#### Varazdin Development and Entrepreneurship Agency and University North

in cooperation with

#### **Fluminense Federal University**

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GOVCOPP - University of Aveiro



## **Economic and Social Development**

115<sup>th</sup> International Scientific Conference on Economic and Social Development

#### **Book of Abstracts**

**Editors:** 

Marcelo Meirinho, David Resende, Humberto Ribeiro



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# DYNAMIC MODELLING FOR DECISION SUPPORT IN CHANGE MANAGEMENT BY ARTIFICIAL INTELLIGENCE

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#### **ABSTRACT**

This study proposes an original approach to be used in the strategic decision management process, taking into account the identification and prioritization of potential risks of failure in Management of Change (MOC) in an industrial environment. The modelling will include, in an original way, the search for the classification and prediction of probabilistic events, by artificial intelligence (AI), so that the analysis can be done in a more automated way, generating reports that can help in more adequate and realistic results to the model of information management. Machine learning can help in decision-making to manage changes through algorithms that generate reports with data from previously faced problems. Possible results and contributions are a database with information already collected in the studied company, as well as a functional algorithm for solving the presented problem and a functionality test of this algorithm.

**Keywords:** AI, Machine Learning, MOC

# ECONOMIC AND SOCIAL CONSEQUENCES OF FICTITIOUS TRADES IN THE SLOVAK REPUBLIC

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#### **ABSTRACT**

The Slovak Republic has a high proportion of so-called fictitious tradesmen on the labour market, as evidenced by data not only from Eurostat, but also from the Social Insurance Institution. According to statistical data, the number of fictitious tradesmen in Slovakia has increased over the last ten years from 84 thousand to almost 110 thousand. The exact number cannot be determined, but there are ways of estimating it. According to the profesia.sk portal, most job offers indicating the employment of fictitious tradesmen are in manufacturing, transport and construction. As tradesmen pay 6 times less tax and tax payments on the total price of the work for the first year of the trade and 2.3 times less for the following years of the trade, the budget of the Social Insurance Institution as well as the state loses significant sources of revenue. The benefits of the so-called bogus trades are exploited by companies in the form of reduced levy obligations, but employees lose their rights to protection and, at the same time, the adequate amount of future pension benefits as well as benefits from the social security system. The aim of this paper is to examine the reasons and motives for the use of 'bogus trades' and to try to identify measures that will eliminate the use of bogus trades and contribute to a fair level of pension benefits. A Slovak fictitious tradesman who pays minimum contributions is entitled to a minimum pension under Slovak legislation, even though the amount of the pension will not correspond to the contributions paid. This has implications for the fairness and sustainability of the pension system.

Keywords: Fictitious trades, Retirement benefit, Slovak Republic, Social consequences

### THE INTERSECTION OF ARTIFICIAL INTELLIGENCE AND GREEN AND SUSTAINABLE INSURANCE: A PRISMA COMPLIANT ANALYSIS AND LITERATURE REVIEW

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#### **ABSTRACT**

Artificial intelligence (AI) is currently the most prominent technological advance digitally transforming the world and all the business industries. In this study, the main objective is to survey, identify and analyse the relevant published studies and their findings regarding the application of AI and AI-based technologies in green/sustainable insurance. For that purpose, one of the most relevant scientific databases (i.e. the Scopus scientific database) was surveyed in search of published relevant work regarding green/sustainable insurance and Artificial Intelligence (AI). The SLR (systematic literature review) method has been applied, in compliance with the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines. The keywords/key terms "GREEN INSURANCE" or "SUSTAINABLE INSURANCE" AND "ARTIFICIAL INTELLIGENCE" were applied to the Scopus scientific database. The results of this study consist of insights and trends in the academic literature regarding the implementation of AI in green/sustainable insurance and have important practical and academic implications and reveal the hotspots and trends in the use of Artificial Intelligence in green finance in general. The findings of the surveyed papers are provided in a narrative synthesis. This could further expand this already topical subject, as there is a growing interest in incorporating AI in all fields of finance and all financial sectors globally. Therefore, this study could represent a stepping stone and one step further in this direction.

