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Research Innovation  
Conference (Online)**



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Udruga za promicanje inovacija i istraživanja u ekonomiji "IRENET", Zagreb

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## Invited Lecture: Digital Transformation of Tourism: Leaders and Followers

*Danijela Ferjanić Hodak*

*Faculty of Economics and Business, University of Zagreb*

### Abstract

Tourism is going through a great transformation as a result of advances in information technologies and processes of digitalisation. Nowadays, travelling is more affordable and more accessible than ever before. Digitalisation has left no segment of the travel ecosystem untouched. Tourism consumption and experiences are increasingly mediated by the use of smart devices, which enable smart booking, smart advice and navigation, smart destinations and marketing, as well as smart hotels. Hospitality firms use ICT as a way to cope with an environment characterized by globalization, competition, high client turnover and rising guest expectations. In order to benefit from this process, it is necessary to create new models of product development, new business practices and ecosystems, new approaches to supporting and building capacity in tourism as well as new approaches to tourism education.

**Keywords:** digital transformation, tourism, smart destination, smart hotels, travel ecosystem

**JEL classification:** L83

### About the author

Danijela Ferjanić Hodak was born in 1984 in Zagreb. She graduated from the High School of Hospitality and Tourism in 2002. In the same year, she enrolled at the Faculty of Economics, University of Zagreb, where she graduated in 2007 with a degree in Tourism. During her studies, she was a demonstrator at the Department of Tourism, where since 2007, she has been employed as a research assistant in the scientific research project of the Ministry of Science, Education and Sports "Concept of Health and Cultural Tourism of the Republic of Croatia", led by prof. dr.sc. Nevenka Čavlek. She completed her postgraduate specialist study in Tourism Management in 2010. The topic of the specialist postgraduate work is "The role of wellness in the transformation of the offer of health tourism", under the mentorship of prof.dr.sc. Nevenka Čavlek. She completed her doctoral studies in business economics at the Faculty of Economics, the University of Zagreb, in 2014, where she defended her doctoral dissertation entitled "The impact of labour mobility on the business performance of lodging companies", under the mentorship of prof.dr.sc. Mate Bartolucija and obtained a doctorate in the field of social sciences, economics, trade and tourism. Her research interest is smart tourism, the labour force in tourism and special interest tourism. Danijela published numerous scientific articles in the field of tourism. An author can be contacted at [dferjani2@net.etzg.hr](mailto:dferjani2@net.etzg.hr)



## Invited Lecture: Improving Sustainability of Technical Ceramics Production: Synergistic Approach

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Lidija Čurković

University of Zagreb, Faculty of Mechanical Engineering and Naval Architecture

### Abstract

Sustainable development is a concept focused on preserving current resources for them to be available to future generations as well, while at the same time fulfilling current human needs and facilitating adequate levels of development. Nowadays, there are many possible applications of sustainability principles, such as in the fields of the economy, agriculture, environment, energy, transport, architecture, and production. Sustainable production of materials and goods aims at improving the processes which are less damaging to the environment, which conserve natural resources and use low levels of energy, possibly derived from sustainable sources. One of the intensive energy- and resource-consuming industries is the conventional production of technical ceramics. Although non-toxic, ceramic waste is generated during the machining of the green bodies and is typically landfilled. To improve the sustainability of technical ceramics production, methods of recycling ceramic waste need to be developed and applied.

**Keywords:** sustainability, technical ceramics, alumina, aluminium oxide, waste, recycling

**JEL classification:** Q30

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### About the authors

Irena Žmak, born in 1974, works as an Associate Professor at the Faculty of Mechanical Engineering and Naval Architecture, University of Zagreb. She graduated from the Faculty of Mechanical Engineering and Naval Architecture in 1998, where she afterwards received her Master of Science degree in 2003 and Doctor of Science degree in 2009. Her research interests are recycling, advanced technologies, and machine learning, composites, and ceramics. She participated in several projects, some of which are Monolithic and Composite Advanced Ceramics for Wear and Corrosion Protection, Engineering Materials - the Basis of Innovative Economy, and Modelling of Materials Properties and Process Parameters. The author can be contacted at [irena.zmak@fsb.hr](mailto:irena.zmak@fsb.hr)

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## A Bibliometric and Thematic Investigation of the Occurrence and Application of Big Data in Sport

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Maja Mesko

University of Primorska, Faculty of Management, Slovenia

### Abstract

The goal of the study was to look at the scientific output of big data in sports and sports-related activities in two databases: Web of Science (WoS) and Scopus. After the application of four exclusion criteria, 51 articles were chosen for bibliometric analysis and topic mining. The first papers were published in Scopus in 2013 and WoS in 2014. The countries that produced the most articles were the United States and China. Public environmental and occupational health, Medicine, Environmental science ecology, and Engineering are the most popular research areas in WoS and Scopus. We concluded that because this is a large and novel topic, more research and literature evaluation will be required.

**Keywords:** big data, sport, bibliometric study, topic study, health care management, services, decision making

**JEL classification:** C55, L67

### About the authors

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## A New Proposition of Business Model Innovation: Antecedent Managerial Competencies

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### Abstract

Knowledge, competencies, and human capital are the cornerstones of business innovation. Generating innovation alone is not a guarantee of success in the market, but it is necessary to successfully manage innovation, which requires managers' expertise and specific competencies. The paper focused on analysing the impact of several managerial competencies on improving the new proposition dimensions of the business model innovation. The business model innovation consists of new creation innovation, new proposition innovation, and value capture innovation. This paper analyses the new proposition innovation segment that relates to solutions for customers and how they are offered; it consists of the dimensions of new offerings, new customers and markets, new channels, and new customer relationships. The research was conducted among managers of companies from several industries, who evaluated their competencies, namely analytical and innovative, their ability to recognize opportunities, their tenacity and passion for work, as well as new proposition innovation of business model innovation. The findings suggest that each of the managerial competencies is influential in some way but that they do not all affect each dimension of a new proposition of business model innovation.

**Keywords:** managerial competencies, business model innovation, the new proposition

**JEL classification:** O32, M1

### About the authors

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As author and co-author, she has published 12 scientific and research papers in recognized journals and presented them at international and national conferences. She was a member of the GEM (Global Entrepreneurship Monitor) national team of Bosnia and Herzegovina. Notable engagements include the role of teacher and consultant on projects financed by USAID and EU and leading role and participation in ten international and domestic research projects. The author can be contacted at email [selma.smajlovic@untz.ba](mailto:selma.smajlovic@untz.ba)

## Alone or Not Alone? – The Attitudes of Hungarians Towards Solo Travel

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*University of Pannonia Nagykanizsa, University Center for Circular Economy, Hungary*

### Abstract

Before the COVID pandemic, solo travel was getting more and more popular – especially among women travellers. Both demographic, social trends and inner motivations enhanced the popularity of this type of travel. The ageing society and the single lifestyle increased the demand on the one hand, while on the other hand, the desire for self-realization, to find new ways of life, escapism, the thirst for self-confidence drive more tourists to travel alone. In the case of women travellers, their increasing decisive power and independence also boosted solo travel. The tourism industry also offers several attractions specially designed for them. The post-pandemic era will show how this special group of travellers will react to the changed circumstances and how they will change their travel habits. Our article will examine how frequently Hungarian respondents travel alone and what their attitudes towards this type of travelling are.

**Keywords:** solo travel, tourism trends, motivations

**JEL classification:** Z32

### About the authors

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## An Empirical Study on Inter-Organisational Network Structures for Connected Cars

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### Abstract

This study aimed to empirically examine whether rapid changes in the technological environment affect inter-organisational relationships. In the automotive industry, the advantage of cohesive and vertically integrated inter-organisational relationships has been pointed out conventionally. The development of connected cars, which can communicate bidirectionally with other systems outside the car, is eliciting significant changes in the traditional automotive products and the industry structure — changes generally associated with the automotive product structure moving closer to IT products. The aim was to empirically clarify what kind of network structure of inter-organisational relations firms are growing with changes in industrial structure by creating a database of actual firm behaviour. The database was analysed using the social network analysis method, and the characteristics of growing firms' organisational network structure were extracted. Besides the traditional integrated inter-organisational relationships, the results show that there is a mixture of inter-organisational relationships with different characteristics of growth firms.

**Keywords:** inter-organisational network; business ecosystem; platform leadership; social network analysis; connected car

**JEL classification:** O32

### About the author

Fumihiko Isada works as a professor at the Faculty of Informatics, Kansai University. He graduated from Osaka University, where he got his PhD with the topic "A Study on the business model of Virtual Project Company". His research interests are international corporate strategy and innovation management. The author can be contacted at email [isada@kansai-u.ac.jp](mailto:isada@kansai-u.ac.jp)

## Analysis of Overhead Costs Management in Companies

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### Abstract

The development of overhead costs management is becoming more and more important as the percentage of overhead costs is rising. The last 15 years have demonstrated the awakening of advanced methods and tools aimed at understanding the utilization of overheads better. The paper investigates the current state of overhead costs management using a sample of 20 companies in Austria, Hungary, and Slovakia. A qualitative approach was applied in a multi-case study, which unveiled the significance of overhead cost management with the increasing trend of importance. The effort reflects current innovations using digitalization of processes. The findings show that (1) the majority of the companies indicated that digitalization heavily impacts overhead costs; (2) all expressed their dissatisfaction with the tools currently used; and (3) the majority cited that usability and speed are the predominant factors. The analysis and the subsequent synthesis delivered three theses: (1) perception that digital competence enables overhead costs management; (2) belief that competencies are insufficient; and (3) there are prerequisites for success in overhead costs management. The paper examines the situation in seven industries represented in the sectors of manufacturing and transportation/storage for the time period from 2008 to 2017. The paper concludes with several recommendations for academia, businesses, and future research.

