

# **The Economic Dynamics of Infrastructural Financing and Human Capital Development in Nigeria**

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## ***Abstract***

*This study examined the effect of infrastructural financing on the human capital development in Nigeria from 1981 to 2022. The motivation for this study stems from the critical need to empirically demystify the nexus between infrastructural financing and human capital development in Nigeria, considering the ever-growing population and the necessity to enhance human capital. The study applied the secondary data which were sourced from the Central Bank of Nigeria Statistical Bulletin and world Development indicators for the period of study. The data generated were analyzed with using the Auto Regressive Distributed lag model (ARDL) model. The ARDL results demonstrated various signs. It was reported that Transport Expenditure exhibited a statistically significant positive sign at the 5% level. Similarly, Interest Rate showed a statistically significant positive impact on human capital development. Conversely, Road Expenditure and Education Expenditure were found to have statistically significant negative coefficients, indicating an unfavorable effect on Human Development in Nigeria. Additionally, the variable EXCH was reported to have a non-significant negative coefficient, suggesting it did not exert a statistically significant influence on human capital development in Nigeria. The study therefore concluded that infrastructural financing has significant impact on human capital development in Nigeria. The Government should make very deliberate efforts to boost funding towards the noble cause of increasing funding for infrastructural special provision at various levels of government from Local to state and the federal governments. The study further recommended that Special banks be established to cater for funding of infrastructural facility needs in the country.*

**Keywords:** *Infrastructural Financing, Human Capital Development, Nigeria*

# **Dynamic relationship of Pakistan Stock Market with the Stock Markets of Developed Countries which have Portfolio Investment in Pakistan**

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## ***Abstract***

*This study examines the dynamic relationship of the Pakistan stock market (KSE-100) with the stock markets of developed countries, specifically which have portfolio investments in Pakistan. The data was collected for the period of ten years from July 2013 to December 2023. Monthly stock returns data is used to interpret the results. All required data was obtained from the Pakistan stock exchange, Yahoo Finance, and the business recorder website. Descriptive statistics, Correlation, Unit root test (ADF Test, PP Test), VAR, VECM, Variance Decomposition Analysis, and JJ test (Johansen and Julius test) were applied to data for empirical results of the study. The result observed dynamics in the linkage of selected markets for both long and short periods of time. The study revealed that the markets of Pakistan and seven developed countries are co-integrating in the long run, but this co-movement moved slowly in the short run, so the Pakistan stock market has limited portfolio diversification opportunities for these countries in the long run. But there would be chances of short-run portfolio diversification opportunities in the market of Pakistan.*

*Keywords: Portfolio Diversification, Pakistan Stock Market integration, cointegration*

## **Narratives of Change: Rethinking Holistic Development and Spirituality in the Age of AI for Sustainable Futures**

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## ***Abstract***

*This paper is a meta-synthesis of graduate dissertations supervised in three disciplines that include educational leadership, spirituality, and AI based learning in the department of education of a university in Pakistan. The study was done to incorporate disjointed findings into coherent accounts of change that consider holistic development in the age of Artificial Intelligence (AI). The study is also in line with the Sustainable Development Goals (SDGs). The review, coding, thematic analysis of each thesis was conducted using qualitative meta-synthesis in order to determine*

*patterns and interpretive insights. The results of this synthesis show that spirituality, guidance and mentoring for self-realization can give a moral compass to adopting ethical, and reflective pedagogy, which can in turn give rise to critical and creative thinking among learners. Empowerment and character building were noted to be driven by leadership and mentorship, whereas the holistic development strengthened the convergence of the intellectual, emotional, physical and spiritual growth in a Whole Person paradigm. The researches around AI-power teaching and learning raised the prospects of innovation and the threat of dehumanization, which points to the importance of ethical frameworks. The disclosures of sustainability discourses showed how local educational research can be helpful in international equity, inclusion, and justice agendas. This synthesis underscores the fact that in order to attain sustainable futures, technological advancements have to be supplemented by human values, ethical leadership and education that is based on spiritual foundations. The research provides interdisciplinary value by showcasing the potential of graduate level work to produce insights, which help bridge the gap between local practices and global issues and provide a human-focused holistic road map to education in the age of AI.*

## **Profitability Comparison of Small, Medium and Large Dairy Farms in Five Selected Districts of Punjab, Pakistan**

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### **ABSTRACT**

*The global dairy industry is undergoing structural changes, with a trend towards larger, more cost-efficient farms. While previous international studies indicate that larger herd sizes achieve lower production costs and higher profitability, this relationship remains underexplored in the specific context of Pakistan's dairy sector. This study investigates the impact of farm size on the profitability of dairy farms in five districts of Punjab (Lahore, Jhang, Faisalabad, Sahiwal and Vehari), Pakistan, by analyzing key operational variables. Data were collected from one hundred dairy farms, categorized as small (<50 animals), medium (50-100 animals), or large (>100 animals). Key variables included the percentage of productive animals, average milk production, milk price, total expenses, and total income. The data were analyzed using linear regression to determine the relationship between these variables and farm income for each size category. The analysis revealed distinct drivers of income across farm sizes. For large farms, income was significantly influenced by the percentage of productive animals and average milk yield, but not by the milk price. In contrast, for small and medium farms, milk price was a significant determinant of income. While the percentage of productive animals was a positive and significant factor for profitability across all farm sizes, its financial impact (regression coefficient) was substantially greater for large farms. Total expenses had a significant but diminishing positive relationship with income across all categories. The study concludes that economies of scale significantly influence dairy farm profitability in Pakistan. Large farms benefit from operational efficiencies that make them less sensitive to milk price fluctuations, whereas small and medium farms are more dependent on achieving higher milk prices. These findings highlight the competitive challenges faced by*

*smaller operations and suggest that strategies such as improving herd productivity and exploring direct marketing could be vital for their sustainability.*

**Keywords:** *Dairy farm profitability, farm size, economies of scale, regression analysis, Pakistan, operational efficiency.*

## **Strategic Agility and Sustainable Innovation in Tech Startups: A Comparative Study of Türkiye and Pakistan**

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### **Abstract**

*In an era of rapid technological transformation and global uncertainty, strategic agility and sustainable innovation have become critical success factors for startups. This study explores how technology-driven startups in Türkiye and Pakistan develop strategic agility to drive innovation that is not only commercially viable but also environmentally and socially sustainable. Employing a multiple case study method, the research investigates 12 startups across renewable energy, e-health, and agri-tech sectors. Data collected through interviews and business model analysis reveals that startups that exhibit higher levels of strategic agility—characterized by flexible leadership, iterative innovation, and stakeholder co-creation—are better positioned to adapt to volatile markets and regulatory shifts. The study identifies digital tools such as big data analytics, cloud-based collaboration platforms, and agile project management software as enablers of real-time decision-making. Moreover, startups that integrate environmental, social, and governance (ESG) principles into their core strategies tend to outperform their peers in securing investor confidence and public trust. The research develops a strategic agility framework linking organizational capabilities to sustainable value creation, offering both theoretical and managerial implications. The findings are especially relevant for policy makers, incubators, and entrepreneurs aiming to scale startups in line with the UN Sustainable Development Goals (SDGs), particularly SDG 9 and SDG 11. The study emphasizes that innovation and sustainability must be pursued concurrently to ensure long-term competitiveness.*

**Keywords:** *Strategic Agility, Sustainable Innovation, Startups, Tech Entrepreneurship, Business Strategy, Türkiye, Pakistan*

# **Rate of Change and Pre-Calculus Ideas in Lower Secondary Science: A Comparison of Turkish Textbooks from 1954 and 2024**

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## ***Abstract***

*This study compares how rate of change and pre-calculus/calculus-related ideas are treated in Turkish lower secondary (Grade 7) science textbooks published in 1954 and 2024. One Grade 7 textbook from each year was sampled. Using a mixed-methods content analysis, two independent researchers coded all tasks and worked examples that referenced ratio/proportional change, graphs, or explicit rate/derivative language. Coding was conducted in MaxQDA; inter-coder agreement was established on a subset prior to full coding. Quantitative summaries (frequencies and percentages) were complemented by qualitative exemplars. Findings show that the 1954 textbook employs proportional reasoning and qualitative increase/decrease language but offers no explicit treatment of slope, average vs. instantaneous rate, or the difference quotient. The 2024 textbook includes substantially more graph-based tasks and explicit “rate/slope” vocabulary, yet emphasis remains on average rate and largely linear cases, with limited attention to non-linear change or bridging to calculus concepts. We conclude with suggestions to strengthen the progression from science to calculus through unit-aware slopes, data-to-rate reasoning, and scaffolded use of difference quotients.*

