czech SMEs although the assumption that with the rise in knowledge about foreign markets rises the psychic distance of markets which SMEs enter was confirmed. However, the relation between both mentioned variables is only low.

Key words

internationalization, SMEs, Uppsala model, psychic distance

^aIng. Marcela Tuzová, e-mail: marcela.tuzova@mendelu.cz, Department of Marketing and Trade, Faculty of Business and Economics, Mendel University in Brno

^bIng. Martina Toulová, e-mail: martina.toulova@mendelu.cz, Department of Marketing and Trade, Faculty of Business and Economics, Mendel University in Brno

Product Placement in Music Videos: Measuring the Effects on Brand Awareness among Generation Y

S. Van Wichelen^a, M. Souček^b, D. Drexler^c, O. Dufek^d, S. Mokrý^e

Abstract

The presented research is aimed at measuring the effects of product placement in music videos on brand awareness among generation Y. Particularly the objective was to determine the dependency between gender and brand awareness. A quantitative survey yielded the responses from 213 participants from which 80% were female and 20% were males. With a p-value higher than 0.01 the research accepts the hypothesis that there is no dependency between gender and brand awareness. The research also revealed that actual users of the product being advertised have lower brand awareness than the average brand awareness among respondents. Future research should include an analysis across product categories utilizing different methodologies such as eye-tracking and in-depth interviews to respectively ensure trustworthy results and uncover deeper consumer motives.

Key words

product placement, brand awareness, music videos, advertising, generation Y

^aMgr. Steven Van Wichelen, e-mail: xvanwich@node.mendelu.cz, Department of Marketing and Trade, Faculty of Business and Economics, Mendel University in Brno

^bIng. Martin Souček, Ph.D., e-mail: martin.soucek@mendelu.cz, Department of Marketing and Trade, Faculty of Business and Economics, Mendel University in Brno

^cIng. Denis Drexler, e-mail: xdrexle1@node.mendelu.cz, Department of Marketing and Trade, Faculty of Business and Economics, Mendel University in Brno

^dIng. Ondřej Dufek, Ph.D., DiS., e-mail: ondrej.dufek@mendelu.cz, Department of Marketing and Trade, Faculty of Business and Economics, Mendel University in Brno

^eIng. Stanislav Mokrý, e-mail: stanislav.mokry@mendelu.cz, Department of Marketing and Trade, Faculty of Business and Economics, Mendel University in Brno

SESSION
ECONOMICS AND FINANCE

National Competitiveness and Productivity: the Case of the Transition Economies

Pavlına Balcarova^a

Abstract

National competitiveness became a frequently used term during the last decades, despite its meaning is still ambiguous. Competitiveness of a country is connected with productivity very often. Some authors consider these two country characteristics as synonyms. Others deal with productivity as a determinant of competitiveness of a country or contrariwise. It is much easier to measure productivity than competitiveness of the economy, because the most commonly used competitiveness indicators are composite indicators, which construction is complex and controversial. We aim to prove, whether it is possible to use productivity instead of composite indicators of competitiveness. In this contribution is used the Global Competitiveness Index to evaluate competitiveness of transition economies out of European Union. Productivity is defined as labour productivity and total factor productivity. Correlation results show that total factor productivity is not usable as competitiveness indicator instead of Global Competitiveness Index. The correlation index for labour productivity and Global Competitiveness Index is much closer to one. Labour productivity is quite suitable indicator of competitiveness and it can be useful to apply it instead of the complex composite indicators, such as Global Competitiveness Index.

Key words

national competitiveness, labour productivity, total factor productivity, global competitiveness index, transition economies, correlation, simplification

^aMgr. Ing. Pavlına Balcarova, e-mail: pavlina.balcarova@mendelu.cz, Department of Economics, Faculty of Business and Economics, Mendel University in Brno

The Impact of Sentiment on Stock Prices

Jaroslav Bukovina^a

Abstract

This paper studies the sentiment of economic agents and its impact on selected stock prices traded on the capital markets of the USA. The contribution of a paper is the quantification of social mood in the society, tracked by social media Facebook and Google. The efficient markets theory defines capital markets as extremely efficient but behavioral finance challenges this notion and consider the social mood as an influential factor in the capital markets. The results of panel data estimation in this paper follow the idea of behavioral finance and indicate the impact of negative sentiment on stock prices.

Key words

sentiment, Facebook, Google, CAPM, behavioral finance

^aJaroslav Bukovina, e-mail: xbukovin@mendelu.cz, Department of Finance, Faculty of Business and Economics, Mendel University in Brno

Waste Management as a Competitive Advantage: A Twist on Resource Decoupling

Stefano Cantini^a

Abstract

In 2005, the EU Thematic Strategy on the Prevention and Recycling of Waste defined a long-term goal for the EU to become a recycling society, setting parameters to avoid waste and use waste as a resource. In 2008 and 2010 the Waste Framework Directive introduced a waste hierarchy which favors waste prevention, followed by reuse, recycling and recovery and only lastly waste disposal. Many EU countries and hence the related municipalities appear to be falling behind the requested targets for multiple reasons. It is thus important to present the need for implementation in a way that makes it more attractive for the smallest implementing authority, the municipality, to move ahead with the program itself. The EU Commission judges that its full implementation could save up to € 72 billion a year. Saving costs, as a whole, makes economic sense. While for the full implementation of the directive in question to be realistic for all related entities, it only makes sense if it makes economic sense. Keith James states that there is a drive to decouple the link between economic activity and the environmental impacts related to the generation of waste (impact decoupling), while some may go as far as to want to decouple the economic activity from resource use (resource decoupling). The goal should be to manage waste as a resource in order to enhance economic activity as such. On the other hand, defining waste as a resource, increases the need to re-define decoupling per se. Proper waste management is vital for our environment, vital to our development, but mainly it makes economic sense if well managed. The future of competitive advantage lies in creating customer benefit and nurturing the competencies needed to achieve those benefits.

Key words

waste management, competitive advantage, resource decoupling, externalities

^aStefano Cantini, M.A., e-mail: cantini.stefano@karba.at, Faculty of Business and Economics, Mendel University in Brno

Vysvětlení asymetrií v monetárním transmisním mechanismu pomocí změn v průmyslovém mixu

Explaining Asymmetries in Monetary Transmission Mechanism by Changes in Industry Mix

Anna Dobešová^a

Abstrakt

Cílem článku je určit, zda jsou asymetrie v monetárním transmisním mechanismu determinovány změnami složek tzv. průmyslového mixu. Pro zachycení změn v síle monetární transmise v čase je použit Time-Varying Parameter VAR model se stochastickou volatilitou. Pro odhad jeho parametrů slouží Bayesian Markov Chain Monte Carlo metoda. Současná ekonomie věří, že vyšší podíl produkce zboží dlouhodobé spotřeby zesiluje úrokový kanál transmisního mechanismu. Proto zkoumáme závislosti mezi změnami v produkci trvanlivého zboží a měnicími se reakcemi na monetárněpolitické operace v čase ve třech státech střední Evropy. Pro ověření validity teoretického předpokladu je navíc do analýzy zahrnut i faktor produkce spotřebního zboží.