**Keywords:** digitalization, organizational behaviour, overhead-costs management

**JEL classification:** D23, O14, O33

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### About the authors

Prof. Dr. h.c. Csaba Székely, D.Sc., has a comprehensive academic career domestically and internationally. He holds degrees in economics and management. He has worked as a university professor at several universities for the last 15 years at the University of Sopron, Faculty of Economics. He has supervised PhD students for more than 30 years and has chaired many scientific conferences around the world. The author can be contacted at email [ktk.szekely.csaba@gmail.com](mailto:ktk.szekely.csaba@gmail.com)

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## Analysis of the Influence of Situational Factors on Impulse Purchases

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### Abstract

Impulsive shopping implies a temporary satisfaction that the consumer feels when buying a product without thinking about the consequences and whether he really needs that product. There is an instantaneous impulse, stimulus, pleasure, happiness, instinct, excitement, emotionality, hedonism, and all these are causally consequential segments of impulsive buying. Situational factors are divided into several segments, namely the physical environment, the social environment, time as a situational factor and a psychological state. The aim of the research part of the paper is to determine how important the layout within the store is to consumers when buying and whether the layout of the store itself really affects impulsive shopping, and how much the physical environment affects impulsive shopping. The research was conducted through a survey questionnaire. The research proved a significant influence of consumer characteristics, their involvement and experience and situational factors of retail space on the impulsiveness of the purchase.

**Keywords:** impulsive shopping, situational factors, consumer behaviour, store

**JEL classification:** D12

### About the authors

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## Applying Principles of Management Innovation in Advertising Agencies

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### Abstract

With the advertising industry and practice-changing significantly in the last decade, it is likely that the existing management practices in advertising agencies also need some transformation. Through exploring management innovation principles and practices, novel practices might be applied by advertising agencies to exploit changes in their environment and enhance organizational performance. This paper explores the application and framework for novel management practices in an advertising agency. A proposed model is based on the principles of management innovation and the activities needed to drive management innovation. The topic is relevant for advertising agencies to understand better management innovation possibilities and enhancement it could create for them to compete in new markets and stay ahead of new competition.

**Keywords:** management innovation, advertising agency, management

**JEL classification:** L22

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## Augmented Reality and Virtual Reality-Based Technology in Cultural Tourism

Daniela Garbin Praničević

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### Abstract

The intention of the paper is to scrutinize the effects of augmented (AR) reality and virtual reality (VR) technology implementation in cultural tourism. Therefore, the paper explored and presented the following: (i) AR, and VR (AR/VR) based technology concept in general, (ii) AR/VR technologies application in cultural tourism with an emphasis on their potential to protect cultural heritage; (iii) the overview of AR/VR presence in cultural tourism in the 27 European Union countries (EU-27). In the discussion part, besides empirical results based on the EU-27 desk research, AR/VR technologies in cultural tourism are additionally reconsidered from the aspect of climate change. In conclusion, what is encouraged is the application of AR/VR in cultural tourism due to the benefits AR and VR bring in terms of (i) delivering quite substantial content to their visitors any time from any place, (ii) reducing the negative impact of tourism on cultural heritage and (iii) developing related strategies based on more sustainable principles and concepts.

**Keywords:** AR and VR based technology, cultural tourism, sustainable principles, practise issues

**JEL classification:** O31, O33, Z19, Z32

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## The Behaviour of Intelligent Investors at Financial Markets: Insight from Slovenian Investors

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### Abstract

Intelligent investors differ from speculative or non-professional investors in the fact that intelligent investors act countercyclically; that is, they act against the trend, or otherwise, they buy when prices have already fallen and sell when their rate of selected investment has already risen. An example of countercyclical behaviour can also be explained by the thinking of professional investor Warren Buffett, who points out a simple investment rule: "Be scared when others are greedy, and be greedy when others are scared". Since crypto markets have recently emerged, there is a need for researching the best strategy for investments in their financial instruments. In order to get an insight into the behaviour of Slovenian investors, in-depth interviews were conducted with a sample of financial experts. The article presents tips for the correct responses of intelligent investors in financial markets.

**Keywords:** intelligent investments, intelligent investors, crypto market, financial instruments

**JEL classification:** G41

### About the author

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## Benefits of Implementation of the Mini Profit Centre in Large Enterprises

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### Abstract

The Mini Profit Centre (MPC) financial model originated 60 years ago and was developed by Kyocera Corporation. This approach implies management decentralization which is established as the MPC decision-making autonomy, which automatically increases the responsibility and motivation of employees. A company that manages the MPC model creates a "managed virtual disruptive" market, which is easily transformed into a real market and vice versa. For successful implementation of the MPC, the mandatory requirement is to set up the catalogue of products and services offered to the market. This paper aims to discuss the processes and advantages of introducing the Mini Profit Centre (MPC) model in large companies. The document will explain organizational changes, implementation, and the financial model for monitoring efficiency.

**Keywords:** Mini Profit Centre, Agile, Amoeba Management, decentralization, autonomy, disruptive, standardization

**JEL classification:** L21, L23, L25, O31

**Acknowledgements:** Many thanks to the companies which trust my consulting abilities, supporting them in implementing the MPC management model.

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## Bibliographic Analysis of Basic Leadership Models in a Global Environment

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### Abstract

Leadership is one of the functions of management, and unlike other management functions, it cannot be partially transferred to others, so leadership becomes the most important and real function of management. It is a ubiquitous and current topic because successful leadership is a skill that is present in different aspects of life and organisations, such as in a company, the state, in wars or within the family. The art is to influence other people and relationships so that they are willing to achieve set goals. Leadership is an action, not a position that is automatically gained by a position in an organization. The phenomenon of leadership and successful leaders always capture the attention of not only the scientific but also the social public. Given the large number of studies conducted and studies written on the importance and the impact of leadership, numerous models, approaches, and leadership theories have been formed. The paper aims to shed some light on the research trends of leadership types in scientific literature. The Scopus database has been researched using the keywords "leadership type", which resulted in 127 journal articles. A bibliographic analysis has been conducted with the focus on the timeline of publications, trends in leading authors, institutions and countries, and the financing institutions analysis. Citation analysis has also been conducted with the focus on papers with the highest number of citations. Topics of the papers have been analysed using the text mining analysis, which revealed a variety of management related topics.

**Keywords:** leadership, leadership research, international environment, globalization, polyvalence of the leadership phenomenon

**JEL classification:** O15

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## Can the Trust in Uber-like Platform Use Be Translated into Parcel Logistics?

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### Abstract

Rising expectations for urban logistics are the biggest challenge for parcel service providers. The increased costs posed by obstacles reduce profitability, and providers are forced to develop a novel operating model based on cooperation. The new model can combine what is known so far, which can be integrated into a platform-based system to implement collaborative resource sharing. The implementation of the platform will result in the introduction of a new player and the creation of a partly common ICT background. The platform-based approach is known in the context of the sharing economy initiative, which has also brought a novel trust-based model to life. On the one hand, this article presents a possible business model for parcel logistics providers and, on the other hand, the operation of a third-party IT platform and the method of resource allocation designed to reduce costs. In addition, it presents the possible reasons for the intention to join the platform and the conditions necessary to maintain the platform.

**Keywords:** platform-based, sharing economy, parcel logistics, last-mile delivery

**JEL classification:** R42

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# Churn Management in Telecommunications: Data Mining Approach

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## Abstract

In the telecommunications business, predictive models can be used to find characteristics that explain churn and identify consumers who are in danger of churning, preventing revenue loss. We present an approach to explain and predict churn in telecoms separately for different market segments, considering the value of market segmentation. The three-stage approach is used to create prediction models utilizing a dataset of consumers from a telecommunications firm. Data are prepared in the first stage, which includes demographic parameters, use of extra services, contract and billing, monetary value, and churn management. We employ the k-means cluster analysis to define market segments in the second stage, then the chi-square analysis to find the clusters with the highest churn rates. In the third stage, the Chi-squared Automatic Interaction Detector (CHAID) decision tree technique is utilized to create classification models for identifying churn determinants and extracting churn rules behaviour in clusters with the greatest churn levels. Because the outcomes of market segmentation and churn prediction can be sent back to the customer database to increase churn control efficacy, the suggested approach is ongoing.

**Keywords:** churn; telecommunications; clustering; K-means; market segmentation; prediction; logistic regression; decision trees; CHAID

**JEL classification:** O1

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## Comparison of the Significance of Different Factors Influencing the Increase in Sales

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### Abstract

The sales process is one of the business processes of an organization, regardless of whether it is engaged in production, consulting, distribution, etc. Every business organization must sell its idea, service or goods. The sales process is a complex business activity directly related to the efficiency and success of a business organization. Desirable personal characteristics of the seller are often discussed, but the conducted research observes and compares the factors that are determined as those that influence the increase in sales results. They are as follows: the image of the business organization itself; the use of persuasive techniques in communication with potential customers; the quality of internal communication within the business organization; and finally, the personal characteristics of the seller. Researchers start from the assumption that sales effectiveness is determined by the image that the organization has developed and that it is directly related to the use of a persuasive technique. In addition, research questions about the possible impact of the internal organizational climate and the personal characteristics of salespeople on increasing sales efficiency were stated. To conduct the research, a special survey questionnaire of 24 statements was designed, and the respondents expressed their level of agreement with the statements. There were 506 respondents included in the survey. The research confirmed all the hypotheses and found that not only does the organization's internal communication affect the outcome of the sale but also that the negative sales result is affected by the lack of joint focus of employees on the goals of the business organization.