## **The Reasons for the Self-Control Bias of Investors in the Pakistan Stock Exchange (PSX) and the Degree of Its Growth**

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***Abstract***

*This study aims to investigate the causes of investors' self-control bias in Pakistan's stock market and to build a scale on it so that the research can be operationalized in the future. The purpose of the study was to identify potential predecessors of self-control bias and to characterize the strength and degree to which each precursor contributes to the development of self-control bias in PSX investors during the investment decision-making process. The self-control bias is a state in which people shows lack of ability to control their emotions. The study's first section consists of semi-structured interviews with stock market experts. Expert responses based on semi-structured dialogues with investors are then approved, and NVivo is used on the main findings to create a word cloud that can be used to identify specific self-control bias precursors. The measures' context and content validity are also checked by having five language experts and five market experts approve each measure in turn. In the second section, the self-developed scale is floated in order to perform the following tests: the Bartlett's sphericity test to verify item correctness; the Kaiser-Meyer-Olkin (KMO) test to assess sample size; an exploratory factor analysis (EFA) to reduce over-loading items based on outlier detection; and a check for outliers. In order to examine the inter-item association between items and create a more polished scale, the third segment includes*

*the floatation of a refined scale with a limited sample size in comparison to previous floatation's of the scale. The polished scale floatation in the fourth segment uses a smaller sample size compared to previous scale floatation's to assess the consistency of factors (if an item is omitted), the relationship between factors, and the cause-and-effect relationship between factors. In the final section, a refined scale with a smaller sample size is floated in comparison to previous floatation in order to validate the factors for scale using Principal Component Analysis (PCA). The Security and Exchange Commission of Pakistan, or SECP, is the body that oversees the Pakistani stock market. By investigating and verifying the reasons behind investors' self-control bias, it is possible to control this bias by offering workshops to individuals. This could result in a more efficient stock market and economy as a whole.*

## **The Impact of Creativity and Green Environment Practices on Sustainable Performance in Banking Sector of Pakistan**

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### **Abstract**

*As the business environment is evolving day by day, hence the organizations are becoming more aware of the significance of the sustainability as a major factor for the long-term growth and competitive advantages. The main aim of this research is to understand effect of creativity and green environment practices on the sustainable performance of the organization for specifically having banking institutions in Pakistan. For this purpose, questionnaire responses were collected from 350 professionals through quantitative research method. The study utilized Structural Equation Modelling (SEM) for identification of the associations between creativity, green environment practices and sustainable performance. The research outcomes demonstrate that creativity and green environment practices enhance the sustainable performance of an organization. It can be concluded from the study that creativity and green practices are a means of achieving better sustainable performance in an organization.*

**Keywords:** *Creativity, Green Environment Practices, Sustainability, Sustainable Performance and Organizational Growth*

## **Financial Innovation and Sustainable Economic Development in Developed Economies: The Interplay of Finance, Technology, and Renewable Transitions**

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***Abstract***

*In developed economies, financial innovation has transformed from just a tool for efficiency and market growth into a key player in driving sustainable economic development (SED). This paper takes a closer look at how financial innovation, financial development, renewable energy consumption, and information and communication technology (ICT) work together to influence sustainable growth in OECD and G7 countries. By employing a dynamic panel model estimated through the two-step system Generalized Method of Moments (GMM), the study analyzes data from 28 developed nations over the period from 2000 to 2024. The findings reveal that financial innovation and development are crucial indicators of sustainable economic advancement. Additionally, renewable energy consumption and ICT serve as supportive elements, enhancing the sustainability effects of financial innovation by fostering efficiency, optimizing resources, and reducing carbon emissions. Socioeconomic factors like trade openness, foreign direct investment (FDI), and demographic structure also play a significant role in shaping the sustainability paths of nations. The results indicate that achieving SED in developed countries isn't just about technological progress; it's about implementing integrated policies that connect finance, innovation, and environmental governance. The paper wraps up with practical recommendations for policymakers, highlighting the importance of regulatory alignment, green financial ecosystems, and inclusive digital transitions as vital components for long-term sustainability.*

**Keywords:** *Financial Innovation, Sustainable Economic Development, Renewable Energy, ICT, OECD, Financial Development, GMM, Green Finance.*

**Investor Protection and Financial Performance: Evidence from Asian Islamic Banks**

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## **Abstract**

*The basic purpose of this study is to analyze the impact of investor protection on the financial performance of Islamic banks. Protecting minority investors is important for the economy because it may contribute to increasing the financial performance of the banks. The recent growth in Islamic economic system in the entire world brings attention to the researcher to know the impact of minority investors on the banks financial performance. This study collected data from selected Asian countries, including, Pakistan, Afghanistan, Jordan, Maldives, Qatar, Saudia Arabia, and United Arab Emirates and the sources of data are Bank scope and world bank. This study covers twenty-five banks. This study employed a panel data analysis on 125 observations to extract the results. In this study, researchers used two proxies to measure the financial performance of the Islamic banks, i.e. Return on Assets (ROA) and Return on Equity (ROE). Based on Breusch and Pagan Lagrangian multiplier test and Hausman test this study found that fixed effect is the appropriate model. Fixed effect model produces the results that minority investor protection has no significant impact on Islamic banks' financial performance. This study provides a direction that minority investors protection has no meaningful impact on the performance, but the country level institutions cannot ignore the impact of minority investors protection on the financial performance of the banks and overall economy. The current study strengthens the literature of minority investors protection and Islamic banks financial performance.*

**Keywords:** *Minority Investor Protection, Financial Performance, Islamic Banks*

## **The Role of Digital Finance and Blockchain in Strengthening SME Resilience in Emerging Markets**

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## **Abstract**

*Small and Medium Enterprises (SMEs) are the backbone of emerging economies, yet they continue to face critical financial access barriers. Traditional financing methods often exclude SMEs due to high transaction costs, lack of credit history, and bureaucratic inefficiencies. This study investigates the transformative potential of digital finance and blockchain technologies in enhancing SME financial resilience, with a focus on Pakistan, Bangladesh, and Indonesia. Through a mixed-method approach—including surveys from 250 SMEs and semi-structured interviews with fintech providers—the research examines how digital wallets, peer-to-peer lending, and smart contracts are creating more inclusive and transparent financing ecosystems. Findings suggest that blockchain-enabled digital finance improves SME liquidity, builds trust among stakeholders, reduces fraud, and facilitates efficient cross-border payments. However, challenges such as inadequate digital infrastructure, regulatory uncertainty, and limited digital literacy persist. The paper proposes a multi-stakeholder model involving fintech firms, regulators,*

*and SME associations to foster sustainable adoption. This research contributes to the body of knowledge on financial inclusion and proposes practical policy and technological recommendations that align with UN Sustainable Development Goals (SDGs), particularly SDG 8 (Decent Work and Economic Growth) and SDG 9 (Industry, Innovation, and Infrastructure). The study underscores the importance of integrating technological innovations within the broader agenda of business sustainability and inclusive economic development.*

**Keywords:** *Digital Finance, Blockchain, SMEs, Financial Inclusion, Fintech, Resilience, Emerging Markets*

## **Sentiment Analysis-Based Prediction of Stock Prices in the Pakistan Stock Exchange: A Deep Learning Approach**

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### **Abstract**

*The main aim of this study is to predict the stock prices using deep learning methods (LSTM and DNN along with CNN and GRU), based on financial news sentiment. The Python scraping tool extracted financial news from Business Recorder, Dawn and Pakistan & Gulf Economist on daily basis using FinBERT to develop sentiment indices. The investigation uses KSE-100 index values from January 2013 to October 2024 for training and assessment of each forecasting model's predictive accuracy. All tested models proved that positive news has lower predictive power than negative news for stock price changes in the Pakistan's KSE-100 index. The CNN model performed best out for its ability to forecast price patterns in short periods by showing the highest precision value of 97.82% and maintaining a lowest MAPE 2.18%. LSTM model was found best in long term with 95.89% accuracy and 4.11% MAPE levels. Surprisingly the GRU model exhibited the most minimal test loss (0.0003) although its MAPE score reached 8.36%, indicating limitations in precise predictions despite low overall errors. The research findings prove that stakeholders together with investors must add news sentiment to their asset price predictions for better outcomes. This approach of merging sentiment analysis into existing models improved the forecasting accuracy which became an essential tool for managing the volatile Pakistani market.*