Klíčová slova

monetární politika, parametry proměnné v čase, průmyslový mix, spotřební zboží, transmisní mechanismus, vektorová autoregrese, zboží dlouhodobé spotřeby

Abstract

The aim of this paper is to determine whether asymmetries in monetary transmission mechanism are influenced by changes in so called industry mix components or not. We employ Time-Varying Parameter VAR model with stochastic volatility for capturing changes in monetary transmission power. Bayesian Markov Chain Monte Carlo method is used for the estimation of model parameters. Contemporary economics believes, that larger share of durable goods strengthens interest rate channel of transmission mechanism. Therefore, we investigate link between the production of durable goods and time-changing responses to monetary policy operations in three Central European countries. For validating the theoretical background, we incorporate also factor of non-durable goods production to the analysis.

Key words

durable goods, industry mix, monetary policy, non-durable goods, time-varying parameters, transmission mechanism, vector autoregression

^aIng. Bc. Anna Dobešová, e-mail: xdobeso5@mendelu.cz, Ústav statistiky a operačního výzkumu, Provozně ekonomická fakulta, Mendelova univerzita v Brně

Likvidní efekt nekonvenční monetární politiky ECB

Michal Dufek^a

Abstrakt

Práce se zaměřuje na transmisní mechanismus nekonvenční monetární politiky a jeho kanály v případě, kdy krátkodobé úrokové sazby naráží na nulovou spodní hranici. Na základě modelu Gagnon, Raskin, Remache, Sack (2010), který je modifikován dle potřeb využití v evropském prostoru, je pozorován významný vztah mezi dodáváním likvidity prostřednictvím nástrojů nekonvenční monetární politiky (SMP) a vývojem dlouhodobých úrokových sazeb, na případech zemí, které jsou nejvíce ohroženy nedostatkem likvidity na trhu desetiletých vládních dluhopisů (Řecko, Itálie). Naopak země, které netrpí těmito fundamentálními problémy (nedostatek likvidity na mezibankovním trhu a zhoršujícím se ratingem) nevykazují statisticky významnou závislost těchto proměnných, nicméně lze u některých z nich (Rakousko a Slovensko) pozorovat naplnění cílů nekonvenční expanzivní monetární politiky (růst poskytovaných úvěrů). Článek dává doporučení využití nekonvenčních nástrojů expanzivní monetární politiky prostřednictvím likvidního efektu pro země, které trpí nedostatkem likvidity na peněžním trhu a na trhu desetiletých vládních dluhopisů.

Klíčová slova

transmisní mechanismus, likvidní efekt, monetární politika nulových úrokových sazeb, riziková prémie, nekonvenční monetární politika

^aIng. Michal Dufek, e-mail: mi cha l . dufek105@gmail . com, Ústav financí, Provozně ekonomická fakulta, Mendelova univerzita v Brně

The Role of Real Estate Tax in the Czech Tax System

Lucie Formanová^a

Abstract

The present paper deals with the issue of real estate tax which belongs to the subgroup 4100 (recurrent tax on immovable property) according to tax classification of Organization for Economic Cooperation and Development (OECD). The aim of this paper is to analyse the role of real estate tax in the Czech tax system and find out its significance and validity of its existence in the tax system of the Czech Republic. The statistical data (namely the proportion of real estate tax on the total collection, or administration costs of collection) received from detailed analysis says that the significance of real estate tax in the Czech tax system is not considerable. This fact can open the discussion about its abolition from our tax system. But we should take into account the fact that real estate tax is the only tax levied on the territory of the Czech Republic which fully flows to the municipal budgets and therefore it is an important source of their income.

Key words

property taxes, recurrent tax on immovable property, real estate tax, Czech tax system, tax yield, tax effectiveness

^aIng. Lucie Formanová, e-mail: xformano@node.mendelu.cz, Department of Accounting and Taxes, Faculty of Business and Economics, Mendel University in Brno

The Impact of the CCCTB Depreciation Rules on Corporate Income Tax Liability

Kateřina Krchniva, Alřbeta Srnova^b, Pavel Semerad^c

Abstract

The Common Consolidated Corporate Tax Base presents common rules for definition of the tax base, its consolidation between the groups of companies and the subsequent allocation of the share on the consolidated tax base of a particular member of the group of companies based on allocation rules stated in Article 86 of the Draft Directive on CCCTB. In accordance with the Draft Directive on CCCTB the loss and profit will be calculated based on the rules determined by the national accounting standards and then adjusted by common rules for the determination of the tax base. One of the main differences in the rules set by the Draft Directive on CCCTB and the national tax and accounting standards can be seen in the rules for calculation of depreciation of fixed assets. The main objective of this paper is to analyze the difference in the rules for depreciation of fixed assets based on the Draft Directive on CCCTB and the rules specified in Czech accounting and tax standards. It could be concluded from our investigation that the common rules for depreciation could significantly influence the reported tax base of a particular company. The depreciation rules set by the Draft Directive generally determine longer time for depreciation, which has a positive effect on the tax base in the light of the higher tax revenues into national budget of the Czech Republic. On the other hand, if the longer time for depreciation of fixed assets means a lower volume of eligible deductible costs from tax base which have negative impact on the volume of tax base and therefore on tax liability of a particular company.

Key words

common consolidated corporate tax base, depreciation, fixed assets, tax liability, tax revenues

^aIng. Kateřina Krchniva, e-mail: xkrchniv@node.mendelu.cz, Department of Accounting and Taxes, Faculty of Business and Economics, Mendel University in Brno

^bIng. Alřbeta Srnova, e-mail: xsrnova1@node.mendelu.cz, Department of Accounting and Taxes, Faculty of Business and Economics, Mendel University in Brno

^cIng. et Ing. Pavel Semerad, Ph.D., e-mail: xsemera5@node.mendelu.cz, Department of Accounting and Taxes, Faculty of Business and Economics, Mendel University in Brno

The Assessment of the European Parliament Amendment on the CCCTB

Kateřina Krchniva^a

Abstract

The effort of the European Union to harmonize the corporate tax system by implementation of a Common Consolidated Corporate Tax Base which should represent common rule for determination of tax base dates back to 2001. After the publishing of Draft Directive on Common Consolidated Corporate Tax on 16 March 2011, which had been rejected by most EU Member States, the European Parliament came up with the proposal to amend it. The main objective of this paper is to evaluate if the proposed amendment of the European Parliament related to the change of weights of formula factors could be a good choice or not from the point of view of volume of tax revenues into the national budget. The article concludes that for a country in which operate mainly labor-intensive companies with a high volume of operating turnover it would be more favourable to use formula apportionment as is stated in the Draft Directive on CCCTB, since the overall proportion of these two allocation factors will be higher.

