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Faculty of Engineering Economics and Management

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ENTREPRENEURSHIP SCEE'2024**

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“BUSINESS ENGINEERING, ECONOMICS, FINANCE AND MANAGEMENT”

ENHANCING CYBER RESILIENCE IN SMES: KEY FACTORS DRIVING SUSTAINABLE DIGITAL TRANSFORMATION

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Abstract. Nowadays, it is impossible to imagine companies functioning without completely digitalizing all business processes. Digital transformation is crucial for the growth and sustainability of small and medium-sized enterprises (SMEs), making cyber resilience a critical issue. Given that cyber threats to SMEs evolve as fast as digital transformation, maintaining a robust cyber resilience that rapidly responds to evolving risks has become as crucial as addressing cybersecurity. The main research question is: What are the key factors influencing the cyber resilience of small and medium-sized enterprises (SMEs) during their sustainable digital transformation process? Reviewing existing literature, the study identifies technological, organizational, external, and economic factors as the main drivers of SME cyber resilience. The study employs a systematic, content-based literature review approach.

Keywords: *Cyber Resilience, Digital Transformation, Cybersecurity, Business Processes, SME*

JEL Classification: L86, O32, D81

STEWARDSHIP REVISITED

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Abstract. This study revisits the concept of stewardship across various professional and academic fields, with the aim of identifying its fundamental elements and characteristics. Employing qualitative content analysis with the objective of inductive category development, the study systematically examines over 90 sources from heterogeneous fields including corporate and public sector governance, environmental management, medicine, and cultural preservation. Our inductive process, allowing categories and themes to emerge organically from the data, resulted in a comprehensive framework of stewardship comprising 8 fundamental elements and 28 sub-elements or characteristic components. The fundamental elements are: (1) Nurturing, (2) Efforts to achieve sustainable performance, (3) Engagement in the processes of governing, (4) Engagement with others to align interests, (5) Being in service to others, (6) Guardianship, (7) Accountability and responsibility, and (8) Providing mutual trust in relationships. "Nurturing" emerged as the most frequently occurring element, encompassing sub-elements such as consideration of others' interests, transformation, caring, obtaining benefits for others, and creating long-term value.

The framework moves existing understandings of stewardship forward, allowing them to be adapted to more diverse contexts, and contributes to both its theoretical conceptualization and practical implementation. At the same time, the findings of our inductive analysis challenge traditional views of stewardship as being primarily a collection of behaviors and actions, instead showing it as a continuum, where states of mind come into play. While existing literature does acknowledge tensions caused by contextual factors such as accountability structures and governance mechanisms, and the influence of mutual incentives, our findings suggest a more integrated and dynamic role for these elements, highlighting their critical influence on stewardship practices in diverse settings. As a result, stewardship should be viewed on a spectrum, where drivers of individual and organizational stewardship are not static or solely internally focused but are continuously shaped by external and relational factors.

Keywords: *Stewardship, Qualitative Content Analysis, Governance, Sustainability, Stakeholder*

JEL Classification: D23, G34, L21, M14

REDEFINING WORKPLACE EFFICIENCY: HOW REMOTE WORK TRANSFORMS PRODUCTIVITY

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Abstract. The rapid rise of remote work, particularly accelerated by the COVID-19 pandemic, has fundamentally transformed how organizations operate globally. While remote work has existed for decades, it is now more prominent, with many companies adopting hybrid or fully remote models as permanent solutions. This paper explores the various forms of remote work, including telework, e-working, and smart working, and their application across different countries. A key focus is placed on the impact of remote work on employee productivity, considering both the positive and negative outcomes. Research suggests that remote work enhances flexibility and autonomy, often improving productivity by eliminating commuting time and reducing office distractions. However, social isolation, communication barriers, and work-life balance persist. Cross-country analyses indicate that nations like the USA, China, and the UK lead in remote work research, while Italy, Spain, and Germany contribute significantly within Europe. The paper also highlights the role of digital transformation in facilitating productivity through technological innovations and mixed productivity outcomes in various industries. As hybrid work models become more prevalent, further research is needed to examine the long-term effects on employee performance, well-being, and organizational dynamics.

Keywords: *Remote Work, Productivity, Digital Transformation, Employee Well-Being, Work-Life Balance*

JEL Classification: M14

DIGITAL PLATFORMS: FUTURE BUSINESS MODELS

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Abstract. Digital platforms are revolutionizing the business landscape, offering new ways for organizations to create, deliver, and capture value. These platforms, characterized by network effects, scalability, and data-driven interactions, have become the foundation for some of the world's most successful businesses. Platform-based business models will continue to disrupt traditional industries and reshape the competitive environment. The authors will explore the critical elements of digital platforms, such as the role of network effects, the importance of governance, and the complexities of managing multi-sided markets. The authors will discuss the challenges companies face in transitioning to platform-based models, including regulatory issues, the risk of disintermediation, and the need for constant innovation. By examining real-life examples, the authors will provide an overview of the strategies businesses can adopt to leverage digital platforms successfully. Authors argue that embracing platform thinking is crucial for organizations aiming to remain competitive and thrive in the rapidly evolving digital economy.

Keywords: *Digital Platforms, Business Models, Digital Economy, Platform Thinking*

JEL Classification: M10, O30

IDENTIFICATION AND ASSESSMENT OF FACTORS OF SUSTAINABLE DEVELOPMENT FOR AGRICULTURE INDUSTRY COMPANIES IN AZERBAIJAN

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Abstract. In this study, the role of sustainable development in the agricultural sector of Azerbaijan is focused on the investigation of the factors affecting its implementation. The study aims to identify and evaluate factors influencing sustainable practices in agriculture, which plays a key role in the non-oil sector of Azerbaijan's economy. As a research method, a mixed method approach is used in accordance with the qualitative and quantitative method. According to the qualitative method, a literature review is conducted and previous studies relevant to this topic are examined, as well as in-depth interviews with 8 experts working or researching in the field of sustainability and agriculture are conducted, and based on their opinions, more information about the topic and the current situation is obtained. According to the quantitative method, the statistical data related to Azerbaijan's agriculture are reviewed, and 112 responses are analyzed with an online survey to clarify the influencing factors. As a result of the research, it is noted that the identified factors: social norms, society's expectations, financial factors, investment attractiveness, subsidy policy, environmental regulations, international market requirements, science and technology achievements affect the implementation of sustainable agriculture in Azerbaijan. Regression analysis is used to examine the influence of these factors in implementing sustainability in agriculture. At the end, suggestions are put forward regarding the formation of the government's policy of transition to sustainable development and promotion of sustainable activities of enterprises.

Keywords: *Agriculture, Azerbaijan, Sustainability, Sustainable Development*

JEL Classification: Q01

IMPROVEMENT OF EFFECTIVE FORMS OF MANAGEMENT IN THE DEVELOPMENT OF THE HOTEL BUSINESS IN AZERBAIJAN

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Abstract. The economic policy regarding the development of tourism carried out by the state in Azerbaijan in recent years does not coincide with the management experience of local tourism enterprises. Entrepreneurs operating in the tourism business prefer short-term rather than long-term goals and do not consider the real opportunities of local and foreign tourists, preventing the improvement of management in this area. In the conducted research, the current and alternative forms of management in the development of hotel-tourism business in Azerbaijan were analyzed, and suggestions and recommendations were given by the author regarding the improvement of effective forms of management in order to improve this sector. Throughout the research, a more qualitative method was preferred, surveys were conducted within local companies. The relevance of the topic was justified, the main goals of the research were explained using the induction method. The suggestions and recommendations written in the article will be useful for economists and specialists who investigate effective management in the tourism sector, especially the directions of application of optimal management in the hotel business.

Keywords: *Alternative Economic Measures, Business Plan, Diversion of Revenues, Economic Policy, Hotel Management, Liberal Economic Reforms, Regulation of the Economy, Tourism Sector*

JEL Classification: F63, L21, L83, M12, Z32

THE DEVELOPMENT OF METHODOLOGY OF CREATING A MASCULINE BRAND PERSONALITY

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Abstract. Quantitative research and secondary data sources confirm the significance of understanding masculinity and focusing on it as a concept in the process of creating a brand personality and finding the right advertising message to communicate that masculine brand personality to the audience. However, while researchers and branding professionals agree that masculinity is important in building brand personality, there currently is no methodology or theoretical model of brand personality that includes this vital concept. The most common theoretical frameworks when it comes to brand personality are brand personality dimensions and brand archetypes, both of these models the author has analyzed in prior research. Since such a methodology of brand personality that includes the concept of masculinity does not exist, and since branding and advertising professionals have expressed to the author the necessity of understanding how to depict men in their advertisements in a way that would resonate with the audience, the author of this this research decided to develop a methodology of creating a masculine brand personality. The methodology includes crucial activities that the brand strategists must make, such as analyzing the brand, analyzing the audience, analyzing the competition, developing the new masculine brand personality, choosing the communication channels and assessment. The methodology consists of seven steps and are described in detail in author's Doctoral thesis. The developed methodology was assessed and integrated into three Latvian companies to strengthen their brand's growth and appeal.

Keywords: *Brand Personality, Advertising, Marketing, Communication, Masculinity, Methodology*

JEL Classification: M37, M31

ASSESSMENT OF THE EUROPEAN UNION STRUCTURAL FUNDS MANAGEMENT SYSTEM IN LATVIA TOWARDS CLIMATE GOALS ACHIEVEMENT

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Abstract. The European Green Deal, one of the cornerstones of climate action of the European Union (EU), defines the goal of making Europe the first climate-neutral continent by 2050, also promoting biodiversity and the transition to a circular economy. To achieve these climate goals, the EU has developed several support mechanisms for its member states. The EU's structural funds are considered to be one of the strongest support mechanisms, providing significant financial aid to Member States to implement climate-related projects and ensure transition to a more sustainable economy. The purpose of the study is to develop proposals for improving the structural fund management system in Latvia for more efficient achievement of the climate goals, based on the three dimensions identified – trends of the main climate and funds-related indicators, level of the centralization of the management system, identified issues and risks in implementing projects co-funded during the Multiannual Financial Framework 2014-2020. The use of the Cohesion Fund per inhabitant in the EU member states confirms that less economically developed regions tend to receive a higher proportion of funding to support infrastructure and reduce disparities in economic development. The comparison of the centralized and decentralized system of managing European Union funds indicates that lower level of centralization may contribute to faster achievement of climate goals in lagging behind regions within Member State. To ensure an appropriate decision-making process at the government level in relation to climate it is essential to acknowledge the disparities within country and adapt its policy to minimize them.

Keywords: *Climate Goals, European Union Structural Funds, Management System, New Green Deal*

JEL Classification: F63, O11, O38

NATIONAL CURRENCIES IN THE EU: CHALLENGES AND OPPORTUNITIES BEFORE THE DIGITAL EURO

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Abstract. This research paper focuses on the challenges and opportunities of the European currency – the Euro, and how a country's currency's value may influence the economic processes, such as inflation, exports and overall wealth of the country's inhabitants, in the case of Latvia. The authors analysed that as the national currency lost its value, so did the country's consumer price index or CPI, while an increase in currency's value showed an increased CPI. An opposite effect can be seen when analysing net exports – a decrease in the national currency's value creates a bigger demand for the country's goods, thus boosting exports, with the opposite being true for imports. The study's survey provided great insight into currency users' minds and ideas about the usage of an international currency, with most of the respondents admitting that the transition to the widely used euro gave them many advantages and opportunities, and mostly helped Latvia's economy and well-being. This study concludes that the national currency is an invaluable aspect of not only a country's economy but also its culture, and history. The paper suggests that before any changes are made, the institutions in charge must analyse and cooperate with the country's inhabitants to change the future of the country for the best. The study also deduced that the general knowledge of the digital euro is insufficient for successful implementation in the future. The paper may be used as a basis for future research regarding national and digital currency and their effects on society's welfare.

Keywords: *Currency, Digital, Export, Inflation, Welfare*

JEL Classification: E01, E42, E61, C83, I31

CONCEPTUAL FRAMEWORK TO DETERMINE THE EFFICIENCY OF ISLAMIC BANKING

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Abstract. This paper is to demonstrate how the efficiency of Islamic Banking (IB) is determined based on different types of efficiencies, including the technical, allocative, operational, profit, cost, financial, regulatory, market, scale, dynamic, compliance, reputational, and governance efficiencies. The conceptual framework of IB efficiency is constructed in three parts. Part 1 reflects the general concept of efficiency, while Part 2 focuses on different types of efficiencies of banks and IB. Part 3 gives insight into the interconnections between/among different types of IB efficiencies, disclosing the methodology of their measurement. Depending on the type of analysis of the IB efficiency, the approaches of their measurements could vary - from traditional to parametric and non-parametric. The traditional approach for measuring efficiency refers to the use of financial ratios, while the parametric approach requires Stochastic Frontier, Thick Frontier and Distribution-Free methods. As for non-parametric approach, it uses Data Envelopment Analysis (DEA) to measure efficiency. Moreover, DEA is the most common method to measure banking efficiency. The paper also concludes that the intermediation approach is the most common one used to recognise the appropriate input and output variables.