**Keywords:** sales communication, sales efficiency, sales characteristics, internal organizational communication, persuasion, business organization image

**JEL classification:** L81

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# COVID-19 and the Challenges of Transition to Online Learning

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## Abstract

The COVID-19 pandemic has changed the world. It changed the way we do business, and it changed our lives in terms of socializing. Nevertheless, it also brought essential changes in the educational segment. In this school year, at the tertiary level, delivering of courses' contents and examinations are primarily done online in Slovenia due to the pandemic. In this paper, we examine the perceptions and challenges the third-year students of the Learning and knowledge management course conducted at the School of Economics and Business, University of Ljubljana, are facing. Specifically, we are interested in the challenges the students encountered during the transition to online learning due to the COVID-19 pandemic, as well as the advantages and disadvantages of online learning, as perceived by students. What was used as the method to collect and analyse the data was personal reflection and content analysis. The findings show that students are facing different challenges. Nevertheless, also several advantages and disadvantages related to the online learning process are identified. We conclude by providing practical examples for pedagogical staff aimed at easing the transition for students as well as avenues for future research.

**Keywords:** COVID-19, online learning, emergency online teaching, challenges, advantages, disadvantages

**JEL classification:** I21

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## Cultural and International Aspects of Innovation and Entrepreneurship in Higher Educational Institutions: Towards a Typology of Learning Universities

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### Abstract

The purpose of this paper is to analyse the international and cultural aspects that academic entrepreneurs must take into consideration and propose a conceptual framework dedicated to the analysis of higher educational institutions (HEI) regarding their international settings and the support or hindrance to academic entrepreneurship. We elaborate on the international and cultural aspects to be taken into consideration in order to successfully undertake an academic entrepreneurship journey, such as cultural, administrative, geographical, and economic distances. We deepen our understanding of the cultural distance by summarizing the most used sociological approaches. Then we discuss the personal and institutional factors that can support or hinder entrepreneurship success, such as cultural sensitivity, cultural awareness, and academic learning organization. Finally, we considered the settings allowing entrepreneurs to develop their cultural sensitivity in the academic context and propose a typology of the HEI regarding their settings and management conditions of entrepreneurship regarding their internationalization and cultural awareness. The results allow university managers and professors or also students to identify their organization's maturity in terms of international and cultural awareness towards fostering innovation and entrepreneurship.

**Keywords:** typology, entrepreneurship, innovation, learning organization, distinctive capacities, internationalization, culture, strategic management

**JEL classification:** 36

**Acknowledgements:** This study was supported by the Entrepreneurship & Management Institute and the Business School of the University of Applied Sciences Western Switzerland.

### About the author

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# Digital Maturity of Higher Education Institutions in Bosnia and Herzegovina: Teachers' Assessment

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## Abstract

This paper presents the results of the research on digital maturity in higher education institutions in Bosnia and Herzegovina (BiH). Empirical research was conducted among employees of eight public higher education institutions in spring 2020. Digital maturity was examined through seven dimensions. The results show that higher education institutions in BiH started the digitalization process more than five years ago and that they have been continuously working on the digitalization of all business processes and activities. According to employees, on a scale from 1 to 5, digitalization of their higher education institutions is somewhere in the middle (between 3 and 4), and the institutions have room for improvement in all dimensions.

**Keywords:** digital maturity, higher education, digitalization

**JEL classification:** I23, L86, L89, L63

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## Digital Technologies and Music Industry: A Preliminary Research

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### Abstract

Since the discovery of the soundtrack, the music industry has been mostly based on innovations. New technologies, which were developed during the 20th century, were an important factor for society and the economy. Their rapid development, especially the development of the Internet, has a strong impact on the music industry, which begins to change, especially in the area of the consumption and the creation of music. The goal of the paper is twofold. Firstly, we present the changes in the music industry due to the development of digital technologies. Secondly, we analyse how individuals in Croatia have embraced new technologies regarding listening to music. Therefore, we investigated the following: (i) media players and music platforms that respondents have used, (ii) differences among age and gender of the respondents and their habits regarding changes in the music industry, and (iii) respondents' preferences regarding the usage of digital and analogue music. The research has been conducted with a random sample of 146 respondents from Croatia. The research results showed that there is a strong influence of digitalization on the music industry and that respondents have been very well adapted to changes. Respondents indicated that accessibility and availability of the music content are the main advantages of digitalization, while piracy presents the main disadvantage. Furthermore, there are no differences regarding respondents' age and their preferences regarding digital and analogue music. Although respondents indicate advantages of analogue music formats in comparison to digital formats, they use digital music formats equally and even more.

**Keywords:** information and communication technologies, digitalization, music, digital music, music industry

**JEL classification:** L86, O32

### About the authors

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## Digital Transformation: Challenges for Human Resources Management

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### Abstract

The global economic situation and need to be better prepared for competitive challenges put pressure on modern companies to shift toward automation and digitalization. As a consequence of rapid technological development and the speed of change and therefore forced transformation of business models and work design, organisations are faced with a need for a massive change of features and an extended role of HR management processes. In order to be able to drive future organisational performance, HR leaders and professionals are required to make changes in the skills and competencies they have and to acquire and possess new ones. The critical components of a digital transformation strategy that can help achieve a competitive advantage are human capital, intellectual capital and knowledge. The purpose of this paper is to explore and elaborate on the contemporary position and the changing function of HRM in light of digital transformation. In that sense, a comprehensive analysis of available literature has been conducted addressing the domains of HR planning, reward management, performance management, employee engagement, training and development, health and safety, employee relations, as well as their change under the influence of digital transformation. As the main conclusion of this research, it can be stated that although digitalization, i.e., digital transformation, strongly affects HR practices and procedures specifically by using human resources information systems, the role of HR in contributing to the digitization strategy is not sufficiently emphasized. However, it can be argued that the results of this research represent a valuable contribution to future research and can certainly be an important benchmark for organizations when preparing strategies to respond to the challenges of the digital age.

**Keywords:** technological change, digital human resource management, HRM performance, firm performance, digitalization, digital competence, digital transformation

**JEL classification:** O33, M10, M12, M15, M50, L25

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## Doing Business in the 'New Normal': COVID-19 School Leaders' Language Manners

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### Abstract

As the not-so-new-now coronavirus pandemic has affected all walks of life, education has not been an exemption; what is more, it is one of the most severely hit sectors.

The unknown crisis created unprecedented circumstances for all participants in the education process, and school leaders have had a double job: to navigate their institutions and to look after their employees. The latter is a pretty delicate task - they have had to keep doing business and running their companies while minding the language since physical distancing necessitated the use of electronic communication, thus making room for vagueness and even misinterpretations. Ten education leaders of primary and secondary schools in North Macedonia have been video-interviewed on everyday COVID-19-related situations from their workplace context. Discourse completion tasks (DCTs) have been employed as a data elicitation method. Being given the open-ended, only topically specified scenarios, the respondents are asked to recreate their language reaction to situations that have really happened in their newest pandemic work life. The interviews have been transcribed, and the leaders' language choices have been analysed. The findings show that, luckily, the leaders have been mindful about their words and have mostly chosen to use positive, calm, and encouraging language.

**Keywords:** COVID-19, business, education, leaders, language

**JEL classification:** D83, J29, Y90

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## Economic Conditions for the Operation of a Circular Economy

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### Abstract

The consumer society, which has been the foundation of the global economy since the Industrial Revolution, carries economic, environmental and social dangers for present and future generations. The economy of the 21st century needs to change in order to adopt sustainable business models. The companies need to transform their business processes, and a new business model needs to be developed where the focus is not on the product but on the value it provides to consumers. The aim of the present study is to examine and present the opportunities offered by the circular economy concept for management. The study will further examine what barriers companies need to overcome in order to develop a sustainable business model. In addition to the concept of circular economy, the study also examines the topic of servitization as a concept complementary to the circular economy.

**Keywords:** sustainability, circular economy, production, economy

**JEL classification:** Q01, Q32, Q56

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# Effect of the Covid-19 Pandemic on Relationship Between Earnings Management and Dividends: Preliminary Research

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## Abstract

The goal of the preliminary research is to analyse the relationship between earnings management and dividends in the context of the COVID-19 pandemic. The panel analysis is used as a statistical technique for modelling the aforementioned relationship, and the Modified Jones model is used for measuring the value of discretionary accruals as an indicator of earnings management. Data from financial statements over a five-year period are used for non-financial companies that met the criteria for inclusion in the final sample. Preliminary research results indicate a significant impact of the COVID-19 pandemic on the level of earnings management but only after taking into consideration different types of earnings management.

**Keywords:** COVID-19, dividend payment, earnings management

**JEL classification:** G35, M41

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## Elements of Social Responsibility in Company Strategy

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### Abstract

Social responsibility is nowadays a concept that is irreplaceable in the modern global economic network. As the concept of social responsibility is increasingly "mature" in business and science, an increasing number of investors have recognized the benefits of socially and environmentally conscious business and therefore encourage, like many other stakeholder groups, the management to implement socially responsible activities to achieve strategic goals. Strategic implementation of socially responsible activities opens space for creating a market position that competitors can hardly reach because they would have to successfully imitate the whole spectrum, and not just one socially responsible activity. The purpose of this work is to discuss the relationship between the implementation of social responsibility and the company strategy in light of the previous research. Sustainable competitive advantage and consequently a positive business result are the result of a quality strategy followed by all organizational levels in the company. An adequate link between the corporate strategy and the concept of social responsibility is a prerequisite for achieving long-term business sustainability in the global economic network. Based on the above, the concept of social responsibility is nowadays considered an important element of the strategy.