*Key Words: Stock price prediction, Deep learning, LSTM, DNN, CNN, GRU, Financial news sentiment, FinBERT, Forecasting accuracy, MAPE*

## **Smart Milling Systems: Temperature Data Based Asynchronous Motor Application with PLC and Mobile Control**

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### ***Abstract***

*In this study, an integrated automation system for monitoring and controlling a three-phase asynchronous motor used in critical processes within the milling industry is developed. The system enhances energy efficiency and reliability by dynamically controlling the forward/reverse motion of the asynchronous motor based on real-time temperature data. A Programmable Logic Controller (PLC), Human-Machine Interface (HMI), Supervisory Control and Data Acquisition (SCADA) system, and an iOS/Android server are employed in the development of an intelligent, precision control mechanism for industrial automation processes. The system automatically switches the motors operating modes, particularly during thermally variable operations such as grinding and crushing, thereby maximizing process safety and continuity of production quality. The specific hardware components used in the study include an OMRON CJ2M PLC, an OMRON NB7W HMI, a cMT-SVR-100 server, an ENDA ET4420 thermal controller, and an electrical panel. CX-Programmer, NB Designer, CX-Supervisor, and Easy Builder Pro software are used in programming. Various communication protocols were employed to ensure system flexibility and*

*multi-platform compatibility. RS-485 was used for data transfer between the thermal controller and the HMI, RS-232 for communication between the HMI and the PLC, and Ethernet for the link between the PLC and the iOS/Android server. SCADA and HMI provide the chance of real-time data tracking, analysis, and remote control. Test results offer process optimization, fault diagnostics, and a user-friendly operational interface in the milling industry. Furthermore, the system can be developed in future studies to include IoT-based data analytics, energy management, and AI-supported predictive maintenance applications.*

## **Mathematical Modelling of NSAIDs Transport and Degradation in An Urban River Using An Advection–Dispersion Framework**

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### ***Abstract***

*Pharmaceutical contamination in aquatic environments has emerged as a global environmental concern due to the persistence and ecotoxicological effects of active pharmaceutical ingredients, particularly non-steroidal anti-inflammatory drugs (NSAIDs) such as, ibuprofen, ketoprofen and diclofenac. This study develops and applies a one-dimensional advection–dispersion–degradation model to simulate the transport and transformation of these compounds in the Murray Burn, a small urban river in Scotland. Rhodamine WT experimental data from tracer experiments were used to calibrate water velocity and dispersion coefficients with the help of an optimization algorithm using multiple MATLAB optimization functions, with *fminsearch* demonstrating the most consistent performance. The degradation of NSAIDs was then integrated using literature-based first-order rate constants under different environmental scenarios (e.g., aerobic sediment, hyporheic exchange, and low light conditions). Simulation results highlight compound-specific behaviour: ibuprofen degraded rapidly under aerobic conditions, ketoprofen showed intermediate persistence, and diclofenac remained poorly biodegradable. This approach provides insights into how hydrodynamics and chemical degradation jointly affect pollutant fate and demonstrates the importance of compound-specific modelling for environmental risk assessment. The developed model framework will be further applied for the Someş River in Romania, and may be applied to other rivers as well, as it offers a valuable tool for supporting pharmaceutical pollution mitigation strategies under the EU Water Framework Directive.*

# Enhancing Vehicular Network Slicing With Uav-Assisted Path Planning

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## **Abstract**

*The advent of 5G and beyond-5G (B5G) technologies has created significant opportunities for reliable, high-capacity vehicular communication networks, enabling applications such as autonomous driving, real-time traffic management, and emergency response. However, ensuring robust connectivity under highly dynamic mobility and frequent topology changes remains a major challenge, particularly in accident scenarios where uninterrupted communication is critical. Building upon our earlier research on QoS-aware network slicing and resource management for vehicular networks, this study advances vehicular network slicing (NS) by incorporating unmanned aerial vehicles (UAVs) into air-ground integrated vehicular networks (AGIVNs). The objective is to evaluate whether UAV-assisted path planning can effectively extend coverage, improve reliability, and reduce service disruptions in environments characterized by high vehicular mobility and variable traffic densities. To address this objective, we propose a UAV-assisted NS framework that uses the Energy-Efficient Lazy Theta\* (EE-Lazy Theta\*) algorithm for dynamic path planning. The algorithm is adapted to minimize UAV energy consumption while ensuring robust connectivity and seamless integration with NS operations. The approach is validated in the OMNeT++ simulation environment under realistic highway accident scenarios. Performance is assessed in terms of latency, packet delivery ratio (PDR), and throughput, which are critical indicators of Quality of Service (QoS) in vehicular networks. The findings indicate that UAV-assisted NS with EE-Lazy Theta\* enhances coverage continuity, reduces latency, and improves reliability for safety-critical vehicular applications. The originality of this work lies in coupling vehicular NS with UAV-assisted path planning in AGIVNs, demonstrating how an energy-efficient algorithm can be adapted for intelligent transportation systems. Although the study is limited to simulated scenarios, it provides valuable insights into UAV-enabled vehicular communications and opens avenues for future extensions toward large-scale deployments in B5G and 6G systems.*

## **Criteria For Asymptotic Stability Of Nonlinear Delay Dynamic Equations**

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## **Abstract**

*In this study, we investigate the nonlinear delay dynamic equation  $x^{\Delta}(t) + f(t, x(t), a(t)) = 0$ ,  $t \in \mathbb{T}$ , where  $\sup \mathbb{T} = \infty$ ,  $a \in \text{complement}_{\mathbb{T}}(\{0\})$ . We establish conditions for the global attractivity of the trivial solution using a functional approach. The results obtained improve and extend several existing theorems, introduce new criteria on time scales through the construction of a companion function, and provide new perspectives on the behavior of nonlinear delay dynamic equations. To illustrate the applicability and effectiveness of the results, several examples are presented.*

## **Corrosive Wear Mechanisms of Metallic Biomaterials in Simulated Body Fluids: A Visual Review Based on Experimental Insight**

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## **Abstract**

*Metallic biomaterials such as magnesium, titanium, and their alloys have been extensively explored for next-generation biodegradable and permanent implants due to their mechanical compatibility and biofunctionality. However, their performance in physiological environments is strongly influenced by the simultaneous occurrence of corrosion and wear—commonly referred to as tribocorrosion. This review aims to provide a visual and analytical overview of corrosive wear mechanisms of metallic biomaterials when exposed to simulated body fluids (SBFs) such as Hank's, Ringer's, and artificial saliva. Emphasis is placed on the electrochemical–mechanical interactions governing film breakdown, surface passivation, and material loss under dynamic conditions. The review integrates representative microstructural and electrochemical findings from the author's previous experimental works, including scanning electron microscopy (SEM) images, Tafel polarization curves, electrochemical impedance spectroscopy (EIS) plots, and wear-track morphologies. These visual datasets illustrate the influence of alloy composition, immersion time, and surface modification on corrosion kinetics and wear-induced degradation. Comparative interpretation of magnesium-based alloys with titanium and TiNbZr systems reveals contrasting degradation behaviors, highlighting the crucial role of passive film stability and tribological conditions. This study provides an UPDATED understanding of the synergistic mechanisms of corrosion and wear in bio-environments, linking material design parameters to degradation performance. The outcomes contribute to the development of new corrosion- and wear-resistant metallic biomaterials for advanced implant applications.*

# Comparative Evaluation of Positive and Negative INSERTs under Different Tool Height Settings in AISI 304 Turning

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## **Abstract**

*In this study, the effects of tool geometry (positive SCMT and negative SNMG) and tool height adjustment ( $H = -0.5$  mm,  $0$  mm,  $+0.5$  mm) on cutting force, surface roughness, and circularity were investigated during the turning of AISI 304 stainless steel. The experiments were carried out according to the Taguchi L36 design, considering three levels of cutting speed (100, 150, and 225 m/min), feed rate (0.15, 0.25, and 0.35 mm/rev), and depth of cut (0.8, 1.3, and 2 mm). The results revealed that the positive tool geometry produced lower cutting forces compared to the negative one. ANOVA analysis showed that the depth of cut was the most influential parameter on the cutting force, followed by feed rate and cutting speed. The tool height adjustment ( $H$ ) was also statistically significant, even though its effect was relatively smaller. The cutting forces increased when the tool was positioned below the workpiece axis ( $H = -0.5$  mm), while  $H = 0$  mm and  $H = +0.5$  mm settings resulted in lower force magnitudes. The surface roughness ( $R_a$ ) results indicated that the positive INSERT combined with  $H = 0$  mm height adjustment produced the smoothest surfaces, which was attributed to improved chip flow and reduced plastic deformation. The same configuration also minimized circularity deviation ( $C_y$ ). In conclusion, the combination of positive tool geometry and  $H = 0$  mm tool height adjustment provides the most favorable machining conditions for reducing cutting forces, enhancing surface quality, and improving geometric accuracy in the turning of AISI 304 stainless steel.*