Keywords: *Bank Efficiency, IB Efficiency, Types of Efficiency, Measurement, Traditional Approach, Parametric Approach, Non-Parametric Approach*

JEL Classification: G21, G24

EARLY EVIDENCE OF LATVIAN LARGE ORGANISATIONS' READINESS FOR REGULATORY SUSTAINABILITY REPORTING

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Abstract. In September 2024, the EU Corporate Sustainability Reporting Directive (CSRD) was transposed into the Latvian Sustainability Information Disclosure Law (Law). The law introduces new requirements for 296 large organisations to include a sustainability report (SR) prepared in accordance with European Sustainability Reporting Standards (ESRS) as a part of their management report in the annual report. The aim of this research is to understand the market readiness to ensure ESRS reporting. Thus, early in 2024, which is the first reporting year, the author performed the interpretive field study by conducting twelve semi-structured interviews with SR experts. The results revealed that data availability and quality are the main challenges when preparing the ESRS report. Experts suggested that ESRS reporting requires the introduction of regular sustainability accounting as an extension of conventional accounting and building enhanced sustainability data analytics for evidence-based decision-making. Conclusions show that to establish a transparent and cohesive approach to ESRS reporting, it is necessary to have an automated sustainability reporting system that embraces an assemblage of organisational sustainability and digitalisation. The recommendation for the management is to start early preparation and build robust internal big data analytics capability to guarantee the most cost-efficient approach to ESRS reporting.

Keywords: *Big Data, Digitalisation, Sustainability Accounting, Sustainability Reporting, iXBRL*

JEL Classification: M14, M10, L21

THE ANATOMY OF CONFLICT: KEY DRIVERS OF DESTRUCTIVE DISPUTES IN CORPORATE ENVIRONMENTS

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Abstract. This research investigates the key drivers of destructive conflicts in corporate environments, focusing on factors such as poor communication, role ambiguity, personality clashes, and inadequate conflict resolution mechanisms. The study aims to identify both the root causes and the solutions to mitigate conflict within organizations. Using a mixed-method approach, this research combines qualitative interviews with corporate managers and employees, alongside a quantitative survey to assess conflict levels, causes, and outcomes in various industries. Data were collected from over 200 employees in mid-sized to large companies. The results confirm that poor communication is the most significant driver of conflict, with over 65% of respondents reporting that misunderstandings and unclear instructions lead to workplace disputes. Role ambiguity was another major factor, especially in fast-changing environments, leading to confusion and competition among employees. Additionally, personality differences, when unmanaged, contribute to long-lasting interpersonal tensions. Lack of formal conflict resolution processes often allows minor disputes to escalate into destructive conflicts, reducing organizational productivity and morale. The study concludes that proactive conflict management strategies are essential to maintaining a harmonious work environment. Recommendations include improving communication channels, defining clear roles and responsibilities, promoting a positive and inclusive work culture, and implementing formal conflict resolution mechanisms. By addressing these key areas, organizations can reduce the occurrence of destructive disputes and foster a more collaborative and productive workplace. These findings highlight the critical role of leadership in conflict prevention and resolution.

Keywords: *Conflict Resolution, Destructive Conflict, Leadership and Mediation, Personality Differences*

JEL Classification: M1, M12

IMPACT OF SOCIAL MEDIA ON EMPLOYER BRANDING AND ATTRACTIVENESS FOR GENERATION Z JOB SEEKERS IN SRI LANKA

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Abstract. This research investigates the impact of social media on the application intentions of the Generation Z job seekers in Sri Lanka, with a focus on employer branding and employer attractiveness. While previous studies have examined social media's role in employer branding, its specific influence on Generation Z remains underexplored. This study aims to address this gap by examining the influence of social media on employer branding and attractiveness among Generation Z job seekers in Sri Lanka. Data was collected through a quantitative online survey, using a non-probability convenience sampling method. The findings revealed a positive correlation and a significant impact of employer branding and employer attractiveness on the job application intentions of Generation Z based on the information availability on social media.

The research findings highlight that Generation Z relies heavily on social media when evaluating potential employers, demonstrating its highly significant influence. This comprehensive study provides an actionable guideline with recommendations for organizations to effectively attract and retain Generation Z talent by adapting their employer branding on social media. It also emphasizes the positive correlation between employer branding and job application intentions, encouraging companies to cultivate a strong positive online brand image to appeal to the Generation Z job seekers. Tailoring recruitment efforts to the social media platforms preferred by Generation Z is a key recommendation for effective online recruitment campaigns.

Keywords: *Application Intention, Employer Attractiveness, Employer Brand, Generation Z, Social Media*

JEL Classification: M31, M37, M51

THE IMPACT OF FLEXIBLE WORKING ARRANGEMENTS ON EMPLOYEE ENGAGEMENT IN E-COMMERCE

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Abstract. The rise of Flexible Working Arrangements (FWAs) has transformed modern workplaces, particularly within the fast-paced e-commerce sector. E-commerce refers to businesses that conduct buying, selling, and commercial transactions online, operating in a highly competitive and innovative environment. While FWAs, such as remote work, flexible hours, and hybrid models, offer increased autonomy and work-life balance, their effectiveness in enhancing employee engagement remains unclear. This research addresses this gap by exploring the relationship between FWAs and employee engagement, focusing on the e-commerce industry where the pace of innovation and competition is particularly intense. This research aims to develop a framework for e-commerce companies to implement FWAs in ways that maximize both employee engagement and organizational performance. It builds on theories such as Self-Determination Theory (SDT) and the Job Demands-Resources (JD-R) Model to analyze how FWAs influence employees' motivation, job satisfaction, and emotional commitment to their roles. This research adopts a mixed-methods approach, combining qualitative and quantitative data collection. Data were collected through surveys administered to employees in e-commerce organizations, focusing on their experiences with FWAs and how these arrangements impact their engagement levels. Additionally, semi-structured interviews with HR professionals and managers were conducted to gain deeper insights into the challenges and benefits associated with implementing FWAs. The analysis is framed by Self-Determination Theory (SDT), which emphasizes the role of autonomy in fostering intrinsic motivation, and the Job Demands-Resources (JD-R) Model, which examines how job demands and resources influence employee well-being and engagement. Quantitative data were analyzed using descriptive statistics, while qualitative data were processed through thematic analysis to identify recurring patterns and insights. Preliminary findings suggest that FWAs positively impact employee engagement by offering increased autonomy and improving work-life balance, both of which are central to the Self-Determination Theory. Employees working under flexible arrangements reported higher levels of job satisfaction and emotional commitment to their roles. However, the results also highlight several challenges. Organizations with weaker leadership and less structured communication processes faced issues of isolation among employees, leading to reduced engagement. Successful implementation of FWAs requires clear guidelines, strong leadership, and a supportive organizational culture to mitigate the risks of disengagement due to isolation or miscommunication.

Keywords: *Flexible Working Arrangements (FWAs), Employee Engagement, E-commerce, Remote Work, Hybrid Work Model, Work-life Balance, Job Satisfaction, Autonomy, Organizational Performance, Communication Challenges*

JEL Classification: J28

EMPLOYEE COMMITMENT TO CHANGE: A CATALYST FOR SUCCESSFUL DIGITAL TRANSFORMATION IN ORGANIZATIONS

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Abstract. Digital transformation is relevant today due to the technological changes, accelerating information flow, competitive and disruptive environment. In the financial sector, the need for digital transformation is impacted by the consequences of pandemic, changes in consumer needs, competition, climate change, and increasing number of financial technology start-ups. Digital transformation inevitably requires the implementation of organizational changes. Effective change management are crucial to address resistance and ensure smooth transitions throughout the organization. The commitment of employees to change is considered a necessary condition for the successful implementation of organizational change. The aim of this research is to determine how transformational leadership style, organizational change goals, communication quality, and certainty affect employees' commitment to change. The investigation sheds light on the employee commitment to change in the Lithuanian banking sector. The results of the study demonstrate that transformational leadership style, quality of change communication, clarity of goals, and certainty increase employees' commitment to change and are necessary for successful organizational change implementation. Moreover, transformational leadership style increases employees' commitment to change by acting as a mediator between organizational communication, clarity of organizational change goals, and other information that increases employees' feeling of certainty. The findings provide insights for organizations and managers who want to successfully implement digital transformations and ensure their sustainability by dedicating focus on effective change management through employees' commitment to change.

Keywords: *Certainty, Commitment to change, Digital transformation, Organizational change, Organizational change goals, Quality of change communication, Transformational leadership style*

JEL Classification: M12, M54

EVALUATION OF RELATIONSHIP BETWEEN RISK APPETITE AND ITS IMPACT ON A FIRM'S FINANCIAL OUTCOMES WITH DIVERSITY OF TOP MANAGEMENT TEAM MEMBERS

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Abstract. This study conducted ten in-depth interviews with representatives of large companies. It surveyed 765 companies to find out how the attitude of the risk appetite of senior management teams affects decision-making about financial issues in Latvia. The study focuses on identifying the critical components to develop a mathematical model that relates risk-taking to the economic performance of companies. Quantitative data were analyzed using industry, turnover, firm size, and demographic factors. Future research will integrate these data with firm financial records, highlighting the need for continued analysis in this area. The results show that firms with higher turnover and a larger workforce emphasize risk-taking, while smaller firms remain more cautious. Younger respondents (up to 40) and women showed a greater propensity to take risks than men. Females (77.33%) find risk-taking more critical than males (71.58%). The findings highlight the need for tailored risk management strategies based on company size, industry, and executive demographics. The study concludes that understanding these risk patterns is critical to aligning senior management decision-making with sustainable financial performance. Further research is to be developed.

Keywords: *Risk appetite, Diversity Management, Financial Performance, Organizational Performance, Top Management Teams, Upper Echelons Theory*

JEL Classification: M5

IMPLEMENTING HOLACRACY PRINCIPLES FOR INCREASED EFFICIENCY IN NON-GOVERNMENTAL ORGANIZATIONS.

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Abstract. Holacracy is an organizational management system that moves away from traditional hierarchies by encouraging self-organization and decentralized decision-making (Robertson, 2015). It assumes that employees can exercise self-leadership, take responsibility, and make the best decisions in a given situation. This approach not only increases efficiency but also fosters greater involvement and initiative among employees, giving them a stronger sense of ownership in the organization. The aim of this study is to evaluate how organizations that operate according to holacracy principles are managed and to assess the potential benefits and challenges of its implementation, particularly in non-governmental organizations (NGOs). By surveying employees from companies that have already adopted holacracy, as well as NGOs considering the system, the study seeks to determine whether holacracy significantly impacts company processes and culture. The research will address all key questions and provide conclusions and recommendations that can support NGOs in implementing holacracy. One of the main findings is that the system offers significant benefits thanks to its clear meeting structure and role definitions. Additionally, organizations' team management, faster communication, better time efficiency, responsibility, self-management and team motivation are going to be increased - which especially important for NGOs framework. However, NGOs must be ready to provide support throughout the implementation process and assess employees' readiness for such a fast-paced management system in order to overcome resistance.

Keywords: *Change management, Efficiency, Holacracy, Non-governmental organizations (NGO), Organizational management, Self-organization*

JEL Classification: M12, L22, D23

EXAMINING THE ROLE OF TRUST IN DIGITAL RISK MANAGEMENT PRACTICES

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Abstract. The relationship between trust and risk has been an actual subject of research, highlighting their inherent connection. Regulatory pressure to enhance digital risk management, along with concerns about the effectiveness of current European frameworks, encourages a re-examination of this relationship from a modern, digital perspective.

This study analyses the role of trust in risk management within the digital context through a systematic literature review using the PRISMA methodology. A total of 281 publications were extracted from Scopus and Web of Science databases and analysed in two stages: abstracts and full-text analysis, using pre-defined inclusion and exclusion criteria. As a result, 45 full-text papers (scientific articles and conference proceedings) were included in the final review and analysed using bibliometric and context analysis methods.

The findings indicate that trust in digital risk management plays a crucial role by reducing perceived risks, supporting decision-making under uncertainty, moderating the relationship between risk perception and behavioural intention, and enhancing the effectiveness of risk management frameworks. However, trust in risk management also has a dual nature: it requires continuous verification and evaluation to prevent vulnerabilities, as it may lead to reliance that increases exposure to risks. The study suggests incorporating trust into risk management practices through transparency, open communication, integration into risk assessment models, and implementing trust measurement and guarantees to address its dynamic nature.