Key words

common consolidated corporate tax base, income tax, formula apportionment, tangible fixed assets, sales, payrolls

^aIng. Kateřina Krchniva, e-mail: xkrchniv@node.mendelu.cz, Department of Accounting and Taxes, Faculty of Business and Economics, Mendel University in Brno

The New State Aid Legislation: Comparison of Revisions with Focus on RDI Aid

Petr Kríž^a

Abstract

The paper deals with the recent development in promoting the state aid as a measure for fostering various socially beneficial activities of economic subjects, whilst minimizing the possible market failures. It presents the basic legislation of European Union in this field, with emphasis on research, development and innovation as key factor of sustainable growth. This basic legislation undergone substantial change, in order to simplify and extend its usability. The progress in application of the state aid (especially RDI targeted) is described on example of four countries that form Visegrád Group—Czech Republic, Hungary, Poland and Slovakia. These countries are compared from several points of view. Despite common history, there are identified areas, where these countries differ.

Key words

state aid, innovation, research and development, research and development funding, general block exemption regulation

^aIng. Petr Kríž, e-mail: xkriz3@krizpetr.cz, Department of Economics, Faculty of Business and Economics, Mendel University in Brno

Development of the Sharpe Ratio of Pension Funds in Visegrad Countries, Switzerland and Sweden in the Period 2005–2013

Petr Kupčík^a, Pavel Gottwald^b

Abstract

The aim of this paper is to evaluate the financial performance of a pension funds as a financial institutions specializing in longevity risk. A prerequisite to fulfill the objective of the paper is to analyze the pension system of selected countries. Selected countries are Visegrad countries and Switzerland, Sweden. The intention of the presented paper can be divided according to its conception into two parts. The first part of the paper is generally devoted to obtaining the available data concerning performance of pension companies in the time period 2005–2013. The second part deals with the calculate Sharpe ratio for selected countries. The last part of this section presents an initial overview of the investment performance achieved by the privately managed pension funds. It provides annual nominal rates of return and standard deviation for selected countries for the period 2005–2013. Conclusions of the paper show at very low performance of czech pension companies in the analyzed area in the context of overall results comparison. The scientific paper describes partial results reached within the project no. 54/2014 of the Internal Grant Agency of the Faculty of Business and Economics of the Mendel University in Brno following the aims and methodology of the given project.

Key words

sharpe ratio, performance, pension fund, pension system, standard deviation, risk-free interest rate, Visegrad countries

^aIng. Petr Kupčík, e-mail: zkupcik1@node.mendelu.cz, Department of Finance, Faculty of Business and Economics, Mendel University in Brno

^bIng. Pavel Gottwald, DiS., e-mail: xgottwal@node.mendelu.cz, Department of Finance, Faculty of Business and Economics, Mendel University in Brno

Relationship Between Bank Liquidity and Equity: the Czech Banking Sector

Jana Laštůvková^a

Abstract

This contribution deals with the relationship between the liquidity and the equity of banks. This relationship is still unclear among the studies of different authors; some are in favour of a positive relationship, others are in favour of the negative one. This potential relationship is analysed in the Czech banking sector and its sub-groups. Correlation analysis is used to determine the relation. The results suggest that even both theoretical concepts are presented in one sector and among the sub-groups, i.e., a positive and also a negative relationship. So in the case of the Czech sector it is not possible to generalize and to choose only one of these concepts. It seems that the size of the banks and subsequently the economic development are important in determining the relationship of the examined variables.

Key words

bank liquidity, bank equity, Czech banking sector, size of the banks

^aIng. Jana Laštůvková, e-mail: jana.lastuvkova@mendelu.cz, Department of Finance, Faculty of Business and Economics, Mendel University in Brno

Politické prostředí a přímé zahraniční investice v evropských postsocialistických ekonomikách a v zemích Latinské Ameriky

Michal Mádr^a

Abstract

The main aim of the paper is to identify and quantify influence of political environment on inflows of foreign direct investment in the transition economies (European post-socialist states and Latin American countries). The reference period is primarily between 1996 and 2012 due to the data availability. Political environment consist of two areas, quality of democracy and political instability. Furthermore, is distinguished between two types of political instability being omitted in thematic literature: elite (minority or weak governments) and non-elite (violent protests, civil wars, coups). Panel data regression analysis is used for identification and quantification. The main result is that the influence of political environment on inflows of FDI is not entirely unequivocal in the observed groups of countries. There are statistically significant areas—quality of democracy and government stability in the European post-socialist countries and political stability in the Latin American states. On the other hand there are not significant variables in both groups of countries—election and political violence. Despite it, statistically significant variables seem to be perspective for future research.

Key words

political environment, quality of democracy, political stability, foreign direct investment, transition economies, Latin America

^aIng. Michal Mádr, e-mail: xmadr@mendelu.cz, Ústav ekonomie, Provozně ekonomická fakulta, Mendelova univerzita v Brně

The Determinants of Economic Performance: Evidence from the Czech Republic and Germany

Vojtěch Olbrecht^a

Abstract

The presented paper uses the classic Solow model approach in measuring growth with some of its augmentations and uses firm-level data to estimate determinants of the economic performance of firms in the Czech Republic and Germany. The results suggest differences in the coefficients and present that the role of capital, technology, political factors or financial markets differs between those two countries. The contribution of the paper is the use of firm-level data at the place where most researchers focus on country-level indicators and uses the advantages of indicators variation within country even when no within variation is observed by the country-level indicators.

Key words

Solow model, institutions, economic performance, firm-level analysis

^aBc. Vojtěch Olbrecht, e-mail: xolbrec1@mendelu.cz, Department of Economics, Faculty of Business and Economics, Mendel University in Brno

The Amendments of the Value Added Tax Act and its Impact on Evasion of the Tax on Fuels

Pavel Semerád^a, Alžběta Srnová^b, Kateřina Krchnivá^c, Petr Koráb^d

Abstract

The paper deals with the problem of value-added tax evasion, i.e., carousel frauds, on the fuel market of the Czech Republic. The scope of frauds on value added tax (hereinafter VAT), which also destabilize public budgets and destroy fair trade competition, reaches yearly up to CZK 8 billion according to some estimates. This situation is recognized by the tax legislators and administrators who in the last few years have tried to improve this situation. Since 2008 they have worked on amendments on the VAT Act as well as on amendments on the related legislation. The main objective of this paper is to analyze proposed amendments and evaluate their effectiveness in the light of the reduction in tax evasion. The paper concludes with the statement that the proposed amendments could represent large potential in the protection against tax evasion, but unfortunately they are not effectively used by the tax administrators. Moreover the harmonization process of the tax systems within the European Union and the judgments of the European Court of Justice often complicate the implementation process of proposed amendments on domestic tax law.