**Keywords:** Artificial Intelligence, green finance, fintech, sustainability, sustainable fintech, PRISMA, systematic literature review

### SUSTAINABILITY PERFORMANCE ASSESSMENT OF ACCOMMODATION FACILITIES IN ARMAÇÃO DOS BÚZIOS, RJ (BRAZIL): A CASE STUDY IN LIGHT OF THE ESG CRITERIA LISTED IN ABNT PR 2030:2022

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#### **ABSTRACT**

As 2030 approaches, the deadline for implementing the United Nations' 17 Sustainable Development Goals (SDGs), and the concern about sustainability increases globally. Organizations and countries are still far from achieving the goals set by the SDGs. Tourism, an important sector for global socioeconomic development, impacts and is impacted by different stakeholders, and can preserve and affect the environment and society. Given the importance of Armação dos Búzios, RJ, Brazil, as a tourist destination internationally recognized for its natural beauty and rich cultural heritage, the analysis of sustainability practices adopted by local accommodation facilities is extremely important to avoid the stagnation of the destination, allowing the place to continue attracting national and international tourists. Considering these aspects, this study aims to quantitatively measure the sustainable performance of accommodation facilities in Armação dos Búzios in light of the ESG (environmental, social and governance) criteria described in ABNT PR 2030:2022 (Associação Brasileira de Normas Técnicas – Prática Recomendada). To this end, a survey was carried out, based on data and information displayed on the websites of accommodation facilities located in the municipality. The results revealed the performance of the municipality and the accommodation facilities in relation to the ESG criteria of ABNT PR 2030:2022 and point out a gap by showing that, despite adopting some sustainable practices, the city's accommodation facilities are still far from a more significant performance. In terms of percentage values: five accommodation facilities stood out within the sample analyzed throughout the research, precisely because they are aligned with ESG practices based on ABNT PR 2030:2022 and for adequately publicizing their sustainability initiatives on their websites.

**Keywords:** Accommodation facilities, Armação dos Búzios, RJ, Brazil, ESG, Sustainability, ABNT PR 2030:2022

# HUMAN FACTORS AND NEW VIEWS OF SAFETY APPLIED TO MANAGEMENT SYSTEMS: A SYSTEMATIC LITERATURE REVIEW

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#### **ABSTRACT**

Occupational Safety as a science has evolved over time around methodologies based on command-and-control management modes, derived from the PDCA cycle. Management systems such based on ISO 45001:2018 have become popular in many organizations and although efficient, this form of management seems to have reached a plateau of development, as after a certain level, there is no longer significant reduction in accident rates and other typical safety indicators. Traditional management systems consider humans as a problem to be controlled and understand that the origin of issues and accidents are deviations from the activities performed in relation to what was planned. In recent decades, this way of understanding work has been questioned by management methods that consider human factors as central to improving safety results. Such theories are often grouped under the umbrella called "New View" of Safety. This article seeks to investigate whether and how these new theories are applied to management systems.

Keywords: Human Factors, New Views of Safety, Safety Management Systems

# APPLICATIONS OF MACHINE LEARNING AND ARTIFICIAL INTELLIGENCE IN THE OIL AND GAS INDUSTRY: A STUDY OF KEYWORDS AND RESEARCH RESULTS

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#### **ABSTRACT**

The integration of advanced machine learning (ML) and artificial intelligence (AI) techniques in the oil and gas industry is rapidly evolving, focusing on improving operational predictions and optimizations. This study investigates the frequency and interconnectedness of key terms associated with these technologies through network diagrams and academic research results. An extensive search in the Scopus database revealed significant trends and patterns, highlighting the central role of forecasting and optimization within the industry. The interdisciplinary nature of the research underscores the need for collaboration across various fields to tackle complex challenges. While data quality and infrastructure pose challenges, the potential for enhanced efficiency, reduced costs, and increased safety through AI and ML applications is substantial. Case studies demonstrate the practical benefits, and future advancements promise deeper integration of these technologies into industry operations.