Keywords: *Trust, Risk Management, Systematic Literature Review, Digital Risk, Information Security, Cybersecurity*

JEL Classification: M10, M15, D81, G32

VALUE PROPOSITION AND BUSINESS LIFECYCLE IN THE FINTECH SECTOR – CASE OF REVOLUT AND LATVIAN FINTECHS

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Abstract. This research investigates FinTech companies from the perspective of their value proposition and their business models' lifecycle. It will explore how FinTech companies develop their sustainable business models, create innovative offerings, build customer trust, compete with traditional financial institutions, and become part of the financial ecosystem. The authors will do an in-depth case study analysis of Revolut as it exemplifies FinTech Innovation, followed by a comparative analysis to shed light on the above-mentioned factors through the case studies in three subsectors of Fintech sectors which are most profitable in Latvia. These subsectors are Payments, Lending, and Data-KYC-IT. For the in-depth analysis, the authors will focus on and integrate Roger's Innovation Diffusion Theory and De Meyer's Innovation Ecosystem to understand and evaluate FinTech models and develop the Business lifecycle of FinTech.

Keywords: *Business Lifecycle, Business Model Development, De Meyer Ecosystem, Financial Innovation, FinTech, FinTech Ecosystem, Innovation Diffusion, Revolut, Rogers' Innovation Diffusion Theory, Value Propositions*

JEL Classification: O31, M13, O33, G29

SUSTAINABLE CORPORATE VENTURING: HOW DOES IT DIFFER?

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Abstract. Corporate venturing has become an increasingly popular and innovative strategy for corporations seeking to meet their 2050 Net zero targets. Corporations are expected to lead toward creating broader ecosystem value and are of particular interest and weight within the private sector. Corporate venturing serves as a bridge between the innovative potential of startups and the scale and resources of established corporations. This collaboration allows corporations to explore new sustainable technologies and business models with reduced risk and greater agility, ultimately accelerating their sustainability transition. First, the research employs a literature review of key concepts following a comprehensive search in the Scopus and Web of Science databases. Second, it provides qualitative content analysis, resulting in a unique summary of key distinctive categories of sustainable corporate venturing, such as radical innovation, sustainable business models, strategic growth, sustainability-centric culture, and new ecosystems. Additionally, this research has identified gaps in the existing literature, highlighting potential areas for future research on sustainable corporate venturing.

Keywords: *Corporate Entrepreneurship, Corporate Venturing, Sustainability, Sustainability Transition, Sustainable Corporate Venturing*

JEL Classification: G24, L1, L21, L26, M10

THE CHALLENGE OF THE PENSION SYSTEM IN LATVIA

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Abstract. Latvia's pension system consists of three pillars: compulsory state social insurance contributions (pillar 1), state funded pension schemes (pillar 2) and private pension funds (pillar 3). The aim of each pillar is to provide a sustainable and sufficient income for the population after retirement. However, Latvia faces a number of challenges in the context of its pension system:

- Demographic change:
 - Ageing population;
 - Emigration;
- Financial sustainability:
 - Insufficient contributions;
 - Low pensions;
- Efficiency of the system;
 - Administrative costs;
 - Lack of information;
- Political challenges;
 - Need for reforms;
 - Impact of reform on society

It is the political challenges/decisions that have led to discussions on the impact of changes to the pension system both on current pensioners and on future pension levels for current workers. To address these challenges, Latvia needs a holistic approach that includes both short-term and long-term measures to ensure the financial sustainability and social equity of the pension system. This may include measures to manage demographic change, promote economic growth and improve the efficiency of pension governance.

Keywords: *Pension, Pension System, Social Security Tax*

JEL Classification: H20, H30

ENERGY TRANSITION IN LATVIA. HOW TO FINANCE IT?

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Abstract. In accordance with the Paris Agreement of the UN Framework Convention on Climate Change, EU member states, including Latvia, have committed to the EU Green Deal. To meet the established climate objectives, a substantial transformation of enterprises is imperative, focusing on both energy efficiency improvements and the adoption of sustainable energy sources. This research investigates the available financing mechanisms and public support for Latvian companies. The authors conducted interviews with representatives from the financial sector and government administration, surveyed entrepreneurs, and analyzed relevant documents and data.

The findings reveal that the current demand among entrepreneurs for financing energy efficiency measures and the transition to alternative energy sources is lower than the available funding opportunities. Still, in a longer perspective, the availability of sufficient financial resources required to achieve comprehensive climate goals is questionable. Content analysis of the literature and document suggests that, alongside typical funding sources prevalent in Latvia, establishing public-private partnerships is recommended as an alternative source.

Keywords: *Energy Transition, Public Support, Finance, Sustainable Finance*

JEL Classification: O33, O38, G28

IMPACT OF SOCIAL MEDIA MARKETING ON BRAND ENGAGEMENT AND SALES PERFORMANCE OF SRI LANKAN ONLINE SERVICE COMPANIES

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Abstract. The study explores the transformative impact of social media marketing on brand engagement and sales performance within Sri Lankan online service companies. It emphasizes the pivotal role of social media in reaching a broader audience, assessing brand impact, and driving conversions in today's rapidly evolving digital landscape. Through qualitative research methods, including in-depth interviews and content analysis with 12 industry professionals, the study identifies key variables influencing brand engagement and factors affecting online sales performance. Despite literature gaps and resource constraints, the research successfully develops a strategic framework for optimizing both aspects. Notably, the findings underscore the significance of personalized engagement, content quality, diverse marketing platforms, and AI-powered tools for campaign efficacy. Moreover, the study highlights the importance of audience targeting, advertising effectiveness, social media analytics, trend utilization, and AI integration in driving brand engagement and sales. Recommendations include prioritizing content quality, leveraging AI for social media marketing, mobile optimization, and effectively managing reviews and feedback. By adhering to these insights, Sri Lankan online service providers can enhance their social media marketing strategies, elevate brand engagement, and boost online sales, ultimately necessitating a comprehensive approach that integrates both elements while considering market dynamics, budget limitations, language considerations, and target audience preferences for effective marketing outcomes.

Keywords: *Artificial Intelligence (AI), Brand Engagement (BE), Online Sales Performance (OSP), Social Media Marketing (SMM)*

JEL Classification: M31, M37

SECTION

“INNOVATION AND QUALITY TECHNOLOGIES”

AI ANTI-CORRUPTION SOLUTIONS IN GOVERNMENT- SOCIETY RELATIONS: OVERVIEW OF SCIENTIFIC LITERATURE AND PRACTICES

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Abstract. According to the latest survey by Eurobarometer, a staggering 70% of Europeans hold the belief that corruption is prevalent in their respective countries. Furthermore, the data indicates a concerning trend of corruption worsening. Corruption perceptions index has significantly declined to six EU countries comparing results in 2023 with 2015. As technology advances, corruption has become a borderless challenge, enabled by easy cross-border movement of money to hide illicit gains. It hinders development and undermines the trust that citizens place in government institutions.

The aim of research is to explore the potential of Artificial Intelligence (AI) as a tool for combating corruption in government-society relations. To achieve the aim, the following objectives are defined:

1. to investigate types and implementation methods of AI anti-corruption solutions;
2. to evaluate the outcome of these solutions on government-society relations;
3. to review real-world practices where AI has been implemented.

To achieve the above-mentioned aim and objectives, the authors use the scientific literature review to investigate the use of AI anti-corruption solutions and their impact on government-society relations. The main research findings indicate that AI-based anti-corruption solutions have the potential to address corruption by enhancing transparency, enabling collective action, and fostering citizen engagement in governance processes. The result of these solutions depends on the specific type of solution and the chosen implementation approach.

Keywords: *Artificial Intelligence (AI), Anti-Corruption Tools, Public Governance, Citizen Trust*

JEL Classification: D73, O33, K42

BRIDGE MAKERS AND THEIR ROLE IN INNOVATION ECOSYSTEMS: A CASE STUDY "VEFRESH"

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Abstract. This paper explores the strategic role of “bridge makers” in fostering innovation within ecosystems, using the VEFRESH open innovation movement in the Baltic countries as a case study. Founded in Riga, VEFRESH aims to facilitate open innovation through initiatives such as the smart district pilot project, industry hackathons, and by connecting stakeholders, including industry, academia, startups, and policymakers. Initially focused on the VEF neighborhood, the movement has since expanded into a broader regional initiative. This research applies a mixed-methods approach, including semi-structured interviews and social network analysis (SNA), to assess the impact and effectiveness of the “bridge maker” role within the VEFRESH ecosystem. Additionally, panel discussions with experts and the Delphi method are used to approbate the theoretical framework. The findings reveal that “bridge makers” act as connectors, facilitators, and integrators, driving collaboration and sustained innovation. The VEFRESH case study illustrates how “bridge makers” generate significant value by aligning stakeholder interests and fostering collective efforts toward shared goals. The paper concludes with recommendations for integrating “bridge makers” into innovation strategies, emphasizing the necessity for dynamic governance management.

Keywords: *Bridge makers, Case study, Ecosystem Integration, Innovation Ecosystems, Open Innovations*

JEL Classification: O21, O31, O36

MODELS FOR SUPPORTING DIGITAL SUSTAINABILITY KEY PERFORMANCE INDICATORS (KPIs) IN EUROPEAN COMPANIES

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Abstract. The increasing emphasis on sustainability in the European corporate sector requires the integration of digital technologies to effectively meet Environmental, Social, and Governance (ESG) standards. Digital Sustainability Key Performance Indicators (KPIs) serve as essential tools for measuring and managing sustainability performance. Despite their importance, aligning these KPIs with advanced technological models, such as data analytics, machine learning, and artificial intelligence, poses a significant challenge. This research draws upon established theoretical frameworks to explore the integration of Digital Sustainability KPIs within European companies by using Stakeholder Theory, Institutional Theory and Innovation Diffusion Theory. By combining these theoretical approaches, this research aims to establish a comprehensive framework that leverages digital technologies to support and enhance the measurement of sustainability KPIs, fostering a resilient and sustainable corporate environment in line with European regulatory standards. This research employs a mixed-methods approach, integrating qualitative and quantitative data collection techniques. The research anticipates identifying a set of actionable Digital Sustainability KPIs and developing a framework for integrating advanced technologies into sustainability practices. This research aims to make a significant contribution to the field of digital sustainability by developing scientifically grounded models that enable European companies to measure and manage their sustainability KPIs more effectively.

Keywords: *Economic Development, Innovation, Technological Change, and Growth*

JEL Classification: O1, O2

PERSONALIZATION VS. PRIVACY: STRATEGIES FOR GAINING CUSTOMER TRUST THROUGH TRANSPARENCY

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Abstract. Personalization is a key aspect that companies focus on to deliver to their customers as a means to enhance marketing, sales, and service efficiency—especially with the rise of AI and personalization engines. However, this adds an additional layer of complexity to consider, related to privacy requirements and concerns. In most cases, a level of profiling is required to achieve truly personalized experiences, which raises both legal and ethical questions that need to be addressed. This leads to a certain paradox: while customers expect personalized experiences, a high level of personalization can lead to a loss of trust, thus negating the positive impact of the personalized experience. This article focuses on balancing the need for personalized services with privacy concerns by conducting a literature review of personalization frameworks, as well as existing case studies and research, to identify best practices for introducing transparency to build trust. The study discusses how transparent algorithms, privacy-first approaches, and ethical data governance can help align both customer and organizational expectations related to personalization, and proposes a combination of these elements to build trust and long-term loyalty.

Keywords: *Customer Experience (CX), Data privacy, Personalization, Recommendation Engines, Trust*

JEL Classification: M31

BUSINESS INCUBATORS: CHALLENGES WITH SUCCESS MEASUREMENT

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Abstract. This paper explores the critical challenges faced by business incubators in measuring their success, particularly in relation to their program focus and selection criteria. Business incubators typically choose to prioritize either entrepreneurial education or new venture creation, a decision that significantly influences their program structure and success metrics. When entrepreneurial education is emphasized, incubators often adopt broader admission criteria, targeting a more diverse group of entrepreneurs. In contrast, a focus on new venture creation leads to stricter admission standards aimed at selecting high-potential startups. This distinction in focus also shapes the program's intensity, ranging from hands-on, intensive support to more laissez-faire approaches. Similarly, it affects the level of customization in the program; incubators focused on entrepreneurial education may offer more standardized curriculums, while those centered on new ventures tend to provide tailored mentorship and resources. These variations in focus, admission criteria, program intensity, and customization ultimately present significant challenges in defining and measuring the success of incubators, as the outcomes differ substantially based on these strategic choices. Thus, the paper highlights the need for a more nuanced understanding of success metrics that account for these variables and reflect the diversity of incubator models.

Keywords: *Admission Criteria, Business Incubators, Entrepreneurial Education, New Venture Creation, Program Customization, Success Measurement*

JEL Classification: D23

THE ROLE OF DIGITALIZATION IN GOVERNMENTAL SUPERVISION PROCESS

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Abstract. The governmental supervision process oversees and regulates different aspects of private and public activities to ensure safety and compliance, and to protect public and private interests. Activities within the supervision process help to achieve sustainability. Many countries see digital transformation as one of the key elements necessary to achieve improved public services. More effective and efficient service as a result facilitates economic growth and leads to enhanced competitiveness. Digitalization is one of the elements of such digital transformation. The aim of this study is to identify the role of the digitalization within the governmental supervision process. Several research methods are applied, such as literature review as well as survey, logical and comparative analysis. As the results of the study the main purpose of the governmental supervision process was identified, as well as the impact of digitalization on the objectives of the supervision process from various stakeholders perspective. The findings are important for developing of the supervision methodology.