**Keywords:** sustainable development, social responsibility, company strategy, economic network

**JEL classification:** O32, O33, G34

### About the author

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## Functional Quality of Service During Events: An Empirical Analysis

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### Abstract

Visitors to events not only attach great importance to the range of artists and their performances but also to the quality of their stay and services. In order to create a staging and consequently an emotionalization of the visitor, many action areas take effect at an event simultaneously. In this context, the customer satisfaction of visitors plays a major role for event organizers. This is to generate a competitive advantage over other providers and to be attractive for artists at the same time. The objective of this article is to analyse the perceived functional quality of service (QoS) during various events in a multipurpose event venue. The analysis was based on 563 primary data samples. On the off chance, selected visitors were during the events recruited and interviewed using a standardized questionnaire. The data were collected during the break of five events. These events took place in the period from mid-November to mid-December 2019. This was supplemented by an online survey of enthusiastic fan club visitors who regularly watch handball matches within the event venue. The online survey was conducted in parallel with the surveys during the events in November 2019. Overall, the results showed a high level of satisfaction among visitors regarding the QoS. In addition to services, exploratory factor analysis identified cleanliness as a satisfaction factor significantly accounting for the overall service satisfaction. Differences in the perception of both factors could be detected between the fan club visitors on the one hand and all other visitors of various events (comedy, music, sports) on the other. Based upon the results of this analysis, the event managers of this venue are enabled to employ target group-oriented improvements of individual services in order to consolidate and increase customer satisfaction.

**Keywords:** customer satisfaction, event management, quality of service (QoS), factor analysis

**JEL classification:** M30, M39

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## How Retailers Support Consumers during the Pandemic: Kaufland Case Study

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### Abstract

Brands' perspectives on consumption and consumers have strongly changed during the pandemic because, lately, they have focused on medical care and innovation. The context of advertising campaigns requires a different approach with specific communication characteristics: safety, medical care, protection, family assistance. The present study focuses on the advertising discourse delivered by retailers on the market to answer consumers' needs. There are two types of perspectives to be considered here: encouraging consumption to survive and looking for solutions and psychological support to get over de-socialisation and fears. Retailers turn from simple suppliers into innovative volunteers who concern themselves with how to diminish fears and insecurity. As a research method, I conducted a multimodal discourse analysis focused on the online advertisements running on Facebook and Instagram to unfold communication strategies, linguistic tools, brand values, and techniques of adaptation to the pandemic. The period considered relevant for this study was during the Romanian lockdown, between March 16 and May 16, 2020, plus another month afterwards to observe the consequences of brands' attitudes towards consumers.

**Keywords:** retailers, the pandemic, consumers, communication, advertising

**JEL classification:** L81

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## Impact of Covid-19 on e-Commerce in the European Union

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### Abstract

The advent of the 4th Industrial Revolution has made it inevitable for firms all over the world to modify their business models to integrate ICTs into their operations. The lockdown measures to contain the COVID-19 pandemic appear to have accelerated this process as many businesses, particularly in the hospitality industry, had to shut down their operations. Others also had to resort to conducting their businesses solely online. Thus, it has been argued that e-commerce has thrived during the lockdown period. Concentrating on the current 27 European Union (EU) member countries, this paper seeks to answer the following question: To what extent the COVID-19 impacted e-commerce has? To answer this question, trend analyses and a paired samples t-test are used to compare the mean percentage of enterprises with e-commerce sales before the pandemic and the first year of the pandemic. The study finds a significant increase in the percentage of enterprises that made e-commerce sales during the first year of the pandemic compared to the previous year ( $t=-2.06$ ;  $df=25$ ). Except for the western EU member countries, all other regions had an increase in the percentage of enterprises that made e-commerce sales, with the southern EU countries witnessing the highest increase.

**Keywords:** 4th Industrial Revolution, COVID-19, e-commerce, European Union, digital divide

**JEL classification:** F6, M15, M16, O33, O54

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## Impact of Hotel Website Quality on Direct Bookings: Research Framework

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### Abstract

As the role of online intermediaries has become extremely important in the process of booking accommodation, the profitability of the hotel business is significantly reduced. For this reason, hotels are increasing their interest in increasing the share of their own bookings through hotel websites. Therefore, the design and functionality of hotel websites are changing with the aim of more efficiently attracting customers who will make a reservation through the hotel website and not through an online intermediary. Modern hotel websites today are very different from traditional ones, and with their interactivity and innovation, they additionally influence the decision to book accommodation through this distribution channel. Today's interactive hotel websites use chatbots, mobile web and are connected to social networks. Even when consumers book their first arrival at a hotel through an online intermediary, hotels are interested in booking the same consumer's re-arrivals through the hotel website. If the hotel's website is attractive and functional, the consumer will be encouraged to book their return in this way. Previous research has been based on an analysis of the content of hotel websites. Consequently, the relevance of the topic is further based on the use of the method of text mining as a method for assessing the quality of hotel websites. Although text mining has been used as a tool for comment analysis and hotel-quality assessment on online intermediary websites, research to date has not focused on assessing the quality of hotel websites through text mining. Following this, it can be concluded that there is a need to investigate the impact of the hotel website quality on booking channel selection, which will consider the interactivity and innovation of hotel websites and use new research methods, such as text mining, to assess the hotel website quality.

**Keywords:** hotel, direct reservation, website quality

**JEL classification:** L83

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## Impact of Modern Communication Channels on Business Processes

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### Abstract

Business organizational communication, due to digitalization and transformations that take place in this sense in all business processes, takes a significantly different form from the one that used to be usually up to recently. The pandemic, which has driven businesses to focus on digital communication channels as much as possible, certainly has a significant impact on accelerating this change. Determining the extent to which these channels are optimal for overall business and communication processes is the focus of this paper, which presents secondary research of available scientific theory. The aim of this paper is to gather in one place the known scientific facts and determine in which future direction research of business communication should go. The paper shows the impact of the need to adapt to new communication channels on stress levels and points to the problem of a lack of feedback with nonverbal signals that are common in traditional contact communication (which is not online). Online business communication is usually more economical and faster than offline communication, and this reflects its important advantages, but the lack of contact can be one of the disadvantages and can lead to information overload and reduced concentration of recipients. In addition, the results indicate increased use of written business communication, which raises questions about the increased need for education in this regard.

**Keywords:** digital communication channels, digital communication transformation, business communication channels, business communication as a source of stress, written and oral business communication

**JEL classification:** D8; M1; O3

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## Implementing Data Mining in French SMEs: Opportunities and Challenges

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### Abstract

The development of effective data mining technologies and applications has revolutionized the way in which large corporations can study, develop, and exploit markets. However, it is still not clear if data mining technology can also be successfully implemented and used by small and medium-sized organizations, and if yes, in what conditions. Often, SMEs have a small number of customers, which they engage on a one-to-one basis, while, on the other side, they may not have enough money and/or IT expertise to adopt and effectively manage data mining applications. To identify the potential opportunities and challenges offered by data mining technologies to SMEs, we sent a survey questionnaire to a random sample of 300 French firms with less than 250 employees. Then, to get a better understanding of the specific conditions in which SMEs can successfully implement and use data mining applications, we conducted in-depth interviews with representatives of ten SMEs that are currently using data mining. The results indicate that, despite being aware of their existence, only 8% of the investigated firms are using data mining technologies. Data mining is used mainly to identify general market trends but also to evaluate brand awareness and provide creative R&D ideas.

**Keywords:** data mining, French SMEs, opportunities, challenges, survey

**JEL classification:** C81; C82; D83; M15

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# Implications of Accounting and Tax Treatment of Cryptocurrencies

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*University North, Croatia*

## Abstract

The digital revolution is changing everyday business and creating new technologies and tools that allow companies flexibility and simplicity in doing business and increase business performance. The digital age creates new concepts that also affect accounting processing, which presents new challenges in accounting practice. One of the most significant changes and innovations within accounting processing and the financial industry is the emergence of cryptocurrencies that create a completely new financial business concept. Cryptocurrency is the equivalent of electronic money and is completely digital. Although cryptocurrencies and transactions with cryptocurrencies are frequent appearances in today's modern business, accounting and tax treatment in the Republic of Croatia and other European Union countries but also beyond is not fully established and adjusted for doing business with cryptocurrencies, which requires strict regulation and adjustment operations with cryptocurrencies. As cryptocurrencies become more popular, so do taxes on cryptocurrencies that vary from country to country. Cryptocurrencies are associated with risks such as money laundering, terrorist financing, and tax evasion, which require the establishment of a regulatory body and the implementation and application of regulations in the function of transparent business with cryptocurrencies. This paper aims to investigate the characteristics of cryptocurrencies and their financial, accounting, and tax treatment.

**Keywords:** money, cryptocurrencies, blockchain technology, financial system, accounting, taxes

**JEL classification:** H25, H26, M21, M41, O33

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## Influence of Forms of Communication on Stress in Business Processes

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### Abstract

Employee satisfaction is often associated with the quality of communication in the work environment, and ultimately with the impact, it has on motivation and commitment to work tasks and the business organization. Correspondingly, the occurrence of stress in the workplace is associated with extremely poor interpersonal relationships. This scientific paper starts from the assumption that the quality of communication is affected by the form or channel of communication, i.e. choosing the wrong channel can lead to an increase in stress levels. Therefore, the aim of the study was to answer the questions of whether written communication increases stress levels and, accordingly, whether face-to-face communication reduces stress levels. The research was conducted through a specially structured survey questionnaire, which was filled in by 246 respondents. The research did not confirm the hypotheses – it was not found that written communication increased the level of stress; however, the respondents stated that waiting for a response in written communication can lead to a higher temporary level of stress. The research has also shown that when sensitive or in any way delicate topics are in focus, face-to-face communication is less stressful and more effective. In addition, the research opened some new questions since the respondents emphasized the possible inefficiency of written communication

**Keywords:** stress, business communication, forms of communication, oral communication, written communication

**JEL classification:** D8; M1; O3

### About the authors

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## Influence of the Characteristics of Companies on Innovation

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### Abstract

The innovative capacity differentiates a leader company from a follower. In 2018 PwC selected for Forbes the 27 most innovative companies in Italy in 2017, using four parameters: strategy, innovation, execution and productivity. Strategy creates and defines new products or services; innovation manages the evolution of certain products and services or a corporate business model; execution introduces one or more best practices in commercial activities; productivity defines the correct modalities to maximize investments in research and development. In this paper, I analyse the development of these 27 companies in the year in which they were chosen and in the two years following the selection, comparing them with their target market, using the data from their financial statements. These 27 companies come from 20 different sectors and include both start-ups and leading companies in the history of the Italian industry, both small and multinational companies. Due to their wide and relevant diversity, through the analysis of their performance with advanced or modified ad hoc statistical methods, I study how the effects of innovation are influenced by the age of the company, its size and its sector of origin. I note how innovation really determines the prosperity and future of a company.