Key words

carousel frauds, the Czech Republic, European Union, value-added tax, VAT directives

^aIng. et Ing. Pavel Semerád, Ph.D., e-mail: xsemera5@node.mendelu.cz, Department of Accounting and Taxes, Faculty of Business and Economics, Mendel University in Brno

^bIng. Alžběta Srnová, e-mail: xsrnova1@node.mendelu.cz, Department of Accounting and Taxes, Faculty of Business and Economics, Mendel University in Brno

^cIng. Kateřina Krchnivá, e-mail: xkrchniv@node.mendelu.cz, Department of Accounting and Taxes, Faculty of Business and Economics, Mendel University in Brno

^dMgr. Petr Koráb, e-mail: xkrchniv@node.mendelu.cz, Department of Accounting and Taxes, Faculty of Business and Economics, Mendel University in Brno

Economic Consequences of the Re-exposure Draft for Lessors

Ekonomické dopady Re-exposure draft pro pronajímatele

Alžběta Srnová^a, Kateřina Krchnivá^b, Pavel Semerád^c

Abstrakt

Tento článek se věnuje ekonomickým dopadům nové metodiky vykazování leasingu na vybrané položky finančních výkazů pronajímatele. Tyto dopady jsou neprávem často opomíjené ze strany odborné veřejnosti. V úvodu jsou představeny problémy současné úpravy leasingu (IAS 17, Topic ASC 842), které vedou k potřebě vzniku nového standardu. Cílem příspěvku je nejenom vyčíslit dopady nového standardu a jejich komparace se současnou legislativou, ale také stanovení ukazatelů finanční výkonnosti, které budou novou úpravou zasaženy a dalších ekonomických dopadů pro pronajímatele. K naplnění stanoveného cíle je v příspěvku využit modelový příklad.

Klíčová slova

výkaznictví pronajímatele, pronajímatel, leasing typu A, Re-exposure draft

Abstract

This paper deals with the economic impacts of the new lease reporting methodology on certain items of the lessors' financial statements. These impacts are often unjustly ignored by researchers. The introduction describes problems of the present lease standards (IAS 17, Topic ASC 842) which lead to the need to a publish new standard. The aim of the paper is not only the calculation of the financial impact of the proposed lease treatment and its comparison with the current standards, but also determination of the financial ratios which will be influenced and definition of the other lessors' economic consequences. A model case is used to meet the main aim of the paper.

Key words

lessor reporting, lessor, lease type A, Re-exposure draft

^aIng. Alžběta Srnová, e-mail: xsrnova1@node.mendelu.cz, Department of Accounting and Taxes, Faculty of Business and Economics, Mendel University in Brno

^bIng. Kateřina Krchnivá, e-mail: xkrchniv@node.mendelu.cz, Department of Accounting and Taxes, Faculty of Business and Economics, Mendel University in Brno

^cIng. et Ing. Pavel Semerád, Ph.D., e-mail: xsemera5@node.mendelu.cz, Department of Accounting and Taxes, Faculty of Business and Economics, Mendel University in Brno

Ekonomický dopad negativních externalit z dopravy na stát a další subjekty v podmínkách České republiky

Alena Vyskočilová^a

Abstrakt

Doprava je odvětví, které přináší ekonomice značné výnosy a příjem do státního rozpočtu. Má ale také za následek velký počet dopravních nehod, které způsobují ztráty na životech, těžká zranění, hmotné škody, psychické újmy, škody na životním prostředí a v neposlední řadě finanční ztráty. Jedná se o negativní externality, které mají ekonomický dopad na stát a státní rozpočet.

Cílem příspěvku je popis a vyčíslení dopadu negativních externalit z dopravy na stát a státní rozpočet a další subjekty v podmínkách České republiky. Na základě kalkulace negativních externalit za rok 2012 je vyčísleno zatížení státního rozpočtu a jeho jednotlivých kapitol. Uvedeny jsou dotčené subjekty a jejich finanční zatížení vzniklými externalitami. Negativní externality z dopravy za rok 2012 měly dopad na státní rozpočet ve výši cca 23 mld. Kč (což je cca 44 % celkových negativních externalit). Tato částka činí necelých 23 % schodku státního rozpočtu.

Vyčíslení dopadu negativních externalit z dopravy na státní rozpočet a dotčené subjekty poskytuje přehled o tom k jakému finančnímu zatížení dochází. Cílem České republiky je snižování počtu a závažnosti dopravních nehod, kterým dojde nejen ke snížení zbytečných negativních externalit z dopravní nehodovosti na pozemních komunikacích, efektivnímu vynakládání finančních prostředků na dopravně-bezpečnostní opatření, ale také k nižšímu zatížení státního rozpočtu a jeho příslušných kapitol.

Klíčová slova

negativní externality, ztráty z dopravní nehodovosti, státní rozpočet

^aIng. Alena Vyskočilová, e-mail: alena.vyskocilova@cdv.cz, Ústav ekonomie, Provozně ekonomická fakulta, Mendelova univerzita v Brně

SESSION
INFORMATICS

Component Based Systems and System Tasks Based on General Systems Theory

Oldřich Faldík^a

Abstract

Component architecture allows building of robust and transparent software systems. A component system can be decomposed into smaller units communicating with each other. Their description, including their communication, can be either verbal or formal. This study analyses some approaches to formal definition of component-based systems. On the basis of the conducted analysis, formal definition of the component and component-based system was established. This will serve as the basis for the implementation of selected system tasks.

This study also tries to outline the tasks which a component system, written in a formal language of interface automata, allows to perform. Finally, the study shows practical benefits of these tasks during the development of component-based software.

Key words

software components, component systems, CBD, component interface, interface automata, computability theory

^aIng. Oldřich Faldík, e-mail: oldrich.faldik@mendelu.cz, Department of Informatics, Faculty of Business and Economics, Mendel University in Brno

Sustainability Reporting Using ICT Tools

Edward Kasem^a, Jiří Hřebíček^b

Abstract

A sustainability report is an organizational report that internalizes and improves an organization's commitment in economic, environmental, social and governance pillars. Small and medium sized enterprises (SMEs), despite of their significant effects on European economy in general, Czech in particular, show low level of engagement. In this paper, the emphasis is placed on the SMEs specialized in food and agriculture sector. At the beginning, the impacts of SMEs on European and Czech economies are described. The combination of Global Reporting Initiative and Sustainability Assessment of Food and Agriculture frameworks are used for measuring corporate performance and its sustainability.