## **Development of a Deep Learning Based Mobile Decision Support System for Diagnosis of Nail Anomalies**

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### ***Abstract***

*Nail abnormalities can serve as early indicators of various underlying health conditions. They are often associated with dermatological disorders, cardiovascular diseases, and liver dysfunctions, among other systemic illnesses. As in many diseases, early diagnosis plays a crucial role in effective treatment. However, timely access to healthcare professionals for the evaluation of such nail anomalies is not always possible for individuals. In this study, a mobile application was developed that enables disease diagnosis based on the analysis of nail abnormalities using image processing and machine learning techniques. Considering that changes on the nail surface may be indicative of certain diseases at an early stage, the proposed application was designed to analyze anomalies in nail color, texture, and shape, and to provide users with relevant information about possible underlying conditions. To accurately detect nail abnormalities through machine learning, the YOLOv8 deep learning architecture based on PyTorch was employed using the Python programming language. In addition to publicly available datasets, a novel dataset was constructed and utilized during the training phase to enhance model performance. This dataset included nail images along with their corresponding annotation data. During the preprocessing phase, image normalization, label refinement, and data augmentation techniques were applied to improve the model's generalization capability. The effectiveness of the proposed method was evaluated using the F1 confidence score curve and the confusion matrix. The overall average F1 score was calculated as 0.87, demonstrating the model's balanced classification performance. In the classes of Beau's lines, clubbing, blue nail, melanoma, and yellow nail, approximately 95% accuracy was achieved. These high success rates indicate that the proposed method and the accompanying mobile application are promising tools for the detection of nail anomalies and the early diagnosis of related diseases.*

## **Cathodic Protection of Reinforced Concrete Using Sacrificial Anodes**

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### ***Abstract***

*Reinforced concrete is one of the most widely used materials in civil and industrial construction due to its mechanical performance and structural versatility. However, its deterioration leads to significant financial losses and safety concerns. The composite nature of reinforced concrete, where concrete resists compressive stress and steel reinforcement resists tensile stress, enhances*

*its mechanical behavior but introduces vulnerability to corrosion. The corrosion of embedded steel rebar is the most common and damaging form of degradation. As steel corrodes, the resulting rust products expand, generating internal stresses within the concrete matrix, a phenomenon known as oxide jacking. This expansion leads to cracking concrete. The process is accelerated by factors such as concrete porosity and chloride ingress. To mitigate these effects, cathodic protection using sacrificial anodes has proven to be an effective method. Aluminum and zinc anodes are commonly used to provide electrochemical protection for the steel reinforcement by redirecting the corrosion process toward the anode material. This study explores the efficiency of sacrificial anodes in saline environments, emphasizing the role of concrete porosity and rust layer formation in the long-term performance of cathodic protection systems.*

## **Applicability of Micro Nuclear Energy Systems in Industrial Dense Areas: Energy Supply Security, Carbon Reduction, and Economic Analysis Based on the Kocaeli Example**

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### **Abstract**

*This study examines the feasibility of establishing a micro nuclear power plant (Micro Modular Reactor, MMR) in Kocaeli, one of Turkey's most industrially dense regions, from technical, economic, and environmental perspectives. The operating principles of micro nuclear systems are elucidated, and a comparative model is developed based on international applications documented in the literature. For the proposed scenario involving a 50 MW<sub>e</sub> capacity micro reactor in the Kocaeli Organised Industrial Zone (OIZ), an annual electricity production of 147 GWh and heat production of 310 GWh, are projected. The findings indicate a reduction of 165,000 tonnes of CO<sub>2</sub> emissions annually, a 25% decrease in energy costs, and a payback period of 7.3 years. The results demonstrate that micro nuclear systems serve as a strategic tool for enhancing energy supply security in industrial areas, achieving carbon-neutral production targets, and supporting economic competitiveness.*

## **Improving Ad-Click Prediction Through Feature Extraction and Ensemble Models Optimization**

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***Abstract***

*The main purpose of the study is to improve the performance of machine learning models used in estimating Click-Through Rate (CTR), which is an important performance metric in the field of digital advertising. The research aims to maximize forecasting accuracy by starting with a basic model. In order to reach the goal, respectively; The dataset was enriched with feature extraction as feature extraction, various hyperparameter optimization techniques were applied, and finally, ensemble modeling approaches were used. In the study, a Logistic Regression (LR) model was used as a starting point on the Click-Through Rate Prediction dataset taken from the Kaggle platform. Then, new features were derived from temporal and textual data with TF-IDF and Word2Vec methods, hyperparameters were tuned with optimization algorithms, and finally, ensemble structures including LR, XGBoost, Random Forest (RF), and Support Vector Machines (SVM) models were created. Key findings indicate that the highest F1 score of 0.8694 was achieved by the ensemble combination in which the weights of the four models were optimized, resulting in an improvement of approximately 12.7% over the baseline model. The main purpose of the study is to comprehensively analyze the impact of different optimizations, new feature inferences, and model fusion methods on the study and to provide a holistic solution to the CTR prediction problem, rather than focusing on a single technique. The results reveal the superiority of ensemble approaches in complex prediction problems.*

**Production of Fermented Pistachios Beverages with *Spirulina Platensis***

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**Büşra Nur Ceylan**

**Şeyma Kaya**

***Abstract***

*In this study, it is aimed to offer an alternative product to the food industry for the increasing demands of healthy nutrition with production of fermented plant based beverage containing *Spirulina platensis* and determination of the effects of *S. platensis* on starter culture bacteria during storage. The production of plant-based beverages was carried out using pistachio. Firstly, pistachio beverages were obtained from pistachio. The different amounts of *S. platensis* (%1, 2% and 4%) were added to pistachio's beverages. The beverages which enriched with *S. platensis* were fermented with probiotic yogurt starter culture at 42°C till to pH levels reached to pH 4.6.*

*Then pistachio's beverages were kept at 4°C for microbiological analyses. The viability of Bifidobacterium spp., L. acidophilus, L. bulgaricus, and S. thermophilus were tested during storage at 4°C for 21 days. Total mesophilic aerobic bacteria (TMAB) and total mold-yeast values of the beverages were also counted during on specific days of the storage. In the pistachio's beverages, the levels of Bifidobacterium spp. ranged from 6.59 log CFU/mL to 7.96 log CFU/mL, L. acidophilus ranged from 4.49 log CFU/mL to 7.17 log CFU/mL, L. bulgaricus ranged from 7.33 log CFU/mL to 8.57 log CFU/mL, S. thermophilus ranged from 8.41 log CFU/mL to 8.80 log CFU/mL, and TMAB ranged from 7.91 log CFU/mL to 8.48 log CFU/mL during the storage. Throughout all the storage days, total count of mold-yeast was under detectable limit. The pistachio's beverages with S. platensis have been an alternative for consumers who prefer plant based products.*

## **Rheological and Structural Challenges in Fermented Plant-Based Milk Alternatives: Role of Exopolysaccharide-Producing Lactic Acid Bacteria**

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### **Abstract**

*Plant-based yogurt analogues often lack the casein micelle-driven gelation that underpins texture in dairy yogurt; as a result, they frequently exhibit weak gels, high syneresis and poor water-holding capacity (WHC). Exopolysaccharide-producing lactic acid bacteria (EPS-LAB) are an attractive in situ biothickening strategy to compensate for the limited protein networking in plant matrices with diverse proteins (legume globulins, nut/seed storage proteins) and variable carbohydrate profiles. Mechanistically, EPS can (i) increase serum viscosity and capillary water binding, (ii) bridge particles/proteins to strengthen weak gels, and (iii) modulate microstructure to reduce serum separation, thereby improving WHC, yield stress and sensory creaminess. However, performance is highly strain-, substrate- and process-dependent: plant matrices differ in ionic strength, phenolics and antinutritional factors that may inhibit acidification and EPS biosynthesis, while fermentation temperature, pH trajectory, and sugar availability strongly influence EPS yield and molecular architecture (homo- vs heteropolysaccharides). Recent reviews highlight promising results in plant-based systems, but emphasize inconsistent rheological outcomes, limited microstructural mapping, and scarce side-by-side comparisons of EPS-high starters versus non-EPS controls under standardized processing. Evidence from yogurt systems shows EPS-LAB can reduce syneresis and increase WHC, a trend increasingly reported for plant matrices, yet systematic elucidation of EPS-plant protein interactions (e.g., globulin-rich bases), EPS molecular weight/distribution, and storage stability remains limited. Future progress requires integrative studies aligning strain selection, pre-treatments (protein/enzymatic), and controlled acidification with multiscale characterization (rheology + Confocal Laser Scanning Microscopy/Scanning Electron Microscopy + particle sizing) to define structure-function relationships and minimize hydrocolloid dependence in clean-label formulations.*