**Keywords:** innovation, a leading company, size, sectors, start-up

**JEL classification:** C30, O30, O31

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Gloria Gheno is a statistical consultant. She was a statistical consultant at the University of Sydney and a teaching assistant at the Free University of Bolzano-Bozen. She was a post-doc researcher at the Ca' Foscari University of Venezia, and she collaborated with the Bocconi University. She presented her works at many international conferences, and she is a reviewer of three scientific journals. She wrote a few papers and a package for R-project. She received her Master's Degree in Economics in 2002 at the Ca' the Foscari University of Venezia, her Master's Degree in Statistics in 2011 at the University of Padova and her PhD in Statistics in 2015 at the University of Padova with scholarship. She obtained her professional international Master's Degree in Economics and Finance in 2004 at the Ca' Foscari University of Venezia. She was a trainee chartered accountant and a trainee auditor. Now she collaborates with M. Garbuio, an associate professor at the University of Sydney, and with R. Dussin, a chartered accountant. An author can be contacted at [gloriaghenolibero.it](mailto:gloriaghenolibero.it)

# Innovative Capacities of Shipbuilding Organizations Manufacturing Composite Ships

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## Abstract

During the transitional period at the end of the 20th century, Croatian small composite shipbuilding (SCS) had merely 27 models, but at the end of the first decade of the 21st century, this innovative industry showed resilience and readiness to adapt to the new business conditions and created 237 basic models. The main goal of the research was the assessment of the innovative capacity of SCS in Croatia. The research was carried out via survey and interviews and included 73 SCS organisations, based on the main hypothesis that there is a positive relationship between the innovative capacity and innovative appearances (innovative management, innovation culture, innovative policy, and innovative factors) as well as the performance of the organization. The testing was performed with the Pearson's correlation coefficient, the ANOVA and the post hoc LSD test resulted in the confirmation of the main and the three ancillary hypotheses. For the first time in Croatia, a new model of assessment of innovative capacities and innovative phenomena is presented, aiming to raise awareness of the need to strengthen the innovative capacities as a basis for the development of SCS.

**Keywords:** small composite shipbuilding, innovative capacity, innovative management, innovation culture, innovative policy, innovative factors, innovation ecosystem, Croatia

**JEL classification:** D02, O14, O31, O32

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## Is Information Technology Boosting Creativity in Higher Education Institutions During Covid-19?

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### Abstract

The global pandemic of the virus COVID-19 dramatically has impacted Higher Education Institutions (HEIs) in Bosnia and Herzegovina and worldwide. HEIs were forced to switch overnight to online lectures and exams without almost any teachers' and students' preparation and education. After one year of online classes at the University of Mostar (SUM), there is a question of whether that kind of teaching impacts creativity. Namely, the authors investigate whether the enhanced use of IT and online platforms (Google Meet, SUMARUM – the University of Mostar's variant of Moodle) affected students' creativity. In order to find the answer to the research question, the authors used a questionnaire they developed and applied in 2015 to investigate students' perceptions about creativity at the University of Mostar. The research presented in this paper is limited to SUM students who have had online classes since March 2020. The primary research goal is to investigate whether there are any significant changes in students' perceptions of creativity compared to research from 2015.

**Keywords:** creativity, higher education institution, information technology, Covid-19

**JEL classification:** A2, I23, L86

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## Machine Learning Approach to Environmental Innovations: Two Country Story

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### Abstract

The growing public interest in environmental issues, which grows with the growth of global economic activities, places increasing political and social demands on companies that are expected to adopt environmental strategies, including through various types of technological innovation. The objectives of the paper are to investigate using machine learning methods: (1) how the company's management makes decisions about environmental innovation and (2) how different types of environmental innovation affect the competitiveness of the company. It is planned to use machine learning methods (genetic algorithms, neural networks, cluster analysis and decision trees) and compare their efficiency with statistical tools (logistic and linear regression). For the purposes of the research, data on innovation activities collected by the CIS survey in Croatia and Montenegro will be compared. CIS research includes direct measures of innovation performance and various factors influencing innovation. We will then develop a model of the impact of different types of innovations related to environmental protection and enterprise competitiveness, which will be tested using econometric methods and machine learning approaches, where the data set will be divided into model development data and model testing data, and then the model will be tested using selected machine learning methods. Different econometric models and a decision tree will be used to create the model. So far, research on the "green activities" of companies has been conducted in only one country and is mainly focused on developed countries. In doing so, comparative studies that would investigate the intensity of eco-activity of enterprises in different countries generally did not use data collected at the enterprise level.

**Keywords:** machine learning, environment, ecology, green economy

**JEL classification:** O33

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## Methods of Covid-19 Crisis Management in the International Tourism and Civil Aviation Transport

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### Abstract

Tourism and air transport are among the sectors most affected by the Covid-19 crisis. The pandemic lasting more than a year is reflected in short-term effects in both sectors, but there are also serious long-term consequences. National authorities will have to set recovery plans in accordance with the relevant policies and encompass international cooperation with public and private entities. The aim of the article is to identify the methods and procedures that can be implemented, and that can contribute to mitigating the consequences of the crisis and initiate the renewal of international tourism and air transport in particular. The methodology of the paper is based on current statistical data and strategic documents at the national and international level represented by the international organisations (esp. UNWTO, WTTC, IATA, ICAO, ECAC). The focus is on crisis management of the public sector entities in terms of the definition and implementation of reconstruction strategies, on private sector stakeholders, on the interconnection of the tourism and the air transport sectors, as well as on cooperation in the international environment. Methods and tools for the renewal of both sectors are based on a strategic approach of the public sector, support for the introduction of new business models in the private sector, change in the product and marketing mix, digitization, innovation and education.

**Keywords:** international tourism, international air transportation, tourism policy, transportation policy, crisis management, strategic management

**JEL classification:** H12, H50, L83, L9, R4

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# Monetary Policy Response in the Republic of North Macedonia and the Republic of Albania for Coping with the Pandemic COVID-19 in 2020

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## Abstract

The objective of this study is to analyse how the monetary policies of the Republic of North Macedonia and the Republic of Albania, as one of the two key macroeconomic policies, have reacted in response to COVID-19 for the year 2020. Last year, the year 2020, the pandemic caused these two countries to react through monetary policy. This research examines how central banks of both countries have changed traditional monetary policy tools for tackling the pandemic, starting with open market operations, required reserve ratio, the overnight loans interest rate, and the available deposits interest rate. The research continues with an analysis of whether they were used, and if so, what non-traditional tools were applied in that period. The study analysis concludes which monetary policies have been pursued in the Republic of North Macedonia and the Republic of Albania, whether there have been non-traditional tools and how the scope for interbank interest rate volatility has changed. Our study revealed that both countries had pursued an expansive monetary policy, there were also non-traditional tools, and the scope for interbank interest rate volatility has shifted towards narrowing.

**Keywords:** monetary policy, central bank, traditional tools, non-traditional tools, interbank interest rate

**JEL classification:** E49, E58, E59.

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## National Brand Identity: Pilot Study on Perception of Croatian Student Population

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### Abstract

A message sent to a specific market or an audience contains certain types of information that affect the audience. For this reason, brand identity, nowadays increasingly in a digital form, plays an important role. Each state wants to create a robust, attractive and different brand identity that will set it apart from other states and thus augment its reputation. This research aimed to determine the elements of brand identity that respondents mostly associate with Croatia and to examine their attitudes towards the belief that the brand identity that influences emotions is essential in the creation of national visual identity, as well as their attitudes towards the assumption that the brand identity of Croatia should be liked first by the inhabitants of Croatia, and only then by foreign tourists. Two research propositions were tested, using the structural equation modelling, measuring the relationship between the emotional and formal elements of brand identity with the attitudes towards the emotions concerning the brand identity and the relevance of the brand identity to the country residents.

**Keywords:** branding, nation, brand identity, Croatia, reputation, structural equation modelling, visual brand identity, information

**JEL classification:** M3

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## Non-Financial Reporting – a Driver in the EU Corporate Sustainability: Status Quo, Implementation and Trends

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### Abstract

The call for corporate sustainability turned into one of the main European Union (EU) politics strategies documented in the Green Deal. Hence, sustainability becomes more and more a requirement for prosperous business activities. Non-Financial Reporting already acts as a medium for providing transparency with reference to the degree of and effort in the sustainability of a company. The way in which sustainable efforts should be presented is still a controversial issue. The legislator is striving to obtain a legal framework for such reporting with the first directives already implemented. In consequence, there is a shift in the landscape of established and new organisations dealing with reporting guidelines. We see new entrants and coalitions. These intend to help create and to influence the future EU non-financial reporting requirements. This article aims to arrange the stakeholders in proper order. This is also valid for distinguishing legal requirements in contrast to non-binding recommendations. What is used as a basis is a discussion on activities implemented in the EU and future projects. A constitutive review of established and new organisations dealing with non-financial reporting guidelines and their specific advice fosters a holistic view. This provides for the chance to identify trends and strategic actions. A glance at practical implementation and its analysis will point out policies, benefits and weaknesses of the approaches.