This paper describes the information and communication technology (ICT) tools, which are used for measuring corporates performance and sustainability, and provides assessment of their current state. It depicts an expected development, which can be applied in the future depending on guidelines of more advanced version of Global Reporting Initiative or Sustainability Assessment of Food and Agriculture frameworks. The objective of a new ICT platform is helping stakeholders in chain and different enterprises to communicate with each other more easily and efficiently, establish and maintain business relationships, manage the flow of goods and services among them and provide an active participation in decision making.

Key words

GRI, information system, corporate performance, key performance indicators, SAFA, SME, sustainability reporting, XBRL

^aIng. Edward Kasem, e-mail: edward.kasem@mendelu.cz, Department of Informatics, Faculty of Business and Economics, Mendel University in Brno

^bprof. RNDr. Jiří Hřebíček, CSc., e-mail: jiri.hrebicek@mendelu.cz, Department of Informatics, Faculty of Business and Economics, Mendel University in Brno

Technical Innovations for Education Program ARI

Richard Klein^a, Michal Hammerschmiedt^b

Abstract

This paper aims to introduce the reader with technical innovations for Automation Management and Informatics (ARI) study program. The main goal of these innovations is to familiarize students with practical knowledge as much as possible. The article will describe the two technical innovations for students of ARI. One of them is improvement of old experiment and the other is newly developed laboratory experiment. Both innovations of experiments were done with components and software by Czech company Moravia Instrument. The reason for choosing elements from Moravia Instrument will be described in one chapter of this article. The Results chapter contains details describing technical solutions, experiments guide and respective options for each task. In the Conclusion could be found evaluations of each experiment after its integration into the education where students work with them directly.

Key words

education, automation, automation management and informatics, Control-Web

^aIng. Richard Klein, e-mail: richard.klein@mendelu.cz, Department of Agricultural, Food and Environmental Engineering, Faculty of Agronomy, Mendel University in Brno

^bIng. Michal Hammerschmiedt, e-mail: michal.hammerschmiedt@mendelu.cz, Department of Agricultural, Food and Environmental Engineering, Faculty of Agronomy, Mendel University in Brno

Určení vhodného počtu a struktury shluků pomocí jejich hierarchického uspořádání

Tomáš Kozák^a, František Dařena^b

Abstrakt

Práce se zabývá určením vhodného počtu shluků nestrukturovaných dat pomocí hierarchického třídění shluků. Pro získání hierarchického uspořádání byl využit algoritmus repeated bisection. Pomocí elbow metody byly získány uzly, které přináší největší změnu podobnosti, ze které potom byly odvozené nové shluky.

Klíčová slova

shlukování, hierarchie, cluto, repeated bisection, elbow metoda

Abstract

The paper deals with determining a suitable number of clusters for clustering unstructured textual data based on a hierarchical clustering algorithm. To obtain the hierarchical clustering structure the repeated bisection algorithm was used. Using the elbow method the nodes from which the new clusters are derived were discovered.

Key words

clustering, hierarchy, cluto, repeated bisection, elbow method

^aBc. Tomáš Kozák, e-mail: xkozak@node.mendelu.cz, Ústav informatiky, Provozně ekonomická fakulta, Mendelova univerzita v Brně

^bdoc. Ing. František Dařena, Ph.D., e-mail: frantisek.darena@mendelu.cz, Ústav informatiky, Provozně ekonomická fakulta, Mendelova univerzita v Brně

Stopwords Removal Influence on Text Mining Task Results

Jiří Krupník^a

Abstrakt

Příspěvek se věnuje analýze vlivu předzpracování textových dokumentů na výsledky úloh textmining. Popisuje se zde analýza vlivu odstranění stopslov, jakožto jeden ze způsobů předzpracování dokumentů. K odstranění stopslov se použily doménově orientované metody. Experimenty proběhly s rozsáhlými textovými dokumenty pořízené v přirozených jazycích, které se týkali oblasti hotelových recenzí a novinových článků Reuters. Zkoumal se především vliv na výkonnost výsledků shlukovacích a klasifikačních úloh. Pro analýzy textových dat byly použity vyspělé algoritmy strojového učení C5.0, SVM a k-Means.

Klíčová slova

stopslova, klasifikace, shlukování, text mining, textové dokumenty, hotelové recenze, Reuters

Abstract

This paper deals with the analysis of the influence of textual documents preprocessing on text mining tasks results. There is the influence of stopwords removal described, as one of the possible ways of textual documents preprocessing. Domain-specific methods for stopwords extraction were used. The experiments were performed with a large collection of real-world documents written in natural languages. The documents contained hotel reviews and Reuters newspapers articles. The research was focused on the performance results of different kinds of clustering and classification tasks. For the textual data analysis were used modern machine-learning algorithms C5.0, SVM and k-Means.

Key words

stopwords, classification, clustering, text mining, text documents, hotel reviews, Reuters

^aIng. Jiří Krupník, e-mail: jiri.krupnik@mendelu.cz, Department of Informatics, Faculty of Business and Economics, Mendel University in Brno

Building Wi-Fi Based Indoor Geolocation System for Android

Mikuláš Muroň^a

Abstract

This paper discusses issues of building indoor geolocation via Wi-Fi networks. It presents few RSSI based localization algorithms and analyze their accuracy and usability for implementation in Android platform. Part of the work is program performing geolocation based on the selected algorithm. Algorithms and their accuracy are evaluated on an experimental basis.

Key words

Wi-Fi, Android, geolocation, location estimation, wireless sensor networks, RSSI

^aBc. Mikuláš Muroň, e-mail: mikulas.muron@gmail.com, Department of Informatics, Faculty of Business and Economics, Mendel University in Brno

Design and Implementation of Indoor Autonomous Robot Platform

F. Ostřížek^a, R. Čížek^b, M. Pánek^c, M. Hammerschmiedt^d

Abstract

Paper introduces the reader to the procedures in the development of an autonomous robot platform. Gives ideas and practices in the design proposal, describes the methods of construction and composition of the various procedures used in the design of components. It explains the logical sequence necessary to build a functional unit. In the next part of this article, the authors focus on the description of the software development and testing the libraries. The resulting output will be used in the construction of the superior layer of software that is responsible for the overall control of the executed commands. The last part is devoted to testing, troubleshooting and detection of weaknesses in the construction design. Last but not least is the procedure of the design development for K3 robot skeleton stickers.