Keywords: Machine Learning, Artificial Intelligence, Oil and Gas Industry and Environment

### HIERARCHIZATION MODEL APPLIED IN OIL AND GAS COMPANIES USING THE TRIPLE BOTTOM LINE

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#### **ABSTRACT**

Multicriteria Decision Aid methods have been applied to different types of problems, and in different areas of knowledge, with a tendency towards increased application in contexts related to the sustainability situation. In this sense, the present study aims to present a Hierarchization Model applied to companies in the oil and gas sector using the Triple Bottom Line with the intention of providing a greater relationship between the theoretical and practical part of sustainability, taking into account economic prosperity, social justice and environmental protection, within its operations. To this end, a robust bibliometric analysis was carried out, which contributed to the design of a theoretical framework that contributed to the thematic and methodological convergence used to achieve the proposed objective. The Empirical Model developed can be used as an input for analyzes that calculate the final score of the Triple Bottom Line. The Model was based on both TOPSIS (Technique for Order Preference by Similarity to Ideal Solution) and the use of GUT Analysis, with weight being assigned to each criterion, taking into account the parameters related to severity, urgency and trend for the Triple Bottom Line Model of oil and gas companies.

**Keywords:** Sustainability Management, Triple Bottom Line, TOPSIS, GUT Analysis, Oil and gas

# ANALYSIS OF OCCUPATIONAL HEALTH AND SAFETY TRENDS IN BRAZILIAN ECONOMIC SECTORS:

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#### **ABSTRACT**

The objective of this research is to analyze occupational health and safety (OHS) trends across different economic sectors in Brazil from 2019 to 2021 using data from the Brazilian National Classification of Economic Activities (CNAE). The methodology used involved collecting data from authoritative sources such as the Brazilian Institute of Geography and Statistics (IBGE) and the Ministry of Labor and Employment, followed by advanced statistical analyses to identify patterns and correlations. The results reveal significant variations in accident and severity rates among different CNAE sections, as well as correlations between these safety metrics and economic indicators such as average wages and the number of employees. For instance, the Water and Sewage sector exhibited the highest accident rates, while the Education sector had the lowest. The conclusions drawn indicate that sector-specific differences in OHS are influenced by unique characteristics of each sector, suggesting the need for tailored prevention strategies. These findings provide a concrete basis for formulating targeted policy interventions and sector-specific safety initiatives, aiming to enhance workplace safety standards across Brazil's diverse economic landscape.)

**Keywords:** CNAE, Occupational Health and Safety, Workplace Accidents, Economic Sectors, Regulatory Impact

# CYBER INSURANCE IN BRAZIL: ANALYSIS OF BENEFITS AND CHALLENGES

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#### **ABSTRACT**

The digital evolution of recent decades, in addition to promoting technological innovations, has brought several significant threats, such as service interruptions and data theft. However, despite recent studies addressing this issue, due to the dynamic nature of these threats, the use of cyber insurance as a protection mechanism is still an increasingly developing field. This study aims to evaluate the importance of cyber insurance, highlighting its benefits and challenges associated with its adoption. An empirical investigation was carried out considering the context of the Brazilian insurance market. Data collection involved the application of a questionnaire that gathered perceptions from 139 participants, including specialists in the sector and individuals with no prior knowledge of the subject. The results indicate that, despite being a new market impacted by the underreporting of incidents, cyber insurance plays a crucial role in mitigating cyber risks in various segments of society. We recommend analyzing how advanced technologies can innovate and create flexible policies to meet the specific needs of companies. The limitations of the study include the continuous and rapid evolution of cyber threats, which may influence the observations made. As a contribution, the study seeks to encourage awareness and information on strategies to strengthen digital security, especially considering the context of developing countries.