**Keywords:** Sustainability, European Union, Corporate Reporting, Non-Financial Reporting, Information Quality

**JEL classification:** M14, M41, M48

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## Novel Approach to Choosing Principal Components Number in Logistic Regression

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### Abstract

The confirmed approach to choosing the number of principal components for prediction models includes exploring the contribution of each principal component to the total variance of the target variable. A combination of possible important principal components can be chosen in order to explain a big part of the variance in the target. Sometimes several combinations of principal components should be explored in order to achieve the highest accuracy in classification. In this research, we propose a novel automatic way of deciding how many principal components should be retained to improve classification accuracy. We do that by combining principal components with the ANOVA selection. In order to improve the accuracy resulting from our automatic approach, we use the bootstrap procedure for model selection. We call this procedure the Bootstrapped-ANOVA PCA selection. Our results suggest that this procedure can automate the principal components selection as well as improve the accuracy of classification models, in our example, the logistic regression.

**Keywords:** ANOVA, PCA, Bootstrap, logistic regression

**JEL classification:** C38, C52, C63

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### About the author

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# Perception of Fairness of Interaction in Handling Complaints of Users of Travel Agency Services: Evidence from Serbia and Croatia

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## Abstract

Service-dominant logic observes the user as a co-creator of value in the process of providing services. In the case of a complaint, as a result of dissatisfaction, the user, together with the travel agency, becomes a co-creator of the value of service recovery. The perception of interactionist fairness is one of the determinants of a user's complaint behaviour. Interactionist fairness is seen in the extent to which users consider to be treated fairly in terms of their interaction with a travel agency employee during the service recovery process. The research presented in this paper is based on determining the differences in perception of fairness of interaction in handling complaints of users of travel agency services in terms of their socio-demographic characteristics. The survey was conducted on a sample that included 297 respondents from the territory of Serbia and Croatia. The proposed hypotheses were tested using the Mann – Whitney U test and the Kruskal–Wallis test. The purpose of this paper is to point out to travel agencies the importance of users' reactions to unsatisfactory service as a kind of reflection of cooperation in the process of service recovery.

**Keywords:** user, travel agency, complaint behaviour, perception, socio-demographic characteristics

**JEL classification:** L83, Z32

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## Profitability Analysis of Audit Firms – Evidence from the Republic of Serbia

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### Abstract

The aim of this paper is to provide an analysis of the profitability of audit firms in the Republic of Serbia during the period 2016-2018. The analysis is based on the data collected from financial statements from all audit firms registered in the Republic of Serbia. The profitability analysis includes two goals. This paper will primarily provide a descriptive statistical analysis of the profitability of audit firms measured by return on assets and net income per employee. The following part of the research will give an answer to the question of which factors have a significant impact on the profitability of audit firms. Profitability as a dependent variable is defined as return on assets and net income per employee, while independent variables include market share, current ratio, leverage, size, affiliation to the international network etc. In order to give the answer to this question, a regression statistics analysis will be conducted. The research result will indicate which factor can improve the performances of audit firms.

**Keywords:** audit firm, profitability, financial statement

**JEL classification:** M42

### About the authors

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## Public Relations Principles for the Digital Communication in a Local Crisis

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### Abstract

In dealing with the crisis, it is necessary for all institutions to react and urgently solve the problem, but a special challenge is to communicate with key publics, especially those publics that have suffered damage. What is imperative for public relations is fast and two-way communication. That is why digital platforms are indispensable in crisis communication because they enable almost simultaneous reaction and enable institutions to communicate directly with the affected public, without the mediation of information media. The aim of this paper is to analyse the crisis communication of the City of Slavonski Brod through its official website and Facebook page during water pollution in March and April 2018. The analysis was performed by methods of qualitative content analysis and a case study analysis. During the environmental incident, the City of Slavonski Brod did not communicate in accordance with the PR principles of crisis communication and did not take advantage of digital communication.

**Keywords:** social networks, crisis communication, public relations, digital communication

**JEL classification:** D8; M1; O3

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## Ready for the Digital Economy? The Usage of Innovative Digital Tools by Enterprises in the European Union Countries

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### Abstract

The importance of the digital economy has been rising significantly in recent years. This growth has been further accelerated due to the consequences of the COVID pandemic. The level of involvement of companies in the digital economy, as well as the usage of innovative digital tools, seems to be crucial. Moreover, the EU countries also need to create the conditions for the gradual transformation of industry into Industry 4.0. Governments should help companies prepare for such a change—the paper deals with the readiness for the digital economy in EU countries. The main aim is to assess the current state of the digital economy and its development based on the selected indicators. The study includes a multidimensional approach to comparing the situation in the EU countries. There are rather significant differences in the frequency of using innovative digital tools and solutions in business sectors. The EU countries are classified into clusters based on cluster analysis. Newer member states are still mostly lacking behind the EU average in e-commerce, usage of social networks, and cloud computing. Furthermore, our methodology also contains factor analysis to determine underlining factors describing the overall digital readiness of the EU countries and rank them accordingly. Some political implications related to support of digitalization and innovation can be made based on our results.

**Keywords:** information and communication technologies, digital economy, business innovation, e-commerce, digital transformation.

**JEL classification:** O30, M20, O32.

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# Response of Information Technology Companies in Europe to the World Health Organization's Announcement of the COVID-19 Pandemic

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## Abstract

From the beginning of 2020, the whole world has been shaken by a very contagious disease called Covid-19, its actual name being SARS-CoV-2. It first appeared in China, in Wuhan, Hubei Province, in December 2019, and the World Health Organization (WHO) was informed about it on the 31st of December 2019. On the 11th of March, 2020, WHO declared the Covid-19 outbreak a pandemic, and no country has so far been able to contain this coronavirus. This medical or health crisis evolved into a pandemic and led to a global economic crisis. This study aims to investigate the wealth effect of the coronavirus pandemic announcement on the Information Technology Industry companies in Europe. We apply the classical event study methodology. Our sample contained 87 companies. The results show a strong negative reaction of information technology companies upon this announcement. The European investors perceived this announcement as a negative signal that will disturb the lives of everyone and will create economic instabilities and havoc in all sectors of an economy.

**Keywords:** market reaction, event study, Covid-19 crisis

**JEL classification:** G14, G30

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## Smart Hospitality: Addressing the Risks to Gain Competitive Advantage

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### Abstract

The objective of this paper is to clarify the impact of mobile technologies and modern IT infrastructures in the hospitality sector. Smart hotel services, such as smart rooms and personalized services, are constantly changing due to new technologies, which transform the way hotel companies and customers interact. They lead to increased customer satisfaction, flexible business processes and improved business performance. However, their application is associated with risks regarding data collection and protection. Based on an extensive literature review, this paper intends to analyse the benefits of smart hospitality solutions for both hosts and guests. It also intends to examine and evaluate the security and privacy concerns associated with their use. Moreover, it aims to identify the security policies and practices that hotels should follow and implement in order to take advantage of new technologies, convince their customers to use them, gain added value and ultimately increase their competitive advantage. Finally, the paper discusses under which circumstances this advantage could be converted into a sustainable competitive advantage.

**Keywords:** smart hospitality, data protection, privacy and security concerns, competitive advantage

**JEL classification:** Z32

**Acknowledgements:** This work has been partly supported by the University of Piraeus Research Center.

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## SMART Management: A New Concept of Management in the New Context of Business

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### Abstract

Since the very beginning, the development of management as a profession and scientific discipline has been significantly influenced by a change of context, especially from the aspect of technology and social development. In the last ten years, these two aspects have significantly influenced the need to develop new concepts of governance and thus new management. Accordingly, and in the context in which modern management has to respond to the digital transformation of business operations, a new industrial revolution called industry 4.0, and increasingly loud demands for sustainability and satisfaction of all interested parties, a new concept of management called SMART Management has been developed. The term SMART is formed as an acronym of the first letters of key characteristics of the new management concept, namely S – sustainable, M – measurable, A – agile, R – risk-oriented, T – technologically competent. The aim of this paper is to explain and present to the general scientific and professional public the newly developed concept of SMART Management.

**Keywords:** management, SMART management, sustainability, industry 4.0, sustainable business  
**JEL classification:** M1, M10

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# Smart Optimization of Proactive Control of Petroleum Reservoir

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## Abstract

Artificial Intelligence plays an increasingly important role in many industrial applications as it has great potential for solving complex engineering problems. One of such applications is for the optimization of petroleum reservoirs production. It is crucial to produce hydrocarbons efficiently as their geological resources are limited. From an economic point of view, optimization of hydrocarbon wells' control is an important factor as it affects the whole market. The solution proposed in this paper is based on state-of-the-art artificial intelligence methods, optimal control, and the decision tree theory. The proposed idea is to apply a novel temporal clustering algorithm utilizing an autoencoder for temporal dimensionality reduction and a temporal clustering layer for cluster assignment to cluster wells into groups depending on the production situation that occurs in the vicinity of the well, which allows for a proactive reaction. Then the optimal control of wells belonging to specific groups is determined using an auto-adaptive decision tree whose parameters are optimized using a novel sequential model-based algorithm configuration method. Optimization of petroleum reservoirs production translates directly into a number of economic benefits: reduction in operation costs, increase in the production effectiveness and increase in overall income without any extra expenditure as only control is changed.

**Keywords:** hydrocarbon wells production; control optimization; artificial intelligence; temporal clustering; auto-adaptive decision tree

**JEL classification:** O31

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## Smart Tourism and Augmented and Virtual Reality: The Case of Croatia

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### Abstract

Technology environment and especially ICT are changing extremely fast, requiring a fast adaptation to this change not only regarding economic activities but regarding big changes in the entire society as well. Significant climate changes bring sustainability in the focus of all industries, and tourism is one of the most dynamic sectors as well. ICT technology becomes the base for an efficient and sustainable economy and smart infrastructure development. Due to ICT development, we are developing smart cities and smart tourism, and the application of ICT helps the world to respond fast to the Covid crisis as well. Limitations of travelling and physical movement bring augmented reality and virtual reality into focus, enabling us to overcome some limitations of the lockdown. By connecting the real and the generated digital world, AR and VR technologies enable the enrichment of the content we perceive, giving a new experience of the world in which we live and work. Smart tourism and smart cities and destinations require adequate infrastructure not only for physical visitors but for virtual visitors as well. The 5 G network enables an extremely fast platform for communication, but collecting, organizing and keeping accurate, adequate data, images and videos is still a huge job to be done. The Croatian economy is largely dependent on the tourism industry, and weak telecommunication and internet networks and the 5G infrastructure become potential limitations for a tourist destination development. Thus, it is interesting to analyse and compare the present telecommunication and network infrastructure on two tourist destinations and requirements for smart tourism.