Key words

robot, indoor, software, autonomy, electronics, construction

^aBc. František Ostřížek, e-mail: frantisek.ostrizek@mendelu.cz, Department of Informatics, Faculty of Business and Economics, Mendel University in Brno

^bRobert Čížek, e-mail: robert.cizek@mendelu.cz, Department of Informatics, Faculty of Business and Economics, Mendel University in Brno

^cMartin Pánek, e-mail: martin.panek@mendelu.cz, Department of Informatics, Faculty of Business and Economics, Mendel University in Brno

^dIng. Michal Hammerschmiedt, e-mail: michal.hammerschmiedt@mendelu.cz, Department of Agricultural, Food and Environmental Engineering, Faculty of Agronomy, Mendel University in Brno

Refaktorizace aplikace T_EXonWeb

Pavel Potáček^a, Jan Přichystal^b

Abstrakt

Práce se věnuje procesu kompletní refaktorizace webové aplikace T_EXonWeb. Ta je provedena za účelem zlepšení vnitřní struktury kódu, což má pozitivní vliv na další vývoj. Hlavní část aplikace se nachází na straně klienta a je vytvořena v programovacím jazyce JavaScript, využívající knihovnu jQuery. Práce obsahuje postup při aktualizaci této knihovny, zavedení nové struktury pro organizaci kódu do logických celků a řešení s tím spojených problémů, které se během tohoto procesu vyskytly.

Klíčová slova

JavaScript, jQuery, T_EXonWeb, webová aplikace, refaktorizace

Abstract

This paper deals with process of complete refactoring of web application T_EXonWeb. It is used for purpose to improve internal structure of code, which positively affects future development. Main part of application is on the client side and is developed in JavaScript programming language using jQuery library. This paper contains process of updating this library, implementation of new structure for code organisation divided into several logical parts and solving problems associated with it.

Key words

JavaScript, jQuery, T_EXonWeb, web application, refactoring

^aBc. Pavel Potáček, e-mail: potacek.pavel@gmail.com, Ústav informatiky, Provozně ekonomická fakulta, Mendelova univerzita v Brně

^bIng. Jan Přichystal, Ph.D., e-mail: jan.prichystal@mendelu.cz, Ústav informatiky, Provozně ekonomická fakulta, Mendelova univerzita v Brně

Solution of the Cloud Computing Based on the System Response

Zuzana Priščáková^a

Abstract

Cloud computing has emerged as a promising technique that greatly changes the modern IT industry. The infrastructure as a service and the storage as a service are typically service for implementation of cloud. The aim of this article is define these services and propose a solution of the system response. The article describes the ramdisk technology as a future concept for increase the cloud's speed. The author used for testing the ramdisk technology the data center in the Mendel university in Brno. Result of this research show average value and maximum value for writing and reading a data, which are stored in the cloud. The secondary aim is discussion about the ramdisk technology and how you can take advantage of this technology. Also, the article describes an advantage and a disadvantage, which affect hardware, infrastructure, virtualization and other parameters.

Key words

cloud computing, infrastructure as a service, storage as a service, data storage, ramdisk

^aRNDr. Zuzana Priščáková, e-mail: zuzana.priscakova@hotmail.com, Department of Informatics, Faculty of Business and Economics, Mendel University in Brno

Vyhledávání podobnosti v datech s využitím singulárního rozkladu

Searching Similarities in Data Using Singular Value Decomposition

Pavel Řezníček^a, František Dařena^b

Abstrakt

Práce se zabývá tématem hledání skrytých vztahů mezi slovy nestrukturovaného textu. Nejprve je stručně nastíněna problematika vyhledávání informací, poté jsou rozebrány jednotlivé metody použitelné pro analýzu dat. Další část textu se věnuje metodě singulárního rozkladu, jakožto metodě sloužící k redukci dimenzí zkoumaného n -rozměrného prostoru. Je popsán program umožňující singulární rozklad hodnot a jeho praktické využití. V závěru práce jsou shrnuty dosažené výsledky na poli vyhledávání skrytých vztahů mezi daty.

Klíčová slova

information retrieval, latentní sémantická analýza, indexování latentní sémantiky, singulární rozklad, Kohonenova síť

Abstract

This paper deals with the topic of finding hidden relationships between words in unstructured texts. First, it briefly outlined the problems of information retrieval, then it is focused on different methods applicable to data analysis. Another part is devoted to the singular value decomposition method, as the method used to reduce the dimensions of the investigated n -dimensional space. It describes the program allowing singular value decomposition and its practical use. The conclusion summarizes the results obtained in the search of hidden relationships among data.

Key words

Information Retrieval (IR), Latent Semantic Analysis (LSA), Latent Semantic Indexing (LSI), Singular Value Decomposition (SVD), Kohonen map

^aBc. Pavel Řezníček, e-mail: pavel.reznicek.fx@gmail.com, Ústav informatiky, Provozně ekonomická fakulta, Mendelova univerzita v Brně

^bdoc. Ing. František Dařena, Ph.D., e-mail: frantisek.darena@mendelu.cz, Ústav informatiky, Provozně ekonomická fakulta, Mendelova univerzita v Brně

Automatized Configuration of Virtual Machines

Michal Šturma^a

Abstract

This paper describes a script designed to manage virtualized workstations created especially for the network laboratory at FBE MENDELU. This automatized solution is designed to clearly manage and control the virtualized part on computer host system and to facilitate network laboratory management to lecturers and administrators. Created script is able to manage one workstation at one time, but after certain changes, script has potential to become a full solution to manage configuration of all virtualized computers in network laboratory.

Key words

network laboratory, workstation management, virtualization, VirtualBox, batch script

^aBc. Michal Šturma, e-mail: michal.sturma@mendelu.cz, Department of Informatics, Faculty of Business and Economics, Mendel University in Brno

Aktuální stav data retention v ČR

Ondřej Švehla^a

Abstrakt

Tento článek se zabývá problematikou data retention. Tímto pojmem je označováno shromažďování provozních a lokalizačních údajů o elektronické komunikaci. Nejprve je v článku vymezen pojem data retention a právní úpravy, které se touto problematikou zabývají. Dále jsou popsány osoby, které jsou ze zákona povinny uchovávat data retention. Postupně jsou rozebírány jednotlivé sekce data retention včetně informací, které jsou o nich uchovávány. Dále jsou popsány státní orgány, které jsou oprávněné data retention využívat. Na závěr je diskutován aktuální vývoj data retention v České republice.