Keywords: *Sustainability, Supervision, Market surveillance, Quality, Safety, Digitalization*

JEL Classification: L78, L88, O20, Q01

ORGANIZATIONAL AGILITY AND SUSTAINABLE DEVELOPMENT FOR HIGHER EDUCATION INSTITUTIONS

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Abstract: The current research investigates the intersection of organizational agility and sustainability efforts in Higher Education Institutions (HEIs). As a research method, the authors used literature review. The results of the study revealed the increasing role of universities in achieving the UN's Sustainable Development Goals (SDGs), including a growing body of education in environmental studies and sustainable entrepreneurship, and integrating sustainability into supply chain practices. There is growing intersection between organizational agility and sustainability efforts, indicating that agile organizations are better positioned to implement sustainable practices due to their adaptive capabilities. The main conclusions and recommendations highlight the agility's relationship with organizational performance, identifying how agility contributes to sustainability efforts by enabling organizations to respond swiftly to market changes and environmental regulations. Among the several gaps that have to be addressed is mentioned the lack of comprehensive frameworks for HEIs focusing on specific dimensions of organizational agility to enhance sustainability efforts within educational contexts and harmonize with institutional objectives related to sustainability, academic excellence, and community engagement.

Keywords: *Higher Educational Institution (HEI), Agile Approach, Organization Agility, Sustainability, Sustainable Development*

JEL Classification: D23, I21, I23, I25, I29, Q01, Q56

EXPLORING THE INTERCONNECTION BETWEEN UNIVERSITY OPENNESS AND OPEN INNOVATION

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Abstract. In the context of these dynamic conditions, where traditional concepts and practices of higher education are evolving, wherein the imperatives of internationalization processes compel numerous universities, higher education institutions are broadening their operational scope by fostering and enhancing collaborative partnerships with industry, including establishing a common good for society. Prior research suggests that the components of openness are discernible within the dimensions of open innovation, encompassing mindset, organizational, and strategic dimensions. The focus of this in-depth analysis is to explore the manifestation of open innovation within the framework of university openness—specifically, whether and in what manner open innovation alters the operational processes of universities. A literature review coupled with qualitative content analysis was applied to this study. The findings reveal that the openness of universities facilitated through mechanisms such as open access and international collaborations, integrally promotes the advancement of open innovation.

Keywords: *Open Innovation, Openness, Higher Education*

JEL Classification: I23

CHANGING THE CONCEPT OF WELL-BEING IN THE CONTEXT OF TECHNOLOGICAL AND SOCIAL CHANGE: A GLOBAL AND A LOCAL PERSPECTIVE

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Abstract. Today's technological and societal changes, in particular the development of artificial intelligence (AI), are having a significant impact on human capital and the role of the workplace in human well-being. This study analyses how AI is changing the work environment, enhancing employee well-being and creating opportunities for human capital growth. It focuses on how AI affects employee skills, productivity and motivation, as well as the role of human capital development in a sustainable work environment. Special attention is paid to the Latvian context, where AI solutions are starting to change the structure of the labour market and the expectations of employee competences. The study also looks at how AI can help facilitate decision-making processes, improve workflow efficiency and optimise resource management to ensure sustainable human capital development and improve the competitiveness of organisations. The findings indicate that future workplaces will need to adapt to the challenges and opportunities presented by AI to ensure the sustainability of employee well-being. The study proposes solutions to effectively integrate AI into the work environment in Latvia, fostering long-term development.

Keywords: *Well-Being, Human Capital, Artificial Intelligence, Work Environment, Latvia*

JEL Classification: J24, J81, M54

STANDARDIZATION: THE ANALYSIS OF THE CONCEPT AND ITS KEY PURPOSES

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Abstract. Nowadays, standardization is an essential tool that facilitates the functioning of the free market, the protection of human life and health, and helps ensure the organizational compliance while also promoting operational improvement. Over time, an international system for standards development has been developed, and the use of standards has become an integral part of the operations of organizations around the world. The purpose of the study is to analyze the concept of standardization and its main purposes for different groups of stakeholders. A literature overview is performed along with scoping review to study the research articles and other sources of literature that focus on the topic of standardization. First, the mapping of the coverage of the topic of standardization in different research areas is performed. Then, the concept of standardization and its development is analyzed. Afterwards, the purposes of standardization for different groups of stakeholders are determined. The study concludes that standardization research covers a wide range of areas of both, industrial and social issues. The analysis reveals the aim of standardization to achieve an optimal level of orderliness, quality and safety and its tendency to adapt to global development directions, reaching the needs of a wide range of stakeholders. The authors conclude that it is possible to strengthen the relationship between standardization as a theoretical research object in the academic environment and its practical aspects thus creating the basis for the development of the concept and enhancing the benefits it brings to relevant stakeholders.

Keywords: *Conformity Assessment, International Standardization, Stakeholders, Standardization, Standards Development*

JEL Classification: L15, L52

DIGITAL CAPABILITIES AND INNOVATION PERFORMANCE OF MANUFACTURING COMPANIES

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Abstract. In the current instability and uncertainty situation, manufacturing companies' innovation performance is vital to securing their sustainable growth and competitive positions. Innovations severely impact the efficiency and effectiveness of manufacturing companies' activities and the development of the whole industry. Automation, digitalization, and digital transformation are other trends driving manufacturing companies' progress. The competitiveness of the companies also depends on the capabilities they possess. Companies require digital capabilities to adopt advanced digital technologies and enhance their performance. Innovation fosters the development and implementation of digital technologies in manufacturing, which, in turn, leads to innovation in products, services, processes, systems, and business models. However, research about the role of digital capabilities in manufacturing companies' innovation performance is scarce. The research aims to identify the influence of digital capabilities on innovation performance in European manufacturing companies. This research adds to the understanding of what digital capabilities significantly affect innovation performance and the current status of these capabilities in manufacturing companies.

A sample of survey data from 300 manufacturing companies in Latvia and Lithuania was used for this research. This data represents a sub-sample of the European Manufacturing Survey 2022-year data collection (EMS 2022). EMS is an international consortium of universities and research institutions in 19 European countries. The data was collected using a unified questionnaire. Then, the data was processed and analysed using correlation and regression techniques in SPSS statistical processing software. A two-step methodology was used to analyse the connections between digital capabilities and innovation performance. The link between innovation performance dimensions - the dependent variables- and the independent variables (digital capabilities) was examined separately in the first phase. All relationships were analysed simultaneously in the second phase. Expected results – specific digital capabilities significantly impact process, product- and service-related innovation performance dimensions of manufacturing companies, while others have very little or no impact. Also, the company size used as a control variable is an important aspect when analyzing the relationship between digital capabilities and innovation performance. The research results add to the body of knowledge of dynamic capabilities theory. The results also provide insight and suggest practical applications for the management of manufacturing companies pursuing innovations as the research identifies what digital capabilities are crucial and need to be developed. The research limitation is that the relatively small number of manufacturing companies participating in the survey represent only 2 European countries. Further research shall include the datasets from other European countries participating in EMS 2022. Another direction of further research could be to analyse the evolution of digital capabilities in manufacturing companies and their impact on innovation performance.

Keywords: *Digital capabilities, Innovation Performance, Manufacturing Companies*

JEL Classification: L23, M11, O32

REGIONAL COLLABORATION, INNOVATIVENESS AND TRANSITION FROM LINEAR TO CIRCULAR ECONOMY

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Abstract. Knowledge / technology transfer is defined as one of driving forces of the business growth, expansion and development of new, innovative business models. The problem of climate change, constantly increasing volume of various waste causes the challenges and at the same time opportunities for business development. Transferring from linear to circular economy might cut the use of primary resources and lower business impact on the environment. However, the shift to new business models requires new knowledge and technology. Thus, the adoption of good practices or gained knowledge or technology speeds up the transfer from linear to circular economy. The aim of the paper to explore the complex interlinkages between knowledge transfer and circular economy. The study is based on the survey of 159 Nordic capital companies in Estonia and Lithuania. The results proved that the companies tend to develop innovations or new products. Additionally, they have positive attitude towards transferring own business to circular economy. The results contribute to the theory of circular economy and the concept of knowledge/ technology transfer.

Keywords: *Innovation, Knowledge Transfer, Linear Economy, Circular Economy, Knowledge Assimilation*

JEL Classification: F64, Q55, Q56

EVALUATION OF HYPERLOOP TECHNOLOGY PROJECT MATURITY THROUGH SYSTEM DYNAMICS: MODELLING AND SIMULATION

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Abstract. This paper introduces eight stock-and-flow models to assess project maturity in the Hyperloop technology domain, based on multivariate technical, social, and financial criteria. Four scenarios are simulated: rapid decline, gradual decline, rapid growth, and sustainable growth. An interactive dashboard has been developed to visualise the simulation results and provide public access to the models. The primary users of these models are project decision-makers and industry analysts. The core research methodology utilised is system dynamics modelling, which captures the challenging dynamics of multi-loop systems inherent in Hyperloop transportation projects. The results demonstrate the models' effectiveness in providing real-time insights into how various factors interact and affect project performance. The proposed models facilitate real-time evaluation of project maturity and offer a conceptual framework for analysing context-specific factors critical to successful project implementation. This research supports the European Green Deal and Digital Transformation 2030 strategies by contributing to the development of strategies for Hyperloop technology advancement—an EU Commission priority for Tourism and Sustainable Transportation, as set by the European Commission President on 18 September 2024.

Keywords: *Decision Making, System Dynamics, Hyperloop, Project Maturity, Business Process Modelling, Multiple-Loop Systems*

JEL Classification: C61, C69, R40, O32

INNOVATION PLANNING WITH RISK ASSESSMENT EVENT HORIZON CHALLENGES FOR FEEDBACK

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Abstract. Risk management is one of common, management areas to consider when planning innovation implementation on any of planning levels, while there are number of potential miss-applications in particular instances due lifecycle differences of innovation and risk management. During research it was identified that one of hard to identify risk management problem is time horizon for assessment and this aspect was further analysed for conceptual understanding. Risk management process lifecycle, have several generic phases, as planning risk management, risk analysis, risk mitigation, issue and of incident management, what identifies activities to be planned as actions for implementation and particular implementation schedule while rest of identified items are considered as risks. Due nature for innovation lifecycle, long term impacts are analysed less, than immediate effects of risk management activities, thus potentially becoming long term liability. Due the specific of process, risk event or impact of mitigation is separated into time making it challenging to collect particular feedback and link with decisions made during planning activities. Research is aimed at identifying theoretical model with time line separation aspects inducing significant impact on decision-making for improvements for planning with the assessment of mitigation activity results and feedback loop identification. One of identified planning pitfall are aiming for “quick wins” while trade-off longer term aspects. Research methods used – literature overview, and assessment of practical works in academic work. Main conclusion: With relevant risk impact assessment feedback utilisation during any planning, it would provide improvement of planning and, as part of risk management processes would lead to improved long-term impacts with an increase of the quality of planning with better sustainability of innovations.

Keywords: *Innovation, Management Process Faults, Project Management, Planning, Risk Management*

JEL Classification: P11, P21, P41, O21, O22, O31

SECTION

“INTERNAL SECURITY AND LOGISTICS”

PUBLIC-PRIVATE PARTNERSHIPS IN LOGISTICS

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Abstract. The aim of the study "Public-Private Partnerships in Logistics" is to look at the cooperation between the private and public sectors in the construction and operation of logistics infrastructure. The study looks at Public Private Partnerships as a project management tool for the implementation and future provision of financially intensive and time-sensitive logistics solutions. As examples of the implementation of such a project instrument, the current developments in the modernisation of European logistics infrastructure were examined and the construction of the Ķekava bypass was analysed. Monographic analysis, induction and deduction method, logical-constructive method and document analysis were used to fully develop and analyse the study. The study revealed that Public Private Partnerships can provide a strategic solution in logistics infrastructure projects, in circumstances where the public sector is faced with resource and knowledge constraints. By combining public and private sector expertise through effective risk sharing, PPPs can deliver sustainable long-term results for all stakeholders. In the current political climate and financial situation of Latvia, it is advisable to use private sector funding, knowledge and skills to modernise public services and logistics solutions.