# **Entrepreneurial Intentions among Gen Z in Pakistan: A Review-Based Analysis of Motivations, Barriers, and Policy Interventions**

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## ***Abstract***

*Entrepreneurship is widely acknowledged as a catalyst for innovation, economic growth, and job creation. In Pakistan, Generation Z tech-savvy, independent, and increasingly inclined toward self-employment represents a powerful yet underutilized force in entrepreneurial development. This review-based study explores the factors shaping Gen Z's entrepreneurial intentions, drawing on national and international literature, policy reports, and ecosystem case studies. Key drivers identified include digital fluency, social media influence, and exposure to startup culture. However, significant barriers persist, such as limited access to finance, insufficient entrepreneurship education, sociocultural constraints, and inconsistent policy implementation. While programs like Startup Pakistan and Kamyab Jawan offer foundational support, structural gaps remain. By synthesizing research and best practices, this paper offers practical recommendations for policymakers, educators, and ecosystem stakeholders to build a more inclusive and enabling environment for Gen Z entrepreneurship in Pakistan.*

*Keywords: Entrepreneurial Intentions, Gen Z, Youth Startups, Pakistan, Access to Finance, Government Policies, Digital Ecos*

# **Knowledge Sharing Mechanism in the Telecom Sector of Pakistan**

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&

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## ***Abstract***

*The study has derived a research model from the literature that examines Knowledge Management Enablers (KME) and its impact on Organizational Performance (OP) with Knowledge sharing as a mediating factor in the Pakistani Telecom sector. A convenience sampling method has been employed using an adapted instrument. The data was collected from 400 respondents. Findings indicate that Knowledge Sharing fully mediates the relationship between Knowledge Management Enablers and Organizational Performance, thus enhancing Organizational Performance. The findings of the study provide insights for managers in enhancing Knowledge Management Enablers to improve organizational performance and highlight the importance of a knowledge sharing mechanism for better organizational performance. This contribution is particularly relevant for the under-explored area of knowledge sharing in the telecommunications sector of Pakistan. The study serves as a guide for policymakers in implementing knowledge management enablers for better organizational performance through knowledge sharing.*

## **Measuring What Enables: Performance Indicators for Internationalization in Turkish Higher Education**

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## **Abstract**

*This study examines performance indicators for internationalization in Turkish higher education, focusing on the development of an input-oriented framework that more accurately reflects institutional capacity and strategic intent. While global approaches to assessing internationalization frequently emphasize outcome-based measures such as mobility rates, international publications, and global rankings, they often overlook the enabling structures that make such outcomes possible. In emerging or structurally constrained systems like Türkiye, where resource asymmetries and contextual limitations shape institutional performance, input indicators provide a more realistic and equitable evaluative lens. Drawing on a systematic literature review of international academic publications, the study identifies eleven key input dimensions: accreditation and quality assurance, Bologna Process alignment, professionalization of personnel, strategic planning, institutional cooperation, financial resources, visibility and marketing, digitalization, data management, research support, and student services. Each of these dimensions represents an enabling condition that enhances an institution's readiness for sustainable internationalization. The proposed framework contributes both theoretically and practically by shifting the evaluation of internationalization from a results-oriented to a capacity-oriented paradigm. It argues that sustainable advancement relies not only on measurable outcomes but also on institutional systems that foster long-term growth, accountability, and adaptability. The theoretical and practical implications of this framework are discussed throughout the study.*

## **Integrating Planning, Performance, and Data Governance: Evidence from Four Higher Education Systems**

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### **Abstract**

*Higher education institutions experiment with diverse managerial techniques to achieve results-oriented and sustainable governance. Among these, strategic planning, performance management, and data-driven management systems, under the broader umbrella of strategic management, are the most widely acknowledged. Strategic management emerges as one of the most functional tools for aligning institutional missions with resources to generate sustainable outcomes. While each approach is effective in isolation, both the literature and institutional practice increasingly emphasize the need to integrate them into a coherent, comprehensive governance model. Yet, empirical studies on integrated strategic management as well as comparative analyses that examine universities across systems remain scarce. This study undertakes a comparative analysis of higher education institutions in Spain, the Czech Republic, Ukraine, and Türkiye to assess whether an integrated model of strategic management is present. Focusing on strategic planning, digital transformation, data governance, and performance management, the research evaluates the extent to which these tools are coordinated across institutional levels. By combining theoretical insights with empirical evidence, the presentation highlights convergences and divergences in European higher education governance and underscores the role of integrated, sustainability-oriented strategic management in strengthening institutional resilience and long-term performance. Findings indicate that, although planning, performance, and digital data governance are implemented with varying infrastructures at different levels, these methods are largely applied in a fragmented manner rather than as an integrated system. In response, this study proposes a unified strategic public management framework, IMAP4U, designed to reduce fragmentation by systematically integrating strategic planning, performance management, and data governance within a sustainability-oriented institutional architecture.*

## **The Effect of Eye Movement Desensitization and Reprocessing (EMDR) on Pain in Patients with Rheumatoid Arthritis**

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### **Abstract**

*The primary aim of this study was to determine whether EMDR was effective in reducing pain in patients with Rheumatoid Arthritis (RA). The secondary aim was to determine the experiences and opinions of RA patients regarding the EMDR application process. A mixed-methods approach, including quantitative and qualitative methods, was used in the study. The study used a randomized*

*controlled qualitative study to determine the effect of EMDR on pain. The study sample consisted of 64 patients with RA who were treated at a university hospital between February 1 and December 22, 2023. The EMDR group was administered the Visual Analog Scale (VAS) and the Individual In-Depth Interview Questionnaire. EMDR was administered once a week in three to twelve consecutive individual sessions, depending on the patients progress. The control group received VAS simultaneously with the EMDR group, and no interventions were made outside of the normal follow-up/treatment period. Data were analyzed using mean, standard deviation, frequency, percentage, Chi-square, Students t-test, Repeated ANOVA, and Bonferroni test statistics. MASQDA, a computer-aided qualitative data analysis program, was used to analyze qualitative data. The EMDR groups mean pain score was significantly lower than the control group ( $p < 0.001$ ), and at the first-month follow-up measurement, the EMDR groups mean pain score was significantly lower than the control group ( $p < 0.001$ ). The average number of EMDR sessions administered to the group was  $5.2 \pm 2.1$ . Two main themes and five subthemes emerged from the content analysis of the RA patients views on the intervention in the EMDR group.*

## **Mind Games and Cognitive Exercises as Predictors of Long-Lasting Cognitive Longevity in Adulthood**

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### ***Abstract***

*This study employs a rigorous randomized controlled trial to investigate the efficacy of daily mental stimulation through diverse mind games in promoting cognitive longevity among older adults. A sample of 114 community-dwelling Bulgarian adults aged 65–82 was systematically allocated into experimental and control groups, with baseline equivalence confirmed across critical domains—memory, executive function, and processing speed—via comprehensive neuropsychological assessments. The intervention entailed structured cognitive exercises, including chess, Sudoku, number puzzles, and logical puzzles, administered over three months, with task difficulty adaptively calibrated to sustain engagement. Post-intervention evaluations demonstrated statistically significant improvements in the experimental group across all measured domains, with effect sizes favoring memory ( $p = 0.001$ ), executive functioning ( $p = 0.016$ ), and*

*processing speed ( $p=0.002$ ), relative to controls. Subgroup analyses revealed that engagement in specific mind games, such as chess, Sudoku, and logical puzzles, yielded domain-specific benefits—most notably, chess participation correlated with enhanced memory performance, while Sudoku and logical puzzles were associated with improvements in executive functioning and processing speed. The findings substantiate the hypothesis that sustained mental stimulation via targeted cognitive activities can mitigate age-related cognitive decline and promote cognitive resilience, emphasizing the potential of game-based interventions in aging populations. Future directions include elucidating underlying neural mechanisms and evaluating long-term sustainability of these cognitive gains.*