Keywords: cyber insurance, cyber risk, benefits, challenges

# LITERATURE REVIEW: SUSTAINABLE HUMAN RESOURCE MANAGEMENT

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#### **ABSTRACT**

Human Resource Management (HRM) is a critical area for organizational development and has evolved with strategies oriented toward sustainability principles. The increase in environmental awareness, regulatory and political pressures, stakeholder expectations, changes in the labor market, and globalization challenges—such as the United Nations Global Compact which led to the development of the Sustainable Development Goals (SDGs)—are factors contributing to the growth of scientific studies and organizational adoption of Sustainable Human Resource Management (SHRM). Given that the literature on SHRM is fragmented, diverse, and presents difficulties regarding consensus, the objective of this study is to identify and clarify the inconsistencies concerning the differences and interdependencies among the various approaches to HRM oriented toward sustainability. To achieve this objective, the study employed a systematic literature review in international databases (Scopus and Web of Science). Based on the theoretical foundation, the study identified trends in SHRM, the conceptual framework, the different aspects of associated terminologies, and a comparative analysis of HRM models. As a result, a theoretical framework of recommendations was developed to guide SHRM in contributing to the achievement of the SDGs. Given the lack of consensus on SHRM, further research, particularly empirical studies, is necessary to consolidate terms, concepts, and the feasibility of SHRM practices. Additionally, SHRM models could be developed to support governments, businesses, institutions, and organizations, thereby meeting the sustainability demands of society, science, and organizations.

**Keywords:** SDG, Sustainable Human Resource Management, Sustainability, Human Resources

### CRISIS COMMUNICATION IN ADVERTISING AGENCIES: STRATEGIES AND PRINCIPLES OF ITS EFFECTIVE MANAGEMENT ON SOCIAL MEDIA

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#### **ABSTRACT**

The main aim of the author's professional scientific interest is: "to create a theory of crisis communication in advertising agencies as a segment of the creative industry", due to the fact that this area has not been explored, in the Czech-Slovak context it is not given scientific attention. The current paper, with its content and findings, follows the author's previous articles (ŠTEVČAT SZABÓOVÁ, V.: Crisis Communication in the Creative Industry: Specifics of B2B and B2C Communication of Advertising Agencies. Trnava: UCM, 2023, p. 385-395; SZABÓOVÁ, V., SPÁLOVÁ, L.: Crisis Communication in the Creative Industry. Cambridge: Aricon, 2019. p. 24-37; SZABÓOVÁ, V. Crisis Communication in Creative Industries and its staffing. Trnava: UCM, 2019, p. 335-352) and discusses crisis communication of creative workers on social media. Firstly, because it discusses the escalating need and necessity of using social media for crisis communication (PŘIKRYLOVÁ J. ET AL., 2019), but also because the author's previous research has revealed a shift to the online space as the most prominent feature of crisis communication in advertising agencies - the crises that advertising agencies manage often arise there, but at the same time, social media platforms are a tool for a reactive approach to resolve them or a way of a proactive approach to prevent them. On the basis of the above-mentioned starting point, the principles of effective crisis communication, which can be applied in times of crisis, were formulated in direct participation with the employees of leading Slovak advertising agencies, who formed the research file of this study. The study also defines other characteristics of crisis communication in the creative industry - it is devoted to the identification of the applied approach, i.e. whether an active effort to resolve, a blind defense of the brand or a passive approach in the form of ignoring the emerging problem dominates. It also captures the state of play regarding the use of crisis communication prevention tools by people in the creative industries, also in direct application to the social media environment. Keywords: Advertising agencies, Crisis Communication, Creative industry, Crisis

**Keywords:** Advertising agencies, Crisis Communication, Creative industry, Crisis communication strategies, Media, Social media