Keywords: *Logistics, Modernisation, PPP (Public-Private Partnerships), Project Management*

JEL Classification: A100

DETERMINATION OF KPIS IN THE FIELD OF BORDER SECURITY

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Abstract. Today's conditions are characterized by changes in the international flow of goods, geopolitical events and international threats. The need to create an efficient public administration, especially in the field of security and border security, is increasing. Several state institutions are involved in border security, whose functions and tasks are generally different. In order for these institutions to operate effectively in the field of border security, they must be individually well managed, and they must also find an opportunity to create a common operational strategy, process management and performance evaluation methods. Despite the implementation of modern management methods in the state administration, the redistribution of resources and the use of new technologies, the institutions providing border security often lack sufficiently effective tools and techniques to achieve their operational goals. Taking into account the generally broad competence of these services, the need to define clear, precise and justified KPIS on which the development of strategies and the organization of processes could be based is understandable. The research will investigate the methods of evaluating the performance of institutions involved in border security. Analytical methods will be used to evaluate the possibilities of determining the border security index in different countries and regions. The study will create an understanding of the possibilities of evaluating the performance of institutions involved in border security. The results of the study could serve for the development and practical implementation of new solutions in strengthening the external borders of the country and the European Union.

Keywords: *International Trade, Border Security, Effectiveness of Public Administration, Customs Performance Management, KPI*

JEL Classification: H11

FROM SUBURBS TO CENTER: ASSESSING SUSTAINABLE MOBILITY ACCESSIBILITY IN RIGA

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Abstract. This study explores sustainable transport accessibility from suburban areas to the city center in Riga, using a variety of travel planning tools and mobility platforms, including Google Maps, ride-hailing apps, bicycle route maps, and micromobility rental apps. By analyzing travel time, cost, and distance across multiple transport modes—public buses, trains, ride-hailing, micromobility, and bicycles—this research provides a comparative assessment against single-occupant car travel. Data is collected from selected suburban locations to a central city point, identifying disparities in accessibility and attractiveness of sustainable travel options. The aim is to uncover which suburbs have effective, sustainable transport solutions and which are more reliant on car travel due to gaps in public transport or other sustainable mobility infrastructure. By highlighting these disparities, this paper offers insights into where sustainable transport is more feasible and cost-effective and discusses potential improvements to make sustainable commuting more attractive, ultimately contributing to reducing car dependency and promoting a more sustainable urban mobility strategy in Riga.

Keywords: *Sustainable Transport, Urban Mobility, Accessibility Mapping, Suburban Commutes, Travel Planning Tools, Public Transportation, Micromobility*

JEL Classification: R41, Q56, O18

LATVIAN ROAD FREIGHT TRANSPORTATION TRENDS ANALYSIS

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Abstract. The aim of this paper is to study the development trends of road freight transport in Latvia in the period from 2013 to 2023 and the dependence of domestic and international freight traffic. The objectives of the research include identification of some trends in factors affecting the freight transport, by looking into the economic and political impacts such as sanctions of the European Union, the energy crisis, or the Covid-19. This research employs statistical information from Eurostat and national statistics. The sequentially outlined correlations have indicated higher volumes of trade of international and domestic freights over comparative periods with major shocks of global impacts. As to the concepts considering domestic and international freight flows, regression analysis suggests that the two could be positively related. In the end of the study it is highlighted that trends in freight transport cannot be explained by activities occurring within the borders of individual states only. External political and economic processes including the Russia – Ukraine war and the present-day shortage of truck drivers have profound impacts as well.

Keywords: *Freight Transport, Road Transportation, Geopolitical Impact, Regression Analysis, Transportation Trends, Economic Disruptions*

JEL Classification: R40, L91

WHAT MODERN TECHNOLOGIES, DATA PROCESSING METHODS AND SOLUTIONS CAN BE USED TO ANALYSE CUSTOMS RISKS AND IMPROVE CUSTOMS RISK MANAGEMENT?

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Abstract. Customs and border control are undergoing significant changes, driven by geopolitical developments, the increasing flow of goods, and the development of new technologies such as digitalisation and Artificial Intelligence (AI) tools. These changes create new risks and more opportunities for more effective intelligence and risk analysis, particularly in identifying and detecting sources of risk.

However, despite rapid technological developments, customs authorities often lack sufficiently effective tools and techniques to ensure rapid and accurate identification of risks. This gap between the available technologies and their effective use in customs risk management points to the need for in-depth research and the development of new solutions. The study will explore and evaluate the use of modern data processing techniques and technologies in customs risk analysis and risk management. Analytical methods will be used to identify the opportunities and challenges of existing technologies. The study will lead to an understanding of modern technologies that could improve the effectiveness of risk management and the overall performance of the Customs Service. The results of the study could serve for the development and practical implementation of new solutions and stimulate further research in the field of customs technology.

Keywords: *International Trade, Effectiveness, Customs, Risk Management, Risk Analysis, Artificial Intelligence (AI), Digitalization*

JEL Classification: H11

TAX RISKS AND COMPLIANCE CHALLENGES FOR ELECTRIC VEHICLES IN BUSINESS OPERATIONS

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Abstract. This study examines potential tax risks for companies using electric vehicles (EVs), particularly when charging at the company's registered address without proper cost documentation. It focuses on the implications for value-added tax (VAT), corporate income tax (CIT), and payroll tax liabilities. A case-based analysis reveals that insufficient documentation for EV use can lead to disallowed VAT deductions, increased CIT liabilities, and payroll tax issues if the vehicle is used for personal purposes. Specifically:

- The company may only deduct 50% of VAT on electricity costs for vehicle charging.
- Expenses like electricity, insurance, and repairs may be classified as non-business-related, increasing the CIT base.
- The vehicle could be considered a fringe benefit, requiring the company to include its value in the employee's taxable income, resulting in additional payroll tax liabilities.

The study emphasizes the importance of precise documentation to prove business use and highlights the risks of missing GPS tracking systems. It calls for regulatory updates to address the growing business use of EVs and concludes with recommendations to reduce compliance risks through better record-keeping and clearer tax guidelines.

Keywords: *Electric Vehicles, Tax Risks, Value-Added Tax, Corporate Income Tax, Payroll Tax*

JEL Classification: H25, K34, Q56

DEVELOPING A TRANSPORT SIMULATION MODELING RESEARCH AND INNOVATION ECOSYSTEM IN LATVIA THROUGH EDUCATION

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Abstract. This study explores an educational framework for the development of transport simulation modeling research and innovation ecosystem in Latvia, aimed at addressing the growing demand for skilled professionals in this field. The research emphasizes the need for research infrastructure, effective curriculum design, and industry partnerships. The benefits of transport simulation modeling in Latvia's transport sector were evaluated by surveying students, gathering insights from industry focus groups, and exploring academic applications through discussions with professors, thereby revealing how simulation enhances traffic management, infrastructure planning, and sector competitiveness. The proposed educational part of the ecosystem is designed to equip graduates with digital competencies at DigComp levels 7-8, fostering an environment of innovation in logistics and transportation. Evaluation methods include tracking graduate employment, student feedback, and industry engagement. The findings highlight the critical role of simulation modeling in improving the efficiency and sustainability of Latvia's transportation systems, concluding with recommendations for integrating simulation tools into higher education to build a skilled workforce.

Keywords: *Transport Simulation, Research and Innovation Ecosystem, Curriculum Development, Digcomp*

JEL Classification: I23, L92, R41

FISCAL STRATEGIES FOR SUSTAINABLE TRANSITION: ADDRESSING REVENUE CHALLENGES AND INFRASTRUCTURE INVESTMENT

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Abstract. This research examines the fiscal challenges and potential solutions associated with the global transition to electric vehicles. Electric vehicle adoption is accelerating, and governments need more revenues from traditional fuel taxes while simultaneously needing to invest in charging infrastructure. The research examines possible tax strategies to reduce the budget deficit and provide long-term finance for transportation projects. It also emphasizes the importance of considering both tax policies' short- and long-term impact on electric vehicle deployment and environmental goals. The research shows that phasing in taxes on electric vehicles, such as road tolls, mileage fees, battery production taxes, and electricity use taxes, can effectively offset lost revenues from fuel taxes. By proactively implementing such policies, governments may help smooth the transition to electric vehicles, ensure financial stability, and create a cleaner, more sustainable transportation system.

Keywords: *Fiscal Challenges, Electric Vehicles, Traditional Fuel Taxes, Electricity Use Taxes, Lost Revenues, Sustainable Transportation System*

JEL Classification: O23, Q56

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CHALLENGES OF USING HYDROGEN IN TEMPERATURE-CONTROLLED FREIGHT TRANSPORTATION

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Abstract. The study examines the prerequisites and possibilities of using green hydrogen for freight transportation. The research emphasizes the need to reduce emissions and improve air quality. Current solutions, replacing internal combustion engines with electric motors, do not allow for maintaining the required level of freight transportation. On one hand, this is due to the insufficient capacity of electric batteries for long-distance cargo transportation. On the other hand, the climatic conditions in some EU countries do not always use these technologies. For northern countries, this is due to the inability to operate electric transport at critically low temperatures. For southern countries, in the segment of temperature-controlled freight transportation, the existing capacities of electric batteries cannot ensure compliance with temperature regimes. One of the promising solutions in this area is associated with the use of hydrogen-based freight transport. The research aims to develop an economic model for the gradual transition from using trucks with internal combustion engines to hydrogen-based technologies.

Keywords: *Business, Decision Sciences, Deliveries, Emissions, Environmental Impact, Last Mile, Management, Sustainable Logistics, Transport*

JEL Classification: R40

ALTERNATIVE FUEL INFRASTRUCTURE CHALLENGES ON THE TEN-T ROAD NETWORK

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Abstract. During the last years the Council of Europe has adopted a row of Regulations, based on creating sufficient infrastructure for alternative fuel powered vehicles, in order to restrict gradually the use of diesel-powered vehicles in road transport, supposing to reduce greenhouse gas emissions in the European Union. According to the Alternative Fuels Infrastructure Regulation (AFIR) the main goal in the road transport sector is to boost the number of publicly accessible electric recharging points and hydrogen refuelling stations on the TEN-T road network. On that base, the multiannual funding programme Alternative Fuels Infrastructure Facility (AFIF) is established to reach the AFIR objectives. The Alternative Fuels Infrastructure Facility will fund alternative fuels infrastructure and will be implemented until end 2025. On the TEN-T road network, including safe parkings and in urban nodes should be created a row of publicly accessible recharging pools and hydrogen refuelling stations for light-duty vehicles and heavy-duty vehicles, considering the charging power output, that significantly affects the total delivery time in freight transport. According to the AFIF CALL-II 2 observations, the large part of TEN-T road network is not eligible for the regular and basic use of alternative fuels, that should be improved by attracting the private sector in the alternative fuel infrastructure creation process. For electricity recharging and hydrogen refuelling infrastructure financial support has been created funding programmes in the form of unit contributions and in the form of a fixed co-funding rate, giving the applicants a choice to contribute their share. Among the applicants from Latvia, can be listed two fossil fuel trading companies, such as Virši-A un Neste, with stable and sufficient resources to implement these projects, as well as with information about the demand of fuels on a separate road section. Applicants with the wide experience in fossil fuel trading operations can use this information to make a choice of the location of alternative fuel infrastructure facility, considering the logistics methods for calculating the location of different logistics objects.

Keywords: *Alternative Fuels, TEN-T Road Network, Recharging and Refuelling Infrastructure, Light-Duty and Heavy-Duty Vehicles, Location of Facility*

JEL Classification: R42

SECTION

**“SAFETY OF THE TECHNOGENIC
ENVIRONMENT”**

THE ROLE OF SUSTAINABILITY INFLUENCERS IN PROMOTING ECO-FRIENDLY LIFESTYLES

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Abstract. This study investigates the impact of sustainability-promoting influencers on social media on their followers' sustainable behaviors. The research focuses on understanding how influencer credibility (IC), perceived behavioral control (PBC), and attitudes towards sustainability (AS) affect actual sustainable behavior (SB) among followers. A survey was conducted with followers of sustainability influencers, and data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) to test the proposed pathways between the constructs. Results indicate that influencer credibility positively influences followers' attitudes towards sustainability and directly impacts their sustainable behaviors. Additionally, perceived behavioral control was found to significantly affect both attitudes towards sustainability and actual sustainable behaviors, highlighting the importance of followers' self-efficacy in adopting green practices. Attitudes towards sustainability also play a crucial role in mediating the relationship between influencer credibility and sustainable behaviors. The findings suggest that influencers who are perceived as credible and trustworthy can effectively drive positive attitudes and actions towards sustainability among their audiences.

Keywords: *Attitude Towards Sustainability, Social Media, Sustainability Influencers, Sustainable Behavior*

JEL Classification: Q01

DEVELOPMENT OF THE CONCEPT OF REMOTE WORKING BASED ON THE DEVELOPMENT OF ICT SOLUTIONS

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Abstract. The working environment is undergoing major changes around the world, with the development of digitalization processes also increasing opportunities for working remotely through ICT. Digital technologies contribute to the development of this location-independent work. Throughout the COVID-19 pandemic, the whole world was forced to work remotely. But as the pandemic wore on, many employers still allow remote employment for employees. Remote work is not a recent phenomenon - already half century ago, staff did telework from home. The Labour Protection Law States that remote work is such way of work performance the work could be Performed by an employee within the scope of the undertaking of an employee is Permanently or regularly Performed outside the undertaking, including the work Performed by using information and communication technologies. The work shall be due to its nature is related to regular movement shall not be regarded to be Remote work within the meaning of this Law. However, the rapid development of ICT solutions suggests that this term needs to be seen more broadly.