## **IMPACT OF SCREEN TIME ON PARENT-CHILD RELATIONSHIP ACROSS CHILDREN AGED 2 TO 6 YEARS WITH CLASSIC AND VIRTUAL AUTISM**

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### ***Abstract***

*This study looked at how screen time affects the parent-child relationship in children aged 2 to 6 years who have either classic autism or virtual autism. Virtual autism is a term used for children who show autism-like symptoms due to too much exposure to digital screens at an early age, rather than from a developmental condition. The research was based on Attachment Theory by Bowlby and Ainsworth, which explains how close and regular emotional connections between parents and children help build strong and secure relationships. The aim of the study was to find out whether spending too much time on screens takes away from time spent with parents, and whether this weakens the emotional bond between them. A total of 100 parents took part in the study and completed two questionnaires: the Digital Screen Exposure Questionnaire (DSEQ) and the Child-Parent Relationship Scale – Short Form (CPRS–SF). The results showed that higher screen time was linked to a weaker parent-child relationship in both groups, with the effect being stronger in children with virtual autism. Children who spent more time on screens had fewer face-to-face interactions and shared activities with their parents, which are important for emotional connection. These findings suggest that limiting screen time could help improve the parent-child bond in children with autism. The study offers helpful information for parents and caregivers to support their child’s emotional development in a digital environment.*

# LIFE SKILLS AND PERCEIVED SELF-EFFICACY AS PREDICTORS OF EMOTIONAL AND BEHAVIORAL PROBLEMS IN ADOLESCENTS WITH NON-COMMUNICABLE DISEASES

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## **Abstract**

*Adolescents living with NCDs endure not only the physical burden of slow-progressing, long-term illnesses but also significant emotional and behavioral difficulties. In navigating these challenges, the acquisition of critical life skills becomes essential in enhancing perceived self-efficacy key components in their ability to cope. The study investigates the relationship between life skills and perceived self-efficacy as predictors of emotional and behavioral problems in adolescents with non-communicable diseases with the moderating role of perceived self-efficacy. A sample of 200 adolescents (111 girls and 89 boys) was selected through purposive sampling technique. Adolescents with ages ranging from 15 to 19 years and diagnosed with non-communicable diseases for at least 1 year included in the study. The Life Skills Scale Short (LSS-S) (Ozer & Bertelsen, 2020), Youth Self Report (SDQ) (Goodman et al., 1997), and General Self-Efficacy Scale (Schwarzer, 1995) accompanying the demographic sheet and consent form was used to collect data. The results indicated that higher level of life skills reported by adolescents is associated with lower number of emotional and behavioral problems and increased perceived self-efficacy. However, perceived self-efficacy was found to be significantly moderating the relationship between life skills and emotional and behavioral problems in adolescents. These findings highlight the importance designing intervention programs focused on life skills training and self-efficacy enhancement.*

**Keywords:** *life skills, emotional and behavioral problems, perceived self-efficacy, non-communicable diseases.*

# IMPACT OF GRIEF ON MARITAL SATISFACTION AMONG PARENTS AFTER CHILD LOSS: ROLE OF RELIGIOSITY

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**Abstract**

*The loss of a child is one of the most profound emotional experiences that led to significant psychological distress, particularly affecting marital satisfaction (Neimeyer & Currier, 2021). Marital satisfaction reflected the degree of contentment partners experienced in their relationship and was influenced by emotional connection, communication, and coping mechanisms (Saldana & Cummings, 2021). Pakistani studies often overlooked how grief specifically affected marital dynamics, such as satisfaction and stability between partners. Religiosity is central to many Pakistani families, yet limited research has explored how Islamic beliefs influence grief's impact on marital satisfaction (Aman et al., 2024). Moreover, most focus on mothers, neglecting fathers' experiences and the shared management of loss (Gillani et al., 2023). These gaps highlight the need for research including both partners and examining religiosity's mediating role between grief and marital satisfaction after child loss. Differences in study variables (grief, marital satisfaction and religiosity) on the basis of demographic variables (gender of the child, duration of marriage, birth order of the deceased child, and the child's age at the time of death) were also examined in this study. A cross-sectional, correlational design was employed, with data collected from 100 Pakistani parents (both mothers and fathers) who had experienced child loss. Standardized instruments—including the Texas Revised Inventory of Grief (TRIG), Revised Dyadic Adjustment Scale (RDAS), and Religiosity of Islam Scale (RIS)—were used. Analyses were conducted using SPSS and PROCESS Macro to assess correlations, regression outcomes, and mediation effects. Results revealed significant associations between grief, religiosity, and marital satisfaction. These findings offer valuable insights into the cultural and emotional dynamics of grief within Pakistani families, emphasizing the importance of including both parents and religious context in grief-related marital research.*

**CLIMATE ANXIETY, DEPRESSION, AND RESILIENCE IN PAKISTANI  
OLDER ADULTS**

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**Abstract**

*While the psychological effects of climate change have been increasingly studied in younger populations, the impact on older adults, especially in climate-vulnerable regions remains largely*

*neglected. To examine the interrelationships among climate anxiety, depressive symptoms, and psychological resilience in the context of climate change exposure in Pakistani older adults. A cross-sectional correlational design was employed. A total of 240 older adults (aged 60–85 years) were recruited from urban Karachi (affected by heatwaves) and rural Dadu (affected by floods) through purposive and community-based sampling. Quantitative data were collected using Climate Anxiety Scale (CAS), Geriatric Depression Scale (GDS-15), Brief Resilience Scale (BRS), and a brief Climate Exposure Checklist. **Climate exposure** was a **significant predictor of climate anxiety** ( $\beta = .22$ ,  $p = .004$ ). Whereas, **climate anxiety** showed a **moderate positive correlation with depressive symptoms** ( $r = .32$ ,  $p < .001$ ) and a **moderate negative correlation with resilience** ( $r = -.28$ ,  $p < .001$ ). Hierarchical regression analysis showed that both **climate exposure** ( $\beta = .29$ ,  $p < .001$ ) and **climate anxiety** ( $\beta = .25$ ,  $p = .002$ ) significantly predicted **depression scores**, even after controlling for age, gender, and location. Additionally, **resilience moderated** the relationship between climate anxiety and depression, such that higher resilience buffered the impact of climate anxiety (interaction  $\beta = -.18$ ,  $p = .006$ ). Climate anxiety is a measurable and impactful dimension of psychological aging in vulnerable settings. There is an urgent need for climate-informed geriatric mental health services, community-based resilience interventions, and policy frameworks that recognize older adults as a priority group in the climate-health nexus.*

**Keywords:** *Climate exposure, climate anxiety, aging, resilience, geriatric depression, Pakistan.*

## **The Eidetic Model of Inclusive Learning (EMIL): From Growth to Inclusion for Learners with Specific Learning Disorder - A Health-Science Adaptation Study**

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### **Abstract**

*The purpose of the current work was to explain the systematic adaptation of the Eidetic Theory and the Eidetic Model of Growth (EMG) to meet the specific educational and psychosocial needs of adolescents with SPECIFIC Learning Disorder (SLD) – a neurodevelopmental disease with the impact on both academic and functional performance. This was aimed at establishing a comprehensive and contextually sensitive model which was called the Eidetic Model of Inclusive Learning (EMIL) which would improve both therapeutic and educational interventions among learners with SLD. The Frame indicated how to adapt the evidence-based interventions guided by a structured system of classifying modifications, which corresponded to the Ecological Validity Model. The process that was looked into was how and when changes in implementation occurred, was it proactive or reactive, who made the changes, what was changed, the degree of delivery, the nature and type of changes, the consistency of fidelity, and contextual factors such as goals and*

*constraints. The ecological integrity and cultural sensitivity was achieved with key informant interviews, group discussions, and collaborative decision-making with parents, teachers and clinical psychologists. Some of the theoretical elements of Eidetic Psychotherapy and EMG were adjusted to the learning and psychosocial requirements of adolescents with SLD. Modifications were made to the population, changes in sequencing, and removal or addition of components to make it more accessible and effective. Adapted model, EMIL, was shown to be feasible in encouraging the inclusive learning and developmental growth and maintaining theoretical fidelity. This paper mentions the importance of systematic adaptations in the development of culturally sensitive, inclusive, and health-focused interventions that will support adolescents with Specific Learning Disorder (SLD).*

*Keywords: Eidetic Model of Inclusive Learning (EMIL); Specific Learning Disorder (SLD); Eidetic Psychotherapy; Adaptation Framework; Inclusive Education; Neurodevelopmental Condition.*