Klíčová slova

data retention, právní úpravy data retention, údaje o data retention, provozní a lokalizační údaje, státní orgány

^aBc. Ondřej Švehla, e-mail: ondrej.svehla@mendelu.cz, Ústav informatiky, Provozně ekonomická fakulta, Mendelova univerzita v Brně

Development of a Robot for Competition Bear Rescue

Ondřej Švehla^a, Josef Kolaja^b

Abstract

This article is dealing with the development of autonomous indoor robot called “Barnabáš”. The odometry calculation, trajectory planning and localization of the robot in known indoor environment are the main issues solved in this article. The libraries and classes, which are crucial for development of the autonomous robot, are described in the next chapter. Subsequently, the process of implementation, including important details of development, is discussed in detail. Finally, the construction of the robot and the Robotic Day 2014 competition, which “Barnabáš” took part, is described

Key words

autonomous robot, indoor robot, odometry, trajectory planning, localization, control software, construction

^aBc. Ondřej Švehla, e-mail: ondrej.svehla@mendelu.cz, Department of Informatics, Faculty of Business and Economics, Mendel University in Brno

^bBc. Josef Kolaja, e-mail: xkolaja@mendelu.cz, Department of Informatics, Faculty of Business and Economics, Mendel University in Brno

Kooperativní práce na dokumentech v aplikaci T_EXonWeb

Václav Telenský^a, Jan Přichystal^b

Abstrakt

Článek se věnuje možnosti vytvoření funkcionality pro kooperativní práci uživatelů na dokumentech v aplikaci T_EXonWeb. Kooperativní práce uživatelů je proces, kdy uživatel sdílí svůj vytvořený dokument, na kterém mohou v reálném čase spolupracovat vybraní uživatelé. Sdílení dokumentů využívá jako stěžejní technologii Server-sent events, která je dostupná v nejnovější verzi HTML 5. Aplikace T_EXonWeb je vytvořena pomocí technologií JavaScript, AJAX a Perl.

Klíčová slova

SSE, T_EXonWeb, sdílení dokumentů, HTML 5, kooperativní práce na dokumentech, verzování dokumentů

Abstract

This paper describes the possibility of creating functionality for cooperative work of users on documents in application T_EXonWeb. Cooperative work of users is a process when a user shares his document on which other users can work too in the real time. Document sharing uses a backbone technology Serve-sent event which is available from the newest version of HTML 5. Application T_EXonWeb is created by using technologies JavaScript, AJAX and Perl.

Key words

SSE, T_EXonWeb, document sharing, HTML 5, cooperative work on documents, document versioning

^aBc. Václav Telenský, e-mail: xtelensk@mendelu.cz, Ústav informatiky, Provozně ekonomická fakulta, Mendelova univerzita v Brně

^bIng. Jan Přichystal, Ph.D., e-mail: jan.prichystal@mendelu.cz, Ústav informatiky, Provozně ekonomická fakulta, Mendelova univerzita v Brně

Tvorba nového uživatelského rozhraní aplikace T_EXonWeb

Josef Vybíhal^a, Jan Přichystal^b

Abstrakt

Práce popisuje kroky, které bylo potřeba učinit při tvorbě nového uživatelského rozhraní webové aplikace T_EXonWeb, jak a proč bylo nové rozhraní navrženo a vysvětluje výběr komponent, zejména pak výběr textového editoru. V novém rozhraní je použit editor textového kódu Ace. Dále jsou využívány technologie HTML, CSS, jQuery, Javascript a Perl na straně serveru.

Klíčová slova

CSS, jQuery, Javascript, T_EXonWeb, Ace, CodeMirror, Perl

Abstract

This paper describes steps, that were made, when creating new user interface of web application T_EXonWeb. It describes how and why the new interface was designed and explains the chosen components, code editor mainly. The new interface is using Ace code editor. Other used technologies are HTML, CSS, jQuery Javascript and Perl on server side.

Key words

CSS, jQuery, Javascript, T_EXonWeb, Ace, CodeMirror, Perl

^aJosef Vybíhal, e-mail: xvybihal@mendelu.cz, Ústav informatiky, Provozně ekonomická fakulta, Mendelova univerzita v Brně

^bIng. Jan Přichystal, Ph.D., e-mail: jan.prichystal@mendelu.cz, Ústav informatiky, Provozně ekonomická fakulta, Mendelova univerzita v Brně

Using Gesture Controlled Application to Present Point Cloud Data

Dan Vybíral^a

Abstract

This paper describes the development process of an application, which is used for visualization of various objects represented by point clouds, for example, streets of Brno. The key difference between described application and other similarly oriented tools is the approach of 3D view control. Other applications are usually controlled traditionally, by a mouse and keyboard or by a touchscreen. Our application is controlled by a natural user interface, which uses the human body as a positioning device. The main driving reason behind development of this application is to enable users to control the 3D view by their hands. The appeal of using this application is, therefore, at technical presentations, where the presentation should spark an interest in the audience. The speaker can stand in front of the sensor and the projecting screen (with audience, preferably), presenting their data in a 3D view, only by moving his hands and using basic gestures, such as gripping and dragging. The interface is fairly intuitive and easy to learn. Thanks to these properties, even inexperienced users can manipulate the data without any issues.

Key words

gesture, natural user interface, point cloud, presentation, Kinect

^aDan Vybíral, e-mail: dan.vybiral@mendelu.cz, Department of Informatics, Faculty of Business and Economics, Mendel University in Brno

Computer Vision: Detection of a Machine Parts on a Conveyor Belt

Marcel Vytečka^a

Abstract

The paper deals with the issue of machine parts detection in an image. It is focused on image acquiring and its analysis. The main objective is objects detection on a conveyor belt. First, the method for generating source data from an object 3D model is described. Next, two different methods for object detection are compared. Rapid object detection using a boosted cascade of simple features and the detection method based on graph matching.

Key words

adaptive control, stationary robot, computer vision, graph matching

^aIng. Marcel Vytečka, e-mail: marcel.vytecka@mendelu.cz, Department of Informatics, Faculty of Business and Economics, Mendel University in Brno

Snížení rizika dopadu nevyžádané pošty v univerzitním prostředí

Stratos Zerdaloglu^a

Abstrakt

Nevyžádaná pošta všeobecně označovaná jako spam představuje pro uživatele informačních technologií řadu hrozeb a úzce souvisí jako nástroj nejrůznějších forem sociálního inženýrství – phishing, pharming, které mohou způsobit významnou ztrátu dat včetně kompromitace osobních údajů. Autor se v článku zabývá nevyžádanou poštou jako nástrojem sociálního inženýrství a možnostmi technologické obrany proti spamovým útokům a nevyžádaných reklamních sdělení v prostředí univerzity.