Keywords: *Remote Work, Health and Safety*

JEL Classification: J28, K32

TOWARDS SUSTAINABLE FOOD SYSTEMS: AN ANALYSIS OF BARRIERS AND DRIVERS IN THE FOOD CONSUMPTION STAGE

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Abstract. The transition to a sustainable food system (SFS) is crucial for addressing global challenges such as food overconsumption, human malnutrition, and hunger, which align with the UN's Sustainable Development Goals (SDGs). Understanding the complex socio-ecological interactions within the food system is essential for fostering positive changes, improving global well-being, and ensuring sustainable food production and consumption practices in an increasingly dynamic world. This study focuses on the food consumption stage, a critical factor in transforming food systems towards sustainability. The aim is to identify the key barriers and drivers within this stage and assess its role in achieving an SFS through a comprehensive literature review. The results reveal several major obstacles, including food wastage, irresponsible consumer behavior, and socio-economic inequality. Concurrently, the study highlights significant driving forces for change, such as innovations in food education, responsible consumption practices, and policies aimed at reducing food waste while promoting healthier and more sustainable diets. The findings emphasize the importance of consumer-centered strategies that integrate environmental, social, and economic dimensions, contributing to the creation of a more sustainable, resilient, and equitable global food system. This underscores the pivotal role of informed consumers in advancing sustainability.

Keywords: *Sustainable Food System, Sustainability, Food Consumption*

JEL Classification: Q010

GUIDELINES FOR DEVELOPING METHODOLOGICAL RECOMMENDATIONS FOR LABOR PROTECTION REQUIREMENTS BY DECONTAMINATION ORGANIZING AND RELATING

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Abstract. Guidelines developed by the author for methodological recommendations “Labor protection requirements when organizing and carrying out decontamination works” are intended for the officials of the State Fire and Rescue Service as a teaching tool in the subject “Working with hazardous substances” for the topic “Elimination of the consequences of chemical accidents”. The developed guidelines are necessary for supplementing the internal regulatory act of the State Fire and Rescue Service “Labor protection requirements when eliminating chemical accidents”, which will also be used as a basic planning document when organizing theoretical and practical classes in the territorial units of the State Fire and Rescue Service and conducting student training in Fire Safety and in the Civil Defense College. The developer’s guidelines specify in detail the labor protection requirements when carrying out decontamination works, as well as the organization of the decontamination site, its creation and the safety of the work to be performed. The guidelines describe the specifics of decontamination of evacuees, rescuers, victims, officials of the State Fire and Rescue Service, machinery and work equipment in events with the presence of hazardous substances. During the development of the guidelines, the author evaluates possible hazards that may be encountered by the officials of the State Fire and Rescue Service when organizing and performing decontamination works from the point of view of occupational safety. Empirical research methods were used in the development of the guidelines - analysis of literature sources, survey methods, expert method (interviews with specialists in the research field).

Keywords: *Decontamination, Labour Protection, Leakage, State Fire and Rescue Service, Fire Safety and in the Civil Defense College*

JEL Classification: Q01

COLLECTIVE MEANS OF LABOUR PROTECTION IN CONSTRUCTION

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Abstract. Construction is the sector where the number of accidents in workplaces is the highest among all sectors. According to the State Labour Inspectorate, many employees suffer in accidents each year, a large proportion of which have been severe, or even fatal, and their number tend to increase. Performing work at height is one of the most significant risks directly in the construction sector. Of course, at construction sites, in order to perform specific construction works, lot of the work is carried out at height. When paying attention to these problems, experience has shown that the use of appropriate collective protective equipment and measures would make it possible to prevent a large part of all accidents. While surveying construction sites within the scope of the study, the authors conclude that it is the collective labour protection equipment and measures that receive too little attention, the emphasis is placed on individual protection equipment, although the Labour Protection Law in Latvia stipulates that priority should be given directly to collective labour protection equipment. The aim of the research work was to identify the main problems on construction sites, which arise as a result of planning and use of incorrect or insufficient collective labour protection equipment, to collect and analyse the acquired information, to provide proposals for improvement of collective protection equipment and measures on construction sites. Within the framework of the study performed, the authors of the article propose to perform regular procurement's in addition to the existing measures exactly for collective labour protection equipment in the construction object, the labour protection specialist in the enterprise should be ensured with all necessary measuring equipment in order to fully perform the assessment of the risks of the work environment, perform mandatory register of collective labour protection equipment and quality control at construction sites, etc

Keywords: *Labour Protection, Construction, Collective Means of Protection, Accident*

ANALYSIS OF FIRE TRUCK FAILURE CAUSES IN LOW TEMPERATURES: TECHNICAL CHALLENGES AND PREVENTIVE MEASURES

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Abstract. This article investigates the factors contributing to fire truck malfunctions in low-temperature environments. It examines the technical challenges associated with operating these vehicles in cold climates, with a particular focus on how sub-zero temperatures can induce mechanical failures. These failures include hydraulic system malfunctions due to fluid viscosity changes, decreased battery efficiency, and material degradation such as metal embrittlement and the failure of rubber and plastic components. The study also considers the exacerbating effect of road salt and deicing chemicals on corrosion. The research analyzes the impact of material selection, system insulation, and maintenance protocols on the reliability of fire trucks operating in cold conditions. It proposes a range of preventive measures to mitigate cold-related malfunctions, including the use of cold-resistant materials and protective coatings, the incorporation of backup systems and heating elements in critical components, and the implementation of specialized training programs and emergency protocols for cold weather operations. Additionally, the study explores the potential of integrating advanced technologies such as telemetry systems for remote monitoring and Enhanced Vapor Injection (EVI) technology for optimizing heating and cooling system performance. By addressing these factors, this research aims to demonstrate the substantial benefits of investing in cold weather adaptations for fire trucks. These benefits include enhanced safety for firefighters and the public, increased operational efficiency, reduced downtime and maintenance costs, and improved long-term sustainability. Ultimately, this study underscores the critical importance of proactive measures and technological solutions in ensuring the operational readiness and effectiveness of fire trucks in responding to emergencies, regardless of prevailing weather conditions.

Keywords: *Fire Truck, Low Temperature, Preventive Maintenance, Operational Efficiency, Rescue Machinery; Fire-Fighting Vehicle*

JEL Classification: Y80

WORKING FROM HOME: PSYCHOSOCIAL RISKS, PHYSICAL FITNESS AND JOB PERFORMANCE AMONG IT WORKERS

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Abstract. During pandemics, working environment changed rapidly in many sectors. One of the most notable shifts was the widespread transition to remote work, a change that became especially prominent in IT sector. Even after restrictions, many workers in IT sector expressed a preference to remain working from home rather than returning to traditional office settings. This shift raised important questions about its long-term impact on employees' well-being. The aim of the current study was to evaluate the physical fitness and mental well-being of IT workers and find out the correlations between those factors with job performance. Additionally, it was examined how managers can support IT workers mental and physical health remotely. A large telecommunication company was selected for the study (N=2110 employees). The data collection took place in Spring and Summer 2022. Both quantitative and qualitative methods were used. In quantitative study, self-administered questionnaire was distributed with elements from validated questionnaires (COPSOQII and IWPQ). Statistical analysis was performed. In qualitative study, six semi-structured online interviews were conducted. Content analysis was performed. The results indicated that there are several statistically significant relationships between physical and mental health and job task or contextual performance. Qualitative study showed that IT workers' lifestyle routines were changed during and after the pandemics, but either to positive or negative direction. There were several indications that employees expect support from the managers which enables them to deal with different occupational stressors. The current study contributes to existing knowledge and scholarship by proposing a framework that incorporates dominant perspectives.

Keywords: *Healthy Lifestyle, IT Sector, Job Performance, Leadership, Mental Well-Being*

JEL Classification: M1

CIRCULAR ECONOMY AND DIGITALIZATION: YOUNG RESEARCHERS' FOSTERING PERSPECTIVE

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Abstract. In the vanguard of the sustainable transformation, the interplay between circular economy (CE) and digitalization emerges prominently, especially through the pioneering contributions of young researchers. This paper delves into the innovative intersections of these domains, revealing how digital technologies catalyze the evolution from linear to circular systems. By integrating cutting-edge digital tools such as Artificial Intelligence (AI), the Internet of Things (IoT), and blockchain, the CE paradigm is not only redefined but also revitalized, offering scalable solutions that enhance resource efficiency and operational transparency.

My explorative journey begins with a robust literature review, spotlighting seminal works like Turcan et al. (2023), who illustrate the enhancement of sustainability through digital transformation. Piciu (2023) further elaborates on how digitalization remolds value chains, thereby facilitating the seamless implementation of CE principles. Through the empirical lens of a comprehensive survey conducted people who deal somehow with Circular Economy, this study harnesses both quantitative and qualitative insights to scaffold the theoretical discussions with real-world applicability and innovative perspectives.

The survey underscores a significant inclination towards scientific research, with a notable emphasis on industrial management and emerging technologies. The findings reveal a critical nexus where lack of technical expertise and regulatory challenges intersect with high operational costs and limited technology access, delineating the primary obstacles to digital integration in CE practices.

Moreover, the discourse extends into the role of industrial symbiosis, enhanced by digital tools, which facilitates the effective management of resource flows and fosters resilient industrial ecosystems. Case studies from diverse geographical contexts, including the Kalundborg Symbiosis in Denmark and EcoPortal in Finland, provide concrete examples of digital platforms catalyzing resource exchanges and enhancing waste material integrations. In conclusion, this paper not only highlights the instrumental role of young researchers in driving digital innovation within the CE landscape but also calls for a concerted effort to surmount the extant barriers. It advocates for augmented support mechanisms such as dedicated research grants and robust mentorship programs to nurture the next generation of researchers. With strategic recommendations aimed at policy enhancements and educational reforms, this study contributes to a body of knowledge that supports the transition towards a more sustainable and digitally integrated global economy.

Keywords: *Digitalization, Circular Economy, Industrial Symbiosis, Sustainability*

JEL Classification: O33, Q2, Q5, Q01, I2

THE IMPACT OF UNMANNED SYSTEMS ON SOCIAL DEVELOPMENT IN EUROPE AND BEYOND

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Abstract. The development of unmanned systems has a profound impact on the social sector in Europe and around the World, reshaping various aspects of community engagement, emergency response, and public services. This research aims to explore the transformative effects of unmanned aerial vehicles (UAVs), unmanned ground vehicles (UGVs), and autonomous maritime systems on social initiatives, particularly in areas such as disaster management, healthcare delivery, and environmental monitoring. The integration of these technologies has enhanced the efficiency of emergency responses, providing timely assistance in crises and improving safety for first responders. In healthcare, UAVs are revolutionizing medical supply deliveries, particularly in remote or underserved regions, thereby increasing access to essential services. Moreover, unmanned systems are being utilized in environmental conservation efforts, aiding in the monitoring of biodiversity and pollution control. The authors also discuss the ethical considerations and regulatory challenges associated with deploying unmanned systems in public spaces, emphasizing the need for public trust and transparency. By analyzing case studies and current trends, this research highlights the significant contributions of unmanned systems to social development in Europe, paving the way for a more resilient and responsive society.

Keywords: *Unmanned Systems, UAVs (Unmanned Aerial Vehicles), Autonomous Technology, Social Development, Public Safety and Security, Emergency Response*

JEL Classification: O3

ARTIFICIAL INTELLIGENCE AND OCCUPATIONAL RISK ANALYSIS: CASE STUDY OF THE DENTAL COMPANIES

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Abstract. This research focuses on exploring the use of AI tools to assist in assessing occupational risks in dental practices in Estonia and Latvia. The wide spectrum of occupational risk groups applied for dentistry highlights the complexity of the task as such. The advancement of AI technologies presents opportunities to enhance the efficiency of implementing and maintaining health and safety protocols within the workplace. Any such a claim requires a scrutinised investigation. This study employed a mixed-methods approach to compare the effectiveness of risk analysis conducted solely by Humans, Human-AI collaboration, and AI systems alone. Six occupational safety and health experts from Latvia and Estonia are participating in a real-life case risk assessment task designed to simulate a typical risk assessment scenario in a dental practice in Estonia, providing a realistic context for the study. The experts and AI tool will use multimedia information to assess various risk groups and produce recommendations. The results of the blind peer review will be used for discussion with the experts to learn their perspectives about the potential of onboarding AI tools to the OSH field. The experimental research aims to provide nuanced insights into AI tool limitations, usability and efficacy. We hope that our findings will contribute to strengthen the reliability of research practice related to the contextualised application of AI tools in the multidisciplinary domains, with the objective to foster the safety, health, welfare and well-being of people when they are at work.