## **Hepatitis B Infection in Children and Its Importance**

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### ***Abstract***

*Hepatitis B infection is a liver disease caused by the hepatitis B virus. This virus is a double-stranded DNA virus belonging to the hepadnavirus family. Transmission occurs through contact with the body fluids (blood, semen, vaginal fluid, saliva, etc.) of an infected person, but not through contaminated food or drink. Being born to a mother with hepatitis B, living in the same household as someone with hepatitis B, sharing items such as toothbrushes/knives, receiving a blood transfusion, and being on hemodialysis increase the risk of infection in children. Hepatitis B infection is a global health problem. The virus primarily affects the liver and is a leading cause of morbidity and mortality associated with liver disease in children. Hepatitis B infection progresses slowly in children, and the most common symptoms include yellowing of the skin and eyes, fatigue, upper-right abdominal pain (where the liver is located), loss of appetite, nausea, vomiting, joint pain, low-grade fever, itching, rash, dark urine, and pale stools. Antiviral drugs are used to treat hepatitis B. The most effective method of preventing the disease is vaccination before the baby becomes ill. Therefore, hepatitis B vaccine is administered within 12 hours of birth. The vaccine was included in the national immunization program by the World Health Organization in 1992 and began being administered in our country in 1998. The vaccine has resulted in a significant decrease in hepatitis B cases globally. However, despite the existence of vaccination programs worldwide and in Turkey, approximately 2 million new cases are reported each year in children*

*under the age of 5. This is due to inadequate or inaccurate family knowledge about vaccines, transmission, and preventive measures, leading to vaccine refusal. One of the most important preventive measures against the disease is for pediatric nurses to educate families and children about the impact of hepatitis B infection on children and the importance of vaccination. This review aims to raise awareness about hepatitis B infection and vaccination in children.*

## **Bertolotti's Syndrome: An Uncommon Cause of Lower Back Pain**

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### ***Abstract***

*Bertolotti's Syndrome is an uncommon and frequently overlooked cause of chronic low back pain, arising from a lumbosacral transitional vertebra (LSTV) where an enlarged L5 transverse process forms a pseudoarticulation with the sacrum or ilium. This anatomical variation disrupts spinal biomechanics and often mimics sacroiliitis or mechanical back pain, leading to misdiagnosis or delayed treatment, particularly in younger patients. Our academic team has contributed extensively to increasing awareness and refining the diagnostic and therapeutic approach to Bertolotti's Syndrome through three major formats. A 40-year-old male surgeon with refractory low back pain unresponsive to systemic analgesia was diagnosed with Bertolotti's Syndrome via fluoroscopy and successfully treated with local anesthetic and corticosteroid infiltration. Eleven patients (64% female, age range 25–85) with confirmed LSTV and pseudoarthrosis were managed at our pain clinic. 73% experienced immediate and sustained pain relief following fluoroscopic injection, while the remaining patients had short-term relief and the treatment had to be repeated. Patterns of unilateral versus bilateral involvement and outcomes by age group were analyzed. A comprehensive literature review and clinical summary presenting diagnostic strategies, pathophysiological insights, and intervention-based treatment options contextualized to South Asian clinical practice. In all cases, fluoroscopy and imaging were critical in confirming pseudoarthrosis. Targeted infiltration consistently led to significant reduction in Visual Analogue Scale (VAS) scores, often from 8–9/10 to 1–2/10. Most patients reported long-term relief and improved daily function, avoiding surgical intervention. Bertolotti's Syndrome should be actively considered in differential diagnoses of persistent low back pain, especially in younger adults. Our cumulative work demonstrates that accurate diagnosis via imaging and minimally invasive, image-guided interventions can yield excellent outcomes. Greater awareness among clinicians is essential to reduce misdiagnosis and improve patient quality of life.*

**Keywords:** *Bertolotti's Syndrome, lumbosacral transitional vertebra, low back pain, pseudoarthrosis, fluoroscopic injection, case series, South Asia*

# Psychological Impact of COVID-19 Outbreak and the Use of Early Preventive Practices Among Health Care Providers in Pakistan

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## ***Abstract***

*The objective of the study was to determine the psychological states of depression, anxiety, and stress, and the preventive practices adapted by health care providers in the beginning of the COVID-19 pandemic in Pakistan. This cross-sectional survey collected data from June 2020 till August 2020 through social media after taking ethical approval from the Fauji Foundation Hospital Ethical Review Committee. Responses were gathered from 294 health care providers including physicians and nurses from both public and private sector hospitals of Rawalpindi, Islamabad, and Gilgit Baltistan, including Fauji Foundation Hospital, Pakistan Institute of Medical Sciences, and District Headquarters Hospital. A Depression, Anxiety and Stress Scale-21 items (DASS-21) was used as a tool in addition to a self-structured questionnaire to obtain information regarding the preventive practices used by health care providers. SPSS 22 was used for data analysis. The mean age of 294 participants was found to be  $36 \pm 1.2$  years. Females were 77.6% while males were 22.4%. Responses were taken from 72.1% physicians and 14.3% nurses. Stress level calculated from DASS-21 depicted that 274 (93.2%) had no stress. Depression levels were found as 254 (86.4%) in the normal range, 18 (6.1%) had moderate, while only 2 (0.7%) had severe depression. Anxiety levels of health care providers revealed that 246 (83.7%) were in the normal range, while 12 (4.1%) had severe anxiety. It was found that 95.9% were using facial masks, 83% reported using gloves, 99.3% reported hand washing, and 93.9% were practicing social distancing. In conclusion, in Pakistan, at the initial phase of COVID-19, health care providers reported no stress, with low depression and anxiety levels, and were properly following all safety measures, particularly hand washing and social distancing*

**Keywords:** *Anxiety, COVID-19, Depression, Health care providers, Preventive practices, Stress.*

## **Primary school – opportunities and challenges in the field of physical education and health (Croatian example)**

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### ***Abstract***

*Childhood obesity represents a significant public health challenge in Croatia, with long-term consequences for life expectancy, morbidity, and mortality. Recent data indicate that 30% of obese children and 60% of obese adolescents become obese adults, emphasizing the importance of early prevention. The Whole-Day School (WDS) program, implemented in Croatian primary schools, aims to address these challenges through a comprehensive, multi-phase approach: needs assessment, piloting in 62 schools with over 13,000 students, and nationwide implementation by 2027/2028. The program focuses on four key areas: infrastructural improvements, increased physical education (PE) instruction, personnel strengthening, and national monitoring. Infrastructural measures include equipping schools with sports halls and outdoor facilities, enhancing student engagement, and supporting diverse physical activities. PE instruction is expanded, delivered by kinesiology-trained teachers, and integrated with longer recreation breaks, interdisciplinary approaches, and extracurricular activities. Personnel development ensures highly qualified PE teachers can optimize student motivation, skill acquisition, and educational outcomes. A national monitoring system collects anthropometric and health data to identify children at risk, support early intervention, and facilitate predictive modeling for future health trends. Strong cooperation between the Faculty of Kinesiology, the Ministry of Education, and public health institutions underpins the program's success. Individual projects within the WDS framework emphasize prevention, health promotion, and interdisciplinary learning through movement. The Croatian example demonstrates how systemic educational reforms, evidence-based PE strategies, infrastructure investment, and continuous monitoring can create sustainable opportunities for improving child health and combating obesity. Challenges remain in scaling, integrating new technologies, and ensuring consistent program implementation across schools.*

## **Green Talk, Dirty Business: A Critical Ecolinguistic Analysis of Greenwashing in Corporate Sustainability Discourse**

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***Abstract***

*As climate change becomes an increasingly urgent global concern, corporations are adopting the language of sustainability to enhance their environmental credibility. However, this apparent shift toward ecological responsibility often conceals more than it reveals. This study critically examines the use of linguistic processes in corporate sustainability discourse that create deceptive narratives, commonly referred to as greenwashing. With the help of the concept of critical ecolinguistics (Stibbe, 2015,2016) and Critical Discourse Analysis (Fairclough, 1989), the study examines corporate communication information such as sustainability reports, marketing, and web texts of large international corporations operating in fossil fuels (Shell), fashion (Primark), and consumer products (Coca-Cola). The methodology employs Stibbes' ecolinguistics approaches of framing, erasure, and evaluation, as well as CDA understandings of modality, agency, and ideology, to explore how language can conceal ecological damage and postpone climate responsibility. The visuals were created using tools such as Python and Whimsical. The results indicate the systematic application of euphemistic and vague terminologies, such as 'low-carbon solutions', 'circular design', and 'world without waste', which produce a positive environmental impression while evading bureaucratic scrutiny in matters that promote polluting acts. Key strategies include the erasure of harmful practices, the manipulation of agency through passive constructions and modal verbs, and the framing of corporations as environmental leaders despite continued reliance on extractive or unsustainable practices. These discourses promote a narrative of incremental progress while reinforcing corporate authority and providing reassurance to consumers. Such communication has a direct negative impact on the objectives of Sustainable Development Goals (SDGs) 12 (Responsible Consumption and Production), 13 (Climate Action), and 16 (Peace, Justice and Strong Institutions), as it conceals the magnitude of the environmental effects and falsely perpetuates a sense of accountability. This paper demonstrates how language can perpetuate ecological injustice and advocates for increased ecolinguistic oversight to promote corporate responsibility. It also contributes to current advances in the spheres of environmental communication, critical sustainability research, and discourse ethics.*