**Keywords:** smart tourism, smart destination, augmented reality, virtual reality, 5 G network

**JEL classification:** O18

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## Sources of Corporate Reputation in the Banking Sector

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### Abstract

The potential for economic stability seeks to ensure a well-regulated, stable, efficient and globally competitive financial market in the interests of businesses and consumers. One of the key aspects of banks' operations is also the quality of services they provide to customers and trust. This paper aims to develop theoretical concepts through a review of the literature on the given and related topics that can be applied in further research of innovation concepts in the quality of products and services in the banking sector, which is a key prerequisite for achieving customer satisfaction and loyalty. The financial services market continues to face negative effects, and much effort is being made to adapt to new regulations, stabilize bank placements and restore customer confidence. The purpose of the research is to point out that more representative financial indicators increase reputation but not legitimacy. The aim is also to raise awareness of the benefits and risks associated with different types of financial products and services, and in achieving this, special attention is paid to the protection of the collective interests of users of financial services through supervisory and regulatory action. Contributions to the debate on reputation in the banking sector are reflected in innovations that have a strong impact and numerous benefits in the operations of banks in the modern financial market.

**Keywords:** financial market, banks, innovations, products and services, clients, risks.

**JEL classification:** O16, O43

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## Technological Change and Economic Growth

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### Abstract

Economic growth is one of the most intriguing areas of economics. The foundations of the theory of growth go back to the very beginning of economic science, but it experienced a significant development only in the second half of the 20th century. While scientists agree on basic factors of growth, many questions remain unanswered. This paper provides an overview of the literature on economic growth models in which technological progress plays a key role. Technological progress as the basis of economic growth forms a significant part of theoretical and empirical work in this field. Schumpeter's model of creative destruction and Romer's model of growth stand out in the numerous papers on the topic. These models are described in this paper. Also, an overview of empirical research based on these models is made. Romer's growth model belongs to the category of endogenous models in which long-term growth based on endogenous variables is possible. At the same time, Schumpeter's model of creative destruction, in which innovation plays a major role, is developed.

**Keywords:** economic growth, endogenous model, technological change, innovation, creative destruction

**JEL classification:** O33

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# The Analysis of Activities on Social Networks Facebook and Twitter of Diplomatic and Consular Missions of the Republic of Croatia in the Year 2020

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## Abstract

Social media have become a necessary tool in personal and professional communication in all spheres of life, including diplomacy. Diplomatic communication, in the era of new technologies, has transformed and developed into digital diplomacy, which does not mean that the forms of classical (traditional) diplomatic communication are completely abandoned. New technologies have also resulted in changes in political communication in which even the highest state officials are active on social networks, making them one of the most frequently used communication channels through which they communicate directly and often very intensively with the public. Using the functionally deductive approach, several methods were used in order to obtain relevant data. Due to a relatively small sample, the way of using social networks by Croatian diplomatic and consular missions was qualitatively researched—the research focusing on the social networks Facebook and Twitter in the year 2020. The description method was used to describe the relevant paradigm, similarities and common features were investigated using the comparison method, while statistical methods were used to numerically and graphically present research results.

**Keywords:** social media, digital diplomacy, Facebook, Twitter, diplomatic and consular missions of the Republic of Croatia

**JEL classification:** F53, F55, H11

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# The Benefits of Enterprise Data Warehouse Implementation in Cloud vs On-premises

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## Abstract

When we think about running enterprise applications on-premises, enterprises do two things for their servers, databases and storage. Enterprises provision for peaks and put a lot of infrastructure in place to handle peak demand, although a lot of this capacity is not used at normal times. The other thing is a few different instances that each application needs to have, typically between five and six instances. Multiplying this number by many times due to various applications causes a lot of costs and creates capacity that is not used. For such reasons, the enterprise applications in the cloud seem reasonable. In the cloud, two things are possible again. Instead of overprovisioning for peaks, enterprises can scale the capacity on on-demand and spin up instances on demand. This means a certain amount of cost-saving by being able to run at a normal level instead of overprovisioning. In this paper, various factors will be considered, and the benefits for enterprise data warehouse implementation in the cloud vs on-premises will be stated.

**Keywords:** cloud, on-premises, enterprise, application, data warehouse.

**JEL classification:** D80

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## The Change of Consumer Demand and Service Supply in Tourism During the COVID-19 Pandemic

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### Abstract

The COVID-19 pandemic is a defining global health crisis of our time, affecting all sectors of the economy. It has caused the most severe damage in the areas of tourism and hospitality. The current crisis has led to the emergence of new consumer needs, which had to be satisfied by tourism providers quickly. This rapid change came along with the drastic decline in the demand for certain services, resulting in the emergence of new or previously atypical services in the sector. In such situations, fast response and good adaptation skills are crucial in order to succeed. Therefore the service providers have to be well-prepared. The aim of the study is to analyse the consumer needs developed during the coronavirus crisis and the resulting rearrangement of the tourism service supply. The provided information and the conclusions can help the management, professionals and other leaders in the field of tourism and hospitality in the decision-making process during similar crises in the future.

**Keywords:** tourism industry, COVID-19 pandemic, new consumer needs, tourism service providers

**JEL classification:** Z30 Tourism Economics

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## The Impact of Blockchain Technology on Food Waste Management in the Hospitality Industry

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### Abstract

This paper examines blockchain technology and food waste management in the hospitality industry. Food waste prevention is an important issue for hotels, as food consumption is difficult to estimate, often leading to huge amounts of waste. Food waste occurs at each stage of the food supply chain and represents a big percentage of hospitality waste. Although many studies examine the difficulties of food waste management, only a limited number of studies examine the stages of food waste inside food supply chains. The coordination of food supply chains can be supported by blockchain technology, which can break the supply chain into smaller parts and help managers to better mitigate food control. To address these issues, this paper conducts an extensive literature review, firstly to clarify the concept of food waste management in the hospitality industry and secondly to examine the benefits of the use of blockchain technology in food supply chains. Combining the obtained knowledge, this study aims to analyse the relationship between blockchain and food waste management practices. It also aims to examine how this combination boosts hotels to increase their performance and gain customers' loyalty. Therefore, this paper analyses food waste management in the hospitality industry, makes propositions on how blockchain technology could support food waste management in the food supply chain and forms the base for future research.

**Keywords:** blockchain technology, sustainable development, food supply chain, food waste management, hospitality industry

**JEL classification:** Z32

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# The Impact of Digital Marketing and Digital Transformation on Brand Promotion and Brand Positioning in Kosovo's Enterprises

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## Abstract

Digitalization is very important for every company in today's fierce competition. The development of Information Technologies has helped companies to change means of reaching their clients and to change their working practices. The paper tries to assess digital marketing (DM) and digital transformation (DT) techniques that have an impact on enterprises in Kosovo in the process of their brand promotion and brand positioning using google analytics, social media, e-commerce, search engines, mobile apps, or other digital channels. DT is profoundly important to every company, yet the correlation between DT, brand promotion, and brand positioning for Kosovo's enterprises has not been researched a lot. With the DT, many companies are redefining business procedures and their marketing strategies. The research will collect data using a survey with up to 150 companies generated by the Kosovo Business Registration Agency. Partial Least Square is used to analyse the collected data, and Structural Equation modelling is used to assess the relationship between exogenous and endogenous variables used in the research proposed model. A moderation effect is used to test whether COVID-19 or the size of the company is linked to the usage of DM and DT. The results are expected to reveal that DM and the digitalization process of enterprises affect brand promotion and brand position. The findings also imply that social media are widely used relative to other marketing channels, and companies that use DM and invest more in technology have better chances to promote and position their brands.

**Keywords:** digital marketing, digital transformation, brand positioning, brand promotion, Kosovo

**JEL classification:** M30; M31

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# The Impact of Participation in Service Company's Socially Responsible Activities on Employee's Affective Commitment

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## Abstract

Employees' perspectives of the company's social responsibility (SR) and the company's SR impact on employees have so far been given little attention in research. The existence of this gap is surprising since it is well known to what extent employees affect overall companies' results. They have a crucial role in SR activities implementation, so it is important for the management to carefully define employees' roles in SR activities implementation. This paper explored the influence of employees' participation in SR activities on their affective commitment to service companies. The main hypothesis was that participation in SR activities has a significant positive impact on employees' affective commitment. The goal was to show that employees who participated in SR activities were more committed than employees who did not participate in SR activities. The data were collected through a questionnaire and analysed using descriptive statistics, independent-samples t-tests, and one-way ANOVA. The results showed that there were no statistically significant differences in the level of affective commitment between employees who participated in SR activities and those who did not participate in them. Less than half of respondents participated in SR activities, so a suggestion for managers was to share the positive experience of participation in SR activities and invite employees to participate more.

**Keywords:** employees, social responsibility, affective commitment

**JEL classification:** M14, M51, M54

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# The Impact of Social Media Marketing on Purchase Intention in a Transition Economy: The Mediating Role of Brand Awareness and Brand Engagement

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## Abstract

The study aimed to investigate the impact of social media marketing on purchase intention among consumers in Kosovo as a transition economy. The survey research has been conducted with a sample of 334 respondents in Kosovo, using an online survey tool for response collection. Structural equation modelling was used for assessing the proposed theoretical model. The bootstrapping technique was used to test the hypotheses and the mediating effects of brand awareness and brand engagement. The findings revealed a positive indirect impact of social media marketing on purchase intention and a full mediating effect of brand awareness and brand engagement in the relationship between social media marketing and purchase intention. The contribution of this study is that it provides insights into the impact of social media marketing on brand awareness, brand engagement, and purchase intention in transition economies. Moreover, it highlights the impact of social media marketing on enhancing brand awareness, brand engagement, and purchase intention in emerging economies in general and in particular in Kosovo. On a practical level, research results provide customers' insights relevant for designing effective social media marketing strategies for their potential prospects in transition economies.