Keywords: *Artificial Intelligent, Occupational Risks, Dentistry, Risk Assessment*

JEL Classification: C10, J81, O33

THE COLLECTION OF DATA FOR DIGITALIZED MODEL TO ENHANCE THE WORKERS' WELLBEING IN TEXTILE INDUSTRY

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Abstract. The focus of the paper: collection the initial data for the artificial intelligence (AI) model to implement in textile industry's human resource management.

The research methods: 1) the overview of the literature (gathered from scientific literature over the world, including Estonia and Latvia), the consideration of: 2) the climate conditions in textile workplaces (based on the measurements), 3) the character of musculoskeletal disorders, 4) the opinion of workers (questionnaire for the purpose) on the working conditions and their health disorders were used.

The results: the workplace health hazards as repetitive work, static posture, monotonous work cause pain and other disorders. Their strength in the head, neck etc. body regions and pain duration were found out. The model to bind the stages of diseases with the pain duration and the age of the workers, was given on the basis of interviews.

Conclusions: Occupational illnesses develop by stages. At the first early stage, the rehabilitation is effective. At the next stage, treatment is possible, but it takes more time and sometimes the worker has to change the character of the work. In the third stage, the changes in health status are usually irreversible.

Recommendations: From the side of working conditions air temperature, lighting means, noise and vibration have to be followed at workplaces. At the end of the paper, the recommended AI model to gain the improvement of workers' working conditions and the decrease the number of the work-related diseases is presented. This model is possible to use for improvement of working conditions in textile industry.

Keywords: Digitalization, Ergonomics, Garment Industry, Initial Data Model, Musculoskeletal Disorders, Safety

JEL Classification: J28

METHODOLOGICAL SUPPORT OF THE STATE FIRE AND RESCUE SERVICE IN THE DEVELOPMENT OF CIVIL PROTECTION PLANS OF LOCAL GOVERNMENTS

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Abstract. In this scientific research: Methodological support guidelines have been developed to ensure the involvement of the State Fire and Rescue Service in the planning process of municipal civil protection, authors provided methodological support which based on the analysis of literature, research, and other informational materials, focuses on establishing active cooperation with municipalities. Active methodological support involves the implementation of a bottom-up planning strategy, as well as providing consultative and educational measures to representatives of civil protection commissions in cooperation territories, promoting a common understanding of the importance of civil protection measures and the development of community resilience. Authors put forward a proposal of the State Fire and Rescue Service officials to provide active methodological support by offering local governments both possibilities of individual support for the development of plans, as well as a general set of informational measures in order to: regularly improve and maintain the understanding and skills of the actors involved in the planning process preparation and use of planning documents in the field of civil protection.

Keywords: *Civil Protection, Possibilities, Government, Planning Process*

JEL Classification: R19, R58

SECTION

“Territorial and Regional Development, Construction Management“

IMPROVEMENT OF PROJECT MANAGEMENT IN CONSTRUCTION BUSINESS

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Abstract. The construction business is not only one of the world's largest but also one of the oldest, dating back to the first human attempts to build shelters. Over time, this business grew to include the construction of other infrastructures such as roads, water retention structures, and more. Its scope expands beyond construction to encompass maintenance, changes, and destruction, resulting in a complex field with major economic effects. However, the building sector's high energy consumption throughout manufacturing processes adds to increased carbon emissions, complicating worldwide attempts to reduce carbon. Sustainable building has emerged as a top priority worldwide, are working to reduce environmental consequences and seeing the construction sector as a critical target for intervention. The requirement for sustainability is not just ethical, but also strategically important for enterprises. Integrated Project Delivery (IPD) has developed as a viable strategy for addressing the construction industry's complex difficulties, seeking to improve project results through more cooperation, innovation, and stakeholder involvement. This research looks at the present level of IPD implementation in construction industry, focusing on awareness, uptake, perceived efficacy, and main difficulties. A quantitative technique is used, with a questionnaire survey distributed to industry practitioners and Pearson correlation analysis used to investigate links between key parameters impacting IPD adoption. By accepting different ideas, stakeholders may maximize the potential of IPD and generate good change in the construction sector.

Keywords: *Construction Industry, Project Management, IPD, Strategies*

JEL Classification: O1, R3, Q0

DYNAMICS OF THE FOREST SECTOR COMPETITIVENESS INDEX IN EU COUNTRIES

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Abstract. The article presents the dynamics of development of the forest sector in the EU countries. The sector was analyzed by the Forest Sector Competitiveness Index (FSCI) which design is based on ten secondary calculated relative indicators obtained from the Eurostat. The set of indicators includes: Gross value added per employed; Output per an employed; Consumption of fixed capital per employed; Relative share of the Gross value added in forestry and logging compared the country's Gross value added; Relative share of the Gross fixed capital formation in forestry and logging compared the country's Gross fixed capital formation; Relative share of the Compensation of employees in forestry and logging compared the country's Compensation of employees; Relative share of forests and other wooded lands in compare to the country's area; Relative share of protected forests in compare to the country's total area forests and other wooded lands and etc. The results show that for the period 2008–2020 the most competitive forest sectors have Finland and Sweden. The Baltic Countries improve their positions in the ranking lists and Malta occupies the bottom position. The significant changes in the FSCI for Austria, Slovakia, Denmark and etc. countries were observed.

Keywords: *Competitiveness, Forest Sector, Forest Sector Competitiveness Index (FSCI), Macroeconomic Indicator*

JEL Classification: O11, O13, O52

RAW SCENARIOS FOR FOREST BIODIVERSITY CONSERVATION AND RESTORATION POLICY AND MANAGEMENT: CASE STUDY BULGARIA

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Abstract. The article presents three raw scenarios for forest biodiversity conservation and restoration policy and management developed for Bulgaria. The scenarios are: *Scenario 1: Forest Biodiversity Priority (Reforestation First)*; *Scenario 2: Multifunctional forest management (Everything costs more)* and *Scenario 3: Forest economic priority (Maximum timber production first)* and they are based on the results of a questionnaire, created by the BIOCOSSENT Project (Decision-making Support for Forest Biodiversity Conservation and Restoration Policy and Management in Europe: Trade-offs and Synergies at the Forest-Biodiversity-Climate-Water Nexus). The opinion of 207 stakeholders was studied between November 2023 and March 2024. The respondents were mainly from Teteven municipality and Velingrad municipality and showed their attitudes and opinions on 32 questions, grouped into four sections – Introductory questions about the forest; Current and future forest management practices in field of: cutting regime, thinning regime, tree species selection, regeneration methods, biodiversity improvement method and post-disturbances management; Behavioural responses to current and future drivers by evaluation of influence of the policy, economic, social, technological and ecological factors; Basic characteristics of respondents. For the three raw scenarios, main drivers were derived, grouped as social changes, economic changes, political changes, policy changes, forest management prescriptions, orientation of forest managers.

Keywords: *Behavioural Responses, BIOCOSSENT Project, Biodiversity, Decision-Making Principles, Drivers, Forest Management, Raw Scenarios*

JEL Classification: Q01, Q23, Q57

SPATIAL DATA INFRASTRUCTURE FOR IMPLEMENTING LATVIAN MUNICIPAL FUNCTIONS

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Abstract. Latvian municipalities are increasingly utilizing spatial data in the execution of their autonomous functions, but effective data management and availability across various structural units remains a challenge that can prevent fully realizing the benefits offered by Spatial Data Infrastructure (SDI). The aim of this research is to evaluate the potential of SDI to support the autonomous functions of Latvian municipalities, especially emphasizing its role in increasing the efficiency of services and using it as a tool in decision-making processes. The research employed both quantitative and qualitative research methods, including interviews with municipal representatives responsible for spatial data management or spatial data use and preparation. Additionally, a legislative analysis was conducted to identify the autonomous functions of municipalities, their legal framework, and the associated data requirements, as well as to assess the potential of SDI in supporting these functions, considering data availability and quality requirements. The research revealed that, although municipalities recognize the benefits of SDI, there is a lack of a unified approach to data management and use, which hinders the full use of the potential provided by SDI. Spatial data classification and management model was developed to help identify the necessary datasets for the implementation of municipal functions. The research concludes that while the implementation of SDI in Latvian municipalities is feasible and could significantly improve the quality and efficiency of services provided, as well as promote sustainable development, its successful implementation will require a targeted approach. To achieve this, it is necessary to develop a unified data management model, foster employee understanding of SDI's capabilities, and provide the necessary resources and support. The result of research demonstrates that SDI is not only a tool for improving municipal governance today, but also a platform for future innovations and automation that could significantly change the way municipalities make decisions and deliver services.

Keywords: *Spatial Data Management, Autonomous Functions of Municipalities, Geospatial Technologies in Public Administration, Decision Support System, Data Quality and Accessibility*

JEL Classification: H11

DIGITAL ASPECTS IN SUSTAINABLE URBAN INFRASTRUCTURE PLANNING

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Abstract. The ability of urban infrastructure to withstand external pressure caused by climate change and other processes, mitigate negative impacts the infrastructure and its use may have, and accommodate to diverse social needs is becoming increasingly significant. The United Nations Sustainable Development Goals have set multiple objectives to be achieved by 2030, and the European Union has established its ambition to become climate-neutral by 2050. These targets require construction and operation of sustainable infrastructure which may facilitate achievement of economic, environmental and social goals on equal terms. To be able to deal with multiple external factors, diverse stakeholders and often conflicting economic, environmental and social needs, predictive and real-time data analysis and deployment of smart digital systems are a pre-requisite. Digitalisation is not a characteristic of sustainable infrastructure per se, but it has an increasing potential to enable sustainable construction and maintenance of public infrastructure – such as transport, energy, water management and waste management infrastructure catering to the society’s needs. As a continuation of a study started in 2023, this research focuses on the analysis of 18 consolidated criteria of sustainable infrastructure, as well as the digital aspects and tools that support implementation of the criteria. Among other things, that includes using digital twins for infrastructure planning and its retrofitting, use of smart meters and sensors for predictive maintenance and timely identification of hazards, and use of virtual solutions to improve accessibility of infrastructure.

Keywords: *Smart Cities, Sustainable Development, Sustainable Infrastructure, Urban Planning*

JEL Classification: O18, O21, Q01, Q58

ASSESSMENT OF THE ECONOMIC EFFICIENCY OF PERFORATED METAL MATERIALS APPLICATION

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Abstract. Perforated metal materials (PMMs) are highly versatile due to their unique combination of structural strength, aesthetic appeal, and functional versatility. The global PMM market reached USD 2700 million in 2023, with an annual growth rate of 5-6%. These materials have found applications across a variety of industries, including construction, mechanical engineering, furniture production, and more. Emerging innovations continue to expand their utility, particularly in the fields of composite materials, architecture, design, and environmental protection.

The objective of this study is to assess the economic efficiency of various types and applications of PMMs. To achieve this, we will use a comprehensive cost-benefit analysis methodology, incorporating both direct and indirect economic factors. This approach will allow for a thorough evaluation of the financial implications associated with different PMM types and their applications.

Keywords: *Perforated Metal Materials, Economic Efficiency*

JEL Classification: Q

ADOPTION OF AGRI-ENVIRONMENTAL SCHEMES IN SOUTH MORAVIA AS SEEN BY FARMERS

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Abstract. Human society depends on agriculture for a living, and the health of this industry is a key sign of a nation's development. Currently, protecting soil resources with ecologically friendly practices and practicing responsible land management are prioritized. The so-called agri-environmental measures of the Common Agricultural Policy of the European Union are one method for accomplishing this. Notwithstanding, these methods encounter obstacles such as inadequate adoption by farmers and restricted environmental impact. They require an analysis of environmental features and an assessment of farmer comments in order to be more effective. This study's objective is to evaluate the opinions of farmers in the Czech Republic's South Moravian region. The situation in the interest area was surveyed using a questionnaire. The impact of different elements (farm features, individual opinions, and socioeconomic factors) on farmers' adoption of agri-environmental schemes (AES) is investigated by statistical analysis. In general, farmers participate in AES primarily because the program offers enticing financial assistance that fits with their business plan. The likelihood of penalties, undue complexity, red tape, and stringent restrictions are the most prevalent deterrents. Working together with farmers to improve AES and making advisory services available are essential. These creative strategies will undoubtedly increase AEKO's efficacy both domestically in the Czech Republic and globally.

Keywords: *Agriculture, Agri-Environmental Schemes, Common Agricultural Policy, Sustainable Practices*

JEL Classification: Q18

STRATEGIC DEVELOPMENT DIRECTIONS OF CONSTRUCTION COMPANY

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Abstract. Strategic development is a deliberate and purposeful methodology of developing and executing various strategies as well as initiatives which aimed at accomplishing long-term goals and objectives. This process includes inspecting internal and external attributes impacting the organization, recognizing the opportunities and obstacles, and optimizing the resource allotment and expertise in order to maximize the possibilities and reduce the associated risk. It includes goal setting, establishing allocation of resources, ability to adjust the revolving market conditions. This is necessary to accomplish the attain competitiveness and achieve sustainable growth.