Klíčová slova

spam, sociální inženýrství, phishing, pharming

Abstract

Junk Mail generally known as spam is a source of many threats to user, and is often used as an instrument of various forms of social engineering, e.g., phishing and pharming, which can cause significant data loss, including compromise of personal data. In this article the author deals with spam as a tool for social engineering and with technological possibilities of defense against spam attacks and unsolicited advertisements in the university environment.

Key words

spam, social engineering, phishing, pharming

^aIng. Stratos Zerdaloglu, e-mail: stratos@mendelu.cz, Ústav informatiky, Provozně ekonomická fakulta, Mendelova univerzita v Brně

The Dynamics of the Shadow Economy of Nigeria: The MIMIC Approach

Dennis Nchor^a

Abstract

This study investigates the size and development of the shadow economy of Nigeria from 1983 to 2012 using the multiple indicators multiple causes model. The study finds that shadow economic activities affect the economy of Nigeria in two ways: positively and negatively. Positively, the income generated from such activities is spent on the official system. Such activities also serve as an alternative source of employment which ameliorates the adverse effect of unemployment. It thus bridges the inequality gap. Negatively, shadow economic activities deprive labor of their rights and guarantees. Such activities also pose serious environmental concerns and constitute a leakage to state revenue. The results show that direct tax rates, the size of government, the level of unemployment, the quality of public services and the intensity of business regulations are the main causes of shadow economic activities in Nigeria.

Key words

shadow economy, MIMIC model, state revenue, structural equation model

^aIng. Dennis Nchor, MSc, e-mail: xnchor1@node.mendelu.cz, Department of Statistics and Operation Analysis, Faculty of Business and Economics, Mendel University in Brno

Organizátoři konference PEFnet 2014 se omlouvají výše uvedenému autorovi za chybu při přípravě podkladů pro sazbu sborníku PEFnet 2014, Abstracts: European Scientific Conference of Doctoral Students, November 20, 2014.

Assessing Probability of Default: Merton Model Approach

Václav Klepáč^a

Abstract

We apply Merton model for the measurement of credit risk on the basis of accounting and stock market data for company ČEZ, a. s., in the mid-term horizon (1–3 years). Consequently we take in account the development of the credit quality of the company from 2010 to 2013. This basic structural credit model is based on assumption that firm equity is European option on company assets. From the results is obvious that this model significantly underestimates actual level of risk and generates almost zero credit spread for chosen mid-range time interval, i.e., low probabilities of default. These values do not match the level of the company rating, what corresponds to the previous researches from abroad for this model. At the same time the model in concordance with actual inputs points out worsening of credit quality of the company in the years from 2010 to 2013, what is reflected by the decline of company stocks and up-ward sloping credit spread curve and debt levels. We also use some basic sensitivity visualisation for capturing possible credit spreads and default probabilities regarding different levels of assets volatility.

Key words

shadow economy, MIMIC model, state revenue, structural equation model

^aIng. Václav Klepáč, e-mail: xklepac@node.mendelu.cz, Department of Statistics and Operation Analysis, Faculty of Business and Economics, Mendel University in Brno

Organizátoři konference PEFnet 2014 se omlouvají výše uvedenému autorovi za chybu při přípravě podkladů pro sazbu sborníku PEFnet 2014, Abstracts: European Scientific Conference of Doctoral Students, November 20, 2014.

Index of Authors

- AVANESOVA, N., 26
BALCAROVÁ, P., 37
BÉDIOVÁ, M., 9
BIELIKOVÁ, T., 10
BRAITINGER, M. M., 11
BUKOVINA, J., 38
CANTINI, S., 39
ČÍKOVÁ, E., 12
ČÍŽEK, R., 61
DAŘENA, F., 58, 64
DOBEŠOVÁ, A., 40
DREXLER, D., 13, 33
DUBOVÝ, R., 27
DUFEK, M., 41
DUFEK, O., 33
ELMRABET, M. M., 14, 15
FALDÍK, O., 55
FICOVÁ, A., 16
FORMANOVÁ, L., 42
GOTTWALD, P., 46
GRMELOVÁ, Z., 17
HABÁŇOVÁ, M., 17
HALÍČKOVÁ, K., 27
HAMMERSCHMIEDT, M., 57, 61
HEIDU, R. F., 24
HŘEBÍČEK, J., 56
HÜRTER, M., 18
CHUDOPAL, A., 26
JANIŠ, V., 19
JEŽOVIČOVÁ, K., 20
JUNGWIRTHOVÁ, L., 21
KASEM, E., 56
KLEIN, R., 57
KOKRDOVÁ, R., 22
KOLAJA, J., 67
KORÁB, P., 50
KOUBA, L., 23
KOZÁK, T., 58
KRCHNIVÁ, K., 43, 44, 50, 51
KRUPNÍK, J., 59
KŘÍŽ, P., 45
KUPČÍK, P., 46
LAŠTŮVKOVÁ, J., 47
LITZMAN, M., 23
MAN, P., 24
MÁDR, M., 48
MITÁČEK, R., 25
MOKRÝ, S., 33
MOMOT, T., 26
MOTLÍČEK, Z., 27
MUROŇ, M., 60
NETOPIL, T., 20
OLBRECHT, V., 49
ORIOLD, T., 28
OSTŘÍŽEK, F., 61
PÁNEK, M., 61
PINKOVÁ, P., 17
POTÁČEK, P., 62
PRIŠČÁKOVÁ, Z., 63
PŘICHYSTAL, J., 62, 68, 69
RADIMĚŘSKÝ, M., 29
RIEDEROVÁ, S., 17
ŘEZNÍČEK, P., 64
SEMERÁD, P., 43, 50, 51
ŠÍPKO, J., 16
SKÁLOVÁ, E., 30
SOUČEK, M., 13, 33
SRNOVÁ, A., 43, 50, 51
STARNOVSKÝ, J., 31
ŠTRAKA, J., 31
ŠTURMA, M., 65
ŠVEHLA, O., 66, 67

TELENSKÝ, V., 68
TOULOVÁ, M., 32
TURČÍNKOVÁ, J., 20
TUZOVÁ, M., 32
VAN WICHELEN, S., 13, 33
VASHCHENKO, O., 26
VESELÁ, L., 29
VYBÍHAL, J., 69
VYBÍRAL, D., 70
VYKLIČKÝ, M., 24
VYSKOČILOVÁ, A., 52
VYTEČKA, M., 71
ZERDALOGLU, S., 72

Jana Stávková (ed.)

PEFnet 2014

Abstracts

Proceedings from European scientific conference of doctoral students

Typesetting by Pavel Haluza

Factural correctness, professional level, and language correctness and graphics are the responsibility of authors

Published by Mendel University in Brno

First edition, 2014

Printed by Mendel University Press

ISBN 978-80-7509-152-9