**Keywords:** social media marketing, brand awareness, brand engagement, purchase intention, transition economy

**JEL classification:** M30; M31

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## The Impact of the COVID-19 on Sustainable Tourism

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### Abstract

The pandemic has highlighted serious sustainability issues in many sectors across the globe. This was particularly significant in the field of tourism. Mass tourism has become one of the most environmentally unsustainable sectors of our time. The field of tourism and hospitality admittedly are the most affected by the COVID-19 pandemic. However, just like any crisis situation, the corona crisis provides an opportunity for market players for a better and more effective rebuild. Promoting green and digital transition and social responsibility is essential to achieve the sustainability turn. In many cases, the crisis has accelerated this process and led to the development of innovative solutions and the integration of sustainability activities in several companies. In the present study, we examine how the epidemic has affected the sustainability and CSR activities of the accommodation providers. The recommendations based on the collected good practices and their analysis can effectively help decision-makers and professionals in the accommodation service to operate in a much more sustainable manner.

**Keywords:** tourism industry, COVID-19 pandemic, sustainability, social responsibility, accommodation providers

**JEL classification:** Z30 Tourism Economics, Q01 Sustainable Development

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# The Importance of Quality Cost Management in the Hotel Industry

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## Abstract

This study explores the characteristics of managing quality costs in the hotel industry. The research aims to ascertain to what extent managers of Croatian hotels recognise and evaluate the role of quality costs in making strategic business decisions. The accounting function provides the methodological base for recording all relevant costs in the business system and the effects of investing in quality. Thus this study endeavours to provide a better understanding of how the cost management principle can impact the quality of a hospitality product or service. Empirical research has been carried out on a sample of hotels from around Croatia. The following hypotheses have been set and tested: "It is possible to impact the product or service quality, i. e. the result achieved in hotels through incorporating the principle of quality cost management." The methods of descriptive and inferential statistics have been used in the paper. Finally, it can be confirmed that the systems of quality management and the accounting systems of monitoring all the costs and reporting are indispensable tools of managerial accounting, crucial for managing hotels in the ever-demanding market and competition.

**Keywords:** quality costs, hotel industry, quality management

**JEL classification:** M11, L15, D24

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## The Influence of Public Support for Innovations on the Economic Performance of Enterprises

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### Abstract

The aim of the paper is to assess how public support for innovation activities influences the economic performance of Czech companies. In the framework of the research, attention was paid to more than 600 Czech companies that received support to start their innovation activities. The analysis was performed on the case of the Innovation Program, which was co-financed by the European Regional Development Fund. The Innovation Program is the largest Czech program for innovation support and mainly supports the launching of technological innovations in practice. The detailed analysis included 214 defined enterprises, for which all necessary information was available. The research analysed the turnover of companies before obtaining support and after the implementation of the project. The research results show how the grant affects different size categories of enterprises and how the effect of the aid varies across sectors of the national economy.

**Keywords:** innovation, enterprise, public support, business performance, Czech Republic

**JEL classification:** O31, O38

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# The Potentiality and Feasibility of Auction Design in the Renewable Energy Market of a Developing Country-the case of Bangladesh

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## Abstract

Witnessing the harmful consequences of climate changes, quite many polls reflect the transformation of power generation from fossil fuels towards renewable energy. Prioritizing this dynamism, adaptability of the support mechanisms is required to maintain a steady and lucrative congenial atmosphere for investments in the renewable energy sector while confirming the durable trustworthiness in the energy system in an economical method. In this context, auctions are gaining remarkable momentum, even being the dominant strategy, either on their own or in collaboration with supplementary trials, for offering inducements for the positioning of renewable energy. The wide expansion of the auction is striking: merely six states accepted Renewable Energy Sources (RES) auction in 2005, and at least 84 states adopted this tool by 2017. The present study aims to reveal the potentiality of the auction mechanism in a RES-promised developing country. The research outlines the feasibility of the suggested auctioning scheme, together with potential benefits of the country, highlighting some country-specific empirical evidence. For this purpose, qualitative research has been conducted to develop an auctioning model for the country. The results indicate that for an emergent state rich in RES, a systematic auctioning scheme with socio-economic development instruments under qualification requirements ensures diverse paybacks.

**Keywords:** renewable energy, auctioning scheme, socio-economic development, qualification requirement, paybacks

**JEL classification:** Q42, Q48, Q49

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## The Way Towards Successful Communities – Social Innovation Perspectives

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### Abstract

The existence of the globalised world and the information-knowledge networks and the ever-faster digitalisation, and the technical development helped not only the technical development but also the advance of its “human” version, as well as the enhancement of social innovations. While the term frameworks and models of traditional innovation have been clarified over the last years, several researchers turned their attention to the social aspect of innovation which still bears major challenges. The countries of Europe can realise that social innovation has a central position in the development of society. Therefore there are several examples of countries creating an organisational and steering framework, which can be interpreted on a system-level, for coordinating the research of the area, the accessibility of results and the establishment of best practices. The Social Innovation National Laboratory was launched in 2020 in Hungary with the aim to create a focused framework system providing a legal and financial background to develop the social innovation environment and its systematic management. This provides the opportunity to complement economic and technological processes with social questions. The Laboratory was implemented in wide-range cooperation with the involvement of the major universities of the country, the local governments and the civil sector. The central task of the National Laboratory is to measure the social innovation needs and focus areas, to collect them into a unified system and to create thematic focus groups focusing on various areas. This paper is a summary, but it also wishes to become a preparatory material of this extremely important community initiative.

**Keywords:** social innovation, successful communities

**JEL classification:** O30, O35, O33

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## Tourism Demand Forecasting: The Case of Međimurje

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### Abstract

Tourism has a key role in fostering economic growth and employment in the Croatian economy. Although the first image that comes to our mind when we think of tourism in Croatia is a sunny beach and our beautiful blue sea, lately there has been an increasing demand for rural tourism. Međimurje County is one of those destinations that emerge as a high-quality rural destination with very significant growth potential. In this paper, we develop a model of tourism demand for Međimurje. The model we develop will enable us to do demand forecasting. Demand forecasting methods can be divided into qualitative and quantitative methods. Quantitative methods are time series models and econometric models. Econometric models differ from time series in identifying the causal relationships between variables. Time series models mostly rely on the Box and Jenkins autoregressive integrated moving average (ARIMA) or the seasonal ARIMA (SARIMA) methodology. For the purpose of this paper, we will employ a time series model.

**Keywords:** tourism, demand, Međimurje, forecasting, time series model

**JEL classification:** C22

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## Firm-level Inefficiency in Post-transition Economies

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### Abstract

Firms in post-transition economies are frequently considered less efficient than those in more advanced market economies. By relying on the World Bank Enterprise Survey for the year 2019, firm-level technical inefficiency is estimated by the stochastic frontier analysis method for a sample of European post-transition countries. To be precise, the analysis included Albania, Bosnia and Herzegovina, Croatia, Czechia, Estonia, North Macedonia, Poland, Serbia and Slovenia. Furthermore, the factors contributing to the firm-level inefficiency are explored in a comparative setting. The effects of the international orientation of the firm, foreign ownership, doing business with the government sector, presence of informal competitors, innovation activity, manager experience and the age of the firm on the technical inefficiency are estimated. Results show that although some factors are common to a subsample of countries, not a single factor is significant in all the analysed economies.

**Keywords:** firm inefficiency, post-transition economies, stochastic frontier analysis

**JEL classification:** D29, L25

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## Visualisation of Perception of Experiential Activities in Business and Administration and Economy

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### Abstract

This paper explores how to incorporate information visualization tools into qualitative studies to represent the underlying structure of knowledge. Information visualization plays a key role in many areas such as decision-making, data mining, market studies or knowledge management. A case of experiential learning was developed for Quantitative Techniques in Business and Administration and Economy Degrees at the University of Granada, Spain. The goal is to analyse the opinion of students ( $n = 227$ ) on the development of the activity through information visualization techniques. The gathered information was subjected to a categorization process to unify and homogenize the responses. After a term-clumping process, a co-word analysis using the VosViewer software is used to analyse the relationships among terms and provide the network maps. Results display the main associations and clusters of terms used when assessing the experiential activity, using qualitative techniques. In conclusion, the strengths of data visualization enabling a better understanding of data for qualitative studies are established.

**Keywords:** information visualization, term-based method, experiential learning, knowledge, quantitative techniques.

**JEL classification:** A22, C88, Y91

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## Website Design and Trust Elements: A/B Testing on a Start-up's Website

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### Abstract

Start-ups are young companies that are hardly known, especially during their early stages, by the relevant stakeholders. A start-up's website is, therefore, often the first point of contact for potential customers, investors, or partners. Such a website usually explains the new product or service and presents the founding team with its competencies. The user's perception of the website and its design can be crucial in determining whether the user is interested in getting in touch with the start-up or even considering the purchase of the respective product or service. User's trust in the website and its operator is essential for this. The so-called trust elements, such as logos, testimonials, or seals, are intended to create trust on websites. So far, the influence of these elements on user behaviour has hardly been empirically proven in a real-life context. Therefore, we have applied the method of A/B testing to the website of a fictive start-up. Trust elements were placed on one variant of the website (A), whereas on the other variant, there were none (B). The experiment shows that the duration of the user sessions does not differ between the two variants. However, more requests were made on the website variant with trust elements.

**Keywords:** website design, e-trust, online trust, e-commerce, A/B testing

**JEL classification:** L26, C99

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