The strategic management gives considerable importance to evaluate and analyse the performance of companies. It plays a key role in improving the performance and managing the complex market changes. Various studies widely agree that strategic planning is a critical management methodology that helps define a company's long-term goals and formulate and implement strategies to achieve those goals.

Construction sector faces a variety of complex risks, especially when undertaking global expansion efforts. As a result, it is necessary for them to devote significant effort to the effective implementation of risk management practices. In general, these companies prioritize project risk supervision because projects serve as their primary source of revenue. Excessive focus on project risk management lead to a number of negative outcomes, including insufficient understanding of all project risks, lack of transparency in project management, ineffective allocation of resources across projects, and challenges in aligning with the organization's strategic goals.

By employing the strategic development in the construction sector helps to identify and evaluate potential solutions, formulate goals and analyse in different contexts. Implementing adaptive planning is a paradigm shift that has a profound impact on the ability to anticipate future events and manage opportunities, changing conditions, and customer needs.

Keywords: *Strategic Development Directions, Construction Sector, Strategies*

JEL Classification: O1, R3, Q0

AI-ASSISTED REVIEW OF SCEE PAPERS (2019-2023): UNCOVERING TRENDS AND GAPS IN CIVIL AND ENVIRONMENTAL ENGINEERING

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Abstract. This study offers an AI-assisted literature evaluation of conference papers submitted to the SCEE (Scientific Conference on Economics and Entrepreneurship) from 2019 to 2023, concentrating on the identification of research trends, gaps, and prospective directions in civil and environmental engineering in Latvia. The study utilizes AI tools and machine learning techniques for the network visualization of research themes. The principal focal areas in the examined papers are sustainability, project-based learning, and quality management, with sustainability emerging as the predominant theme. Significant deficiencies include the absence of region-specific sustainable development frameworks and the inadequate incorporation of emerging technologies, such as artificial intelligence (AI) and machine learning, in engineering procedures. Moreover, the necessity for interdisciplinary methodologies that integrate social, environmental, and economic dimensions of sustainability is apparent. The report continues by advocating for future research on the function of BIM in promoting sustainability and proposes additional investigation into governmental policies and international collaboration to tackle global sustainability issues. This assessment offers critical insights into emerging trends and establishes a basis for furthering research in civil and environmental engineering, specifically addressing Latvia's sustainable development requirements.

Keywords: *Artificial intelligence (AI), Building Information Modelling (BIM), Civil engineering, Environmental engineering, Interdisciplinary research, Machine learning, Sustainability, Sustainable development*

JEL Classification: L74, O22, Q01, Q55, R11, O33

FACTORS INFLUENCING THE ECONOMIC DEVELOPMENT OF COASTAL SMALL TOWNS AND VILLAGES

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Abstract. Small coastal towns and villages face many factors that affect their economic development. Proximity to the sea often offers opportunities in tourism, fishing, and other marine resource industries, but climate change and other environmental factors can significantly reduce the availability of these resources. This study aimed to identify and analyze the main factors that most influence the economic development of small coastal towns and villages. The study was conducted using qualitative content analysis of research articles, focusing on the question: "What factors impact the economic development of small coastal towns and villages?" To answer this question, 16 categories were created, which were then combined into 8 meta-categories: natural factors, socioeconomic factors, infrastructure, economic activities, environmental sustainability, policy and governance, external factors, and culture and social factors. The frequency analysis of the categories helped to structure and understand the influence and interaction of these factors on the economic future of coastal towns and villages. The study results will provide valuable information for future research on strategies that can promote sustainable economic development in coastal areas, considering environmental, economic, and social aspects, as well as the role of coastal ecosystems in the economy.

Keywords: *Coastal Economics, Regional Economics, Economics Factors, Coastal Small Towns and Villages*

JEL Classification: R1

CONCEPT OF DEVELOPMENT OF FUNCTIONAL OFFICES IN HISTORIC BUILDINGS

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Abstract. Historic buildings in Latvia mostly reflect the diverse course of history and indispensable cultural value of the country. They are an important element in the national heritage, as well as characterise and form the identity of the country. Historic buildings are not just a visual enjoyment, but also a mirror that reflects the development, values and changes of society over time. These buildings are a living and continuous part of a history that inspires, educates and promotes awareness of national identity. Current design, functionality and digital technology capabilities of the office space affect not only productivity and well-being of the employees, but also climate change and resource sustainability. Adapting office space in historic buildings in Riga is becoming an important issue, given the historic heritage of the city and the growing demand for modern, flexible work spaces. Many buildings of the historic centre have different state administration institutions as well as most ministries and their respective sub-institutions. These institutions have been allocated in the historic buildings since the renewed independence and the buildings have been adapted for office purposes prior to that accordingly. Looking at the planned new vision of the working environment of the state administration, centralisation of the state administration, it can be concluded that the plan does not exclude the development of relatively small historical building offices and this planned modernization approach is also possible in historic buildings. The creation of contemporary, sustainable offices for the operation of the public sector in historic buildings restores, conserves and sustains the cultural and historical heritage accordingly. In the development of the research, there are general scientific research methods applied such as data analysis and data collection methods, literature review, expert interviews and the survey of employees.

Keywords: *Historical Buildings, Functional Offices, Concept of Development*

JEL Classification: O1, R3, Q0

SECTION

“Learning and Research in Higher Education to Meet Employers’ Expectations in the Digital Era“

THE IMPACT OF GENERATIVE AI ON STUDENTS' UNDERSTANDING OF THE STUDY CONTENT

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Abstract. In the contemporary discourse, it is often articulated that depending on teachers' and students' experiences, generative AI may evoke contradictory mixed emotions ranging from hopefulness, engagement and empowerment to excitement, anxiety, skepticism and confusion. One of the reasons for the anxiety especially of teachers is caused by the challenges faced in the attempts to answer several topical questions such as: "What should students be assessed for?", "What does it mean to understand and to know in the era of AI?", "Is there any mechanism to recognize and separate students' and generative AI's inputs into students' work?". In this regard, paradigms, concepts and categories ought to be revisited, redefined, and remodeled. The literature review and our experience of work with Riga Technical University students enabled us to conclude that the direction of learning in the "Model of five learning gaps" in higher education elaborated by Greg Light and colleagues in 2003 (before AI broke broadly into our lives) should be changed to the opposite today. The original model directs the learning according to the traditional way of thinking that students' understanding grows from lower to higher levels passing through five learning gaps – Gap 1 (between memorization and understanding), Gap 2 (between understanding and ability to do), Gap 3 (between ability to do and wanting to do), Gap 4 (between wanting to do and real doing) and Gap 5 (between doing and deep internal transformations). AI has turned everything upside down, changing the logic, traditions, and directedness of teaching and learning.

Keywords: *Understanding, Generative AI, Higher Education, Learning Gaps*

JEL Classification: A2

THE DIGITAL TRANSFORMATION OF HIGHER LEGAL EDUCATION: OPPORTUNITIES AND CHALLENGES

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Abstract. The aim of the study is to investigate the digitalization trends of higher legal education in Latvia, the related opportunities and challenges.

Research methods: synthesis, thematic analysis, sociological observation, case studies.

Results: There are not only benefits but also challenges in the process of higher legal education. The study of individual cases made it possible to draw conclusions about the direct correlation of digitization processes with the compliance of legal education and the specialists who obtained it with the current requirements of the labour market.

Key finding and recommendations:

- Digitization directly affects the development of the field of jurisprudence – both legal practice and legal education.
- Digitization in higher legal education manifests itself in an increasingly wide range of digital tools, incl. in the use of electronic resources. This requires lawyers to acquire new knowledge, skills and abilities, accelerates legal decision-making and legal processes.
- Timely identification of risks to the quality of higher legal education would allow it to be perfected and developed in accordance with the development trends of the labour market, to ensure the necessary and high-quality training of specialists with legal qualifications for the Latvian labour market.

Keywords: *Digitalization, Higher Education, Law, Lawyer, Legal Assistant, Professional Qualification*

JEL Classification: I230

PROFESSIONAL COMPETENCIES OF THE SCHOOL CAREER COUNSELOR IN THE AGE OF ARTIFICIAL INTELLIGENCE

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Abstract. The transformative impact of Artificial Intelligence (AI) on various fields, including education, economics and entrepreneurship reshapes the landscape and fundamentals of the organisation of societal life and requires a reformulation of working paradigms and redefinition of key concepts. In this regard, a big question mark might be hanging also over the need for school career counselors (SCC) in the era of AI. Indeed, are such specialists still valued if anyone writes a question to ChatGPT asking about career choices based on their preferences and gets back a long list of offers that none of SCC is able even to imagine? Our experiments with ChatGPT proved this thought-provoking fact. However, together with it, ChatGPT itself emphasizes the crucial role of SCC in assisting students to get oriented in their career paths in the times of AI, explaining that there is a scope of human-specific functions such as personalised guidance, emotional support, complex decision-making, networking and resources, ethical and social considerations and adapting to change, which can be provided only by humans but not by AI. The research aims to redetermine and systemise the professional competencies of the SCC based on qualitative content analysis of relevant text fragments from the scientific literature.

Keywords: *School Career Counselor, Professional Competency, Artificial Intelligence*

JEL Classification: I20

NAVIGATING THE DIGITAL SHIFT: UNIVERSITIES CONTRIBUTIONS TO SUSTAINABLE EDUCATION AND WORKFORCE PREPAREDNESS

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Abstract. The focus of the research is the DigComp 2.2 framework (Digital Competence Framework for Citizens), an initiative by the European Commission that defines and categorizes the digital skills and competences necessary for active participation in a digital society. This research aims to enhance workforce skills by leveraging tools developed by higher education institutions, thereby ensuring the effective implementation of this framework for societal benefit. The research used Design Science Research (DSR) as its research methodology, which focuses on the creation and evaluation of artifacts designed to address specific identified problems. This methodology aims to provide practical solutions while contributing to both academic knowledge and real-world applications. The research results indicate an increased availability and acceptance of learning at the DigComp 2.2 framework level. The main conclusion is that a timely response to the growing need for advanced digital skills is a critical task for modern universities. Recommendations – the permanent availability of advanced learning content, coupled with robust support systems, should be a key component of the social and economic ecosystem and sustainable learning in the digital age.

Keywords: *DigComp 2.2, Future Learning, Digital Learning, Workforce, Digital Skills, Sustainable Education, Learning Analytics, Education Technology*

JEL Classification: A, A1, A13

ADULT EDUCATION IN THE DIGITAL ERA: HOW TO MEET EMPLOYERS' EXPECTATIONS

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Abstract. The adult education sector has undergone a profound digital transformation as a consequence of the global pandemic caused by the Covid-19 pandemic. Adult education institutions were compelled to modify their procedures and operational practices to comply with the restrictions pertaining to physical gatherings. Concurrently, universities, which occupy a prominent position within the adult education sector, have undergone a transformation in their approach to providing high-quality courses to adult learners through the utilisation of online or blended teaching and learning methodologies. By employing a range of digital technologies and pedagogical approaches, universities are responding to the increasing demand from industry for the development of essential skills and competencies that are required in the digital age.

The objective of this research is to analyse the strategies employed by universities in providing adult education to meet the expectations of employers in the digital age.

In order to achieve this aim, a number of research methods have been employed, including a scientific literature review, a case study analysis and expert interviews.

In light of the research findings, it can be observed that universities are taking into account the demands of the digital age by developing blended and online teaching and learning models, personalising the adult learners' experience, and introducing the concept of micro-credentials into their strategies. By implementing these initiatives, universities are playing a pivotal role in developing a range of skills and competencies that are highly sought after by employers, including problem-solving, communication, critical thinking, and mindfulness.

Keywords: *Adult Education, Online Education, Digitalization, Micro-Credentials*

JEL Classification: I23, I25

LATVIAN CYBER WORKFORCE OF TOMORROW: CLOSING THE GAP

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Abstract. Cybersecurity is a growing multidisciplinary job cluster in the labour market that nowadays goes beyond information technology specialists. This research paper explores the current situation and emerging gaps in cybersecurity education and employment in Latvia, specifically looking at future skills and strategies advancing human performance in the field. In the context of growing cybersecurity regulation in Europe, the workforce shortage will only increase. The research was performed by evaluating Latvian education offerings against cybersecurity competence models and skills frameworks, engaging with three focus groups of industry, governance, and education experts, and surveying organisations that require in-house cybersecurity specialists. The study shows that organizations lack several cybersecurity roles with the biggest emphasis on: Digital Forensics Investigator, Cybersecurity Architect and Cybersecurity Researcher. In terms of the missing competencies, organizations highlight digital forensics and cyber threat intelligence. A significant number of recommendations were produced for education provision, future skills development, and policy actions. It was concluded that cybersecurity education in Latvia is fragmented and lacks a dedicated national coordinating body. Education gaps are often filled by employers, and future education offerings should be created in close coordination with industry partners.

Keywords: *Cybersecurity, Education, Skills, Job Roles*

JEL Classification: I21, J23, J24, O15