### A PROPOSED METHODOLOGY FOR KNOWLEDGE MANAGEMENT IN TECHNOLOGY-BASED STARTUP

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#### **ABSTRACT**

Startups are pivotal in growing the economy of many countries, generating income, and contributing to social and professional development. However, they frequently encounter unforeseen and recurring failures. The emergence of innovations in various scientific domains and their use by society to address diverse challenges, ranging from agriculture to space exploration, have driven the appearance of new technology-based startups. To stay competitive, companies must rapidly adapt to market shifts, embrace innovation, and enhance performance to ensure business continuity. This article aims to identify and analyze the most used tools by startups for knowledge management to quickly absorb and adapt to market changes and propose a methodology for startup managers who wishes to implement a knowledge management area to better manage their most valuable asset: their Intellectual Capital. In this research, carried out in the exploratory format aligned with its objective, a questionnaire was designed based on a comprehensive review of 121 articles published in the Scopus (Elsevier) database to answer the following question: What tools are used by Technology Startups to capture and disseminate knowledge? The survey was made available to a group of startups based in Brazil and to the startups that participated on the Shell Startup Engine program during the period of October 19, 2022 until December 11, 2023. Evidence have indicated that startup managers need to stay up to date on innovations that effectively address their customers' needs. Artificial Intelligence emerges as a forefront technology-based competitive advantage, but it requires extensive information sharing among everyone involved in the process. The questionnaire results indicate that the startup Intellectual Capital needs to be properly managed via the existence of a Knowledge Management area, the establishment of governance policies and use of technology to protect the company's knowledge repository, particularly regarding to cybersecurity.

Keywords: Digitalization, Governance, Innovation, Knowledge Management, Startups

# THE INFLUENCE OF SOCIAL MEDIA PLATFORMS ON ONLINE SHOPPING BEHAVIOUR AND CONSUMER DECISION-MAKING PROCESS

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#### **ABSTRACT**

The internet and social media are increasingly influencing people's everyday lives. Understanding how social media platforms influence online shopping behaviour and consumer decision-making processes is paramount. As a result of worldwide purchasing products online, consumers can become very vulnerable to being influenced by social media to buy a product directly. With tactics like targeted advertisements and influencer marketing frequently used by companies to convince consumers to buy their products or services, marketers must understand how this can be accomplished, to what extent consumers can be influenced, and if companies need to promote products online. This research paper aims to provide a comprehensive understanding of how and to what extent social media, their users, and influencers influence the consumer's behaviour and decision-making process and how it increases brand awareness. The research results elaborate on the factors playing an important role in influencing consumer behaviour and the decision-making process. Additionally, the research explores how this behaviour and the decision-making process are being altered by social media. The methodology used in this research paper, which includes secondary data analysis, historical method, analysis, comparison, and primary research using quantitative empirical research, was chosen for its ability to provide a comprehensive understanding of the topic. The quantitative research was used to evaluate whether consumers' behaviour and decision-making process were and still are being altered in ways that could confirm that social media indeed influences consumers with its multiple aspects. This research paper elucidates the practical implications of how companies can implement different promotional and advertising techniques and which factors are essential to understanding and maximizing promotional activities using social media. By understanding these implications, companies can make decisions and effectively leverage social media for their promotional activities.

**Keywords:** consumer behaviour, decision-making process, influence, marketing, social media advertising

# THE IMPORTANCE OF THE ZERO MOMENT OF TRUTH IN THE "Z" GENERATION

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#### **ABSTRACT**

In today's dynamic market environment, the idea that consumers know themselves and their needs best is a fundamental principle that reflects the importance of understanding consumers' inner motives and desires. Consumers typically have a deep understanding of their needs, preferences, and life goals, and are motivated to act to satisfy those needs. Given this premise, the company's role is not only in providing products and services but also in directing and encouraging these consumer motives. The zero moment of truth (ZMOT) represents a crucial moment in the buying process, where consumers research products or services online before making a final purchase decision. ZMOT marks a change in the behavior of consumers, who increasingly use digital channels to research products and services, highlighting the importance of a brand's digital presence. In addition, ZMOT provides an opportunity for brands to influence consumers at a time when they are open to information and influence. By properly managing ZMOT, brands can increase their presence, improve conversion, and build consumer loyalty. Therefore, understanding and effectively managing ZMOT is crucial for the success of brands in today's digital environment and competitive market. The goal of this research is to determine the differences in the behavior of consumers X, Y, Z, generation in the virtual environment, i.e. online stores, as well as whose experiences consumers value more when deciding to purchase a product or service. Let's consider electronic word-of-mouth communication (eWOM) in the Z generation with the mentioned terms and research. We will get significant results on how much consumer behavior changes depending on which generation it belongs to.

**Keywords:** consumer behavior, Z generation, zero moment of truth

















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