**Keywords:** *ecolinguistics, greenwashing, corporate sustainability, Critical Discourse Analysis, climate communication, SDGs*

# LINGUISTIC STANCE AND NATIONAL IDENTITY IN CLIMATE DISCOURSE: A COMPARATIVE ANALYSIS OF UNGA SPEECHES

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## ***Abstract***

*In the context of escalating global climate challenges, platforms such as the United Nations General Assembly (UNGA) serve as impactful venues where national leaders not only review policy but also construct and express national identity and ideological positions. This study investigates how four influential nations—Pakistan, China, the USA, and Turkey—use language to articulate their climate agendas during the 76th UNGA session. Guided by Stance Theory (Du Bois, 2007), the research explores how political discourse frames climate responsibility, urgency, and leadership through interpreting language and alignment strategies. The analysis focuses on stance markers such as modals, verbs of evaluation, pronouns, and referential framing, revealing how each country positions itself and others within the global climate narrative. The USA adopts a leadership-driven stance emphasizing innovation and action; China foregrounds cooperative ecological progress; Pakistan presents itself as climate-vulnerable yet morally assertive; and Turkey promotes pragmatic regional cooperation. These linguistic choices reflect more than environmental policy—they perform national identities and negotiate roles within international climate politics. This study offers insight into how language shapes global discourse, enabling scholars to better understand the interplay between climate communication, political positioning, and identity construction. It contributes to interdisciplinary debates on discourse, international relations, and behavioral communication, supporting SDG 13 (Climate Action) and SDG 16 (Peace, Justice, and Strong Institutions).*

**Keywords:** *Stance Theory, Climate Rhetoric, UNGA, Political Discourse, Identity Construction, National Narratives, Evaluation, Global Communication*

## **WHITE TRUMPS BLACK: A CRITICAL DISCOURSE ANALYSIS OF DONALD TRUMP'S TWEETS ON GEORGE FLOYD'S KILLING**

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### **Abstract**

*The current study looks at how former US president Donald Trump reacted towards George Floyd's death, at the hands of the white police men, in his tweets. The research employs critical discourse analysis as its research method and uses data from Twitter archives, from Trump's personal twitter account @realDonaldTrump. The data comprises of tweets from the day George Floyd was murdered, on May 25, 2020 and the day of Floyd's death, and his burial, on June 9, 2020. The analysis shows that for Trump, evading the issue, clouding the issue, and commenting on everything but Floyd's killing, in words that do not show compassion is his modus-operandi, and which he does without fail, and without remorse. The study also concludes that Trump's discourse and his stance on Black deaths at the hands of the police needs to be highlighted as a rejection every time similar issues are brushed under the rugs.*

**KeyWords:** Donald Trump, Black resistance, White supremacy, Twitter analysis, Critical discourse analysis.

## **Nature and Self in Khaled Hosseini's *Seaplayer*: An Ecolinguistic Enquiry**

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### **Abstract**

*Ecology plays a crucial role in shaping individual and collective identity and helps us in understanding our relationship with the environment (Stibbe, 2015). Focusing on Khaled Hosseini's *Seaplayer*, this study investigates the way human-nature interaction contributes to the humanization of individuals and formation of (ecocultural) identity. Adopting an eco-critical discourse analytical approach (ECDA), the analysis draws on Stibbe's (2015) identity-focused framework from *Language, Ecology and the Stories We Live By* in conjunction with Fairclough's (1989) three-dimensional model of discourse analysis. The findings demonstrate that nature functions not merely as a setting but as a co-constitutive force in the construction of the Self. Through its discursive strategies, *Seaplayer* articulates a powerful ecological narrative that challenges the dehumanizing representations frequently associated with refugee populations. This narrative underscores reconnection with the natural world as a means of restoring dignity, fostering belonging, and promoting sustainability. This paper contributes to broader interdisciplinary dialogues in ecolinguistics, discourse studies, and migration research by highlighting the way inclusive ecological storytelling can serve as a transformative tool for social resilience, ethical engagement, and sustainable futures in times of global crisis – aligning with the*

*UN sustainable Development Goal 16: Peace, Justice and Strong Institutions that focuses on providing access to justice for all and build effective, accountable and inclusive societies.*

**Keywords:** *Ecocritical Discourse, Ecocultural Identity, Discursive Choices, Humanization*

## **COMMUNAL HELPLESSNESS AS A THIRD TYPE OF LEARNED HELPLESSNESS: INTERPRETATIVE PHENOMENOLOGICAL ANALYSIS OF CONTEMPORARY ASIAN AND AMERICAN NOVELS**

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### *Abstract*

*This study is focused on one of the contemporary areas of literary research; Medical Humanities, to promote a holistic approach towards health, illness and Literature. In the 1960s Martin Seligman and Steven F. Maier presented the principle of 'Learned Helplessness' in Positive Psychology. Seligman et al. proposed two types of Learned Helplessness; Universal Helplessness and Personal Helplessness. This interdisciplinary research is conducted to establish a third type of Learned Helplessness; Communal Helplessness, a psychological state that can be observed within certain tribal, racial, cultural or ethnic minority communities when an oppressed marginal community begins to perceive that it has no control over prevalent adverse socio-cultural, political or natural circumstances. This psychological qualitative research is also held to observe the symptoms of chronic dysthymia; a continuous, long-term and persistent depressive disorder, in oppressed minorities due to Communal Helplessness. An Interpretative Phenomenological Analysis (IPA) of four contemporary literary works is conducted from the perspective of double-hermeneutics to investigate the mechanics employed by dominant socio-political forces in order to induce Communal Helplessness in oppressed minorities. In the light of Roger Luckhurst's Trauma Theory, the outcomes and deficits of Communal Helplessness are traced in Louise Erdrich's *The Night Watchman* (2020), Yaa Gyasi's *Transcendent Kingdom* (2020), Anuk Arudpragasam's *A Passage North* (2021) and Jamil Ahmad's *The Wandering Falcon* (2011). Close Reading of the selected works reflects that racial discrimination, war trauma and ethnic marginalization faced by oppressed minority communities may induce a state of Communal Helplessness in them which can be observed in the symptoms of depressive disorders in oppressed community members in multi-ethnic societies. Thus from the perspective of Medical Humanities the findings of this interpretative study suggest the significance of mental health in marginalized minority communities.*

*Keywords: Medical Humanities. Communal Helplessness. Racial discrimination. Depressive disorders. Oppressed minorities.*

# **Impact of Online Branding on Purchase Intention: Moderating role of Hedonic Motivation and Innovativeness**

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## ***Abstract***

*The concept of branding has been studied in many aspects and purchase intention is one of them. This study examines the Impact of Online Branding on Purchase Intention and two moderating variables, Hedonic Motivation and Innovativeness is also assessed. A questionnaire was distributed to a representative sample (n=301) from clothing brands users of Islamabad and Rawalpindi. SPSS will be used for descriptive statistics and Smart PLS-4 is used for Structural equation modeling. The guidance was taken from unified theory of acceptance and use of technology 2 (UTAUT2) to explain the relationships among the constructs. The results confirmed that Online Branding promotes Purchase Intention, while Hedonic Motivation and Innovativeness positively moderates the effect of Online Branding and Purchase Intention in clothing industry. The research is an extension to present literature and beneficial to scholars and future researchers as variables are studied simultaneously. The study will leverage online brands to develop purchase intention in context of clothing brands. Further it will be helpful to indicate the cost spend on online activities would be beneficial for brands management or not and how effectively online activities can lead to develop purchase intention. Limitations of the study includes, that it is conducted on a specific sector clothing brands, future studies can explore other products available online. Further, it is recommended that the same study should be held on national level and international level with a large sample size while considering the cross cultural factors also, so that the generalizability and scope of the study could be widen.*

***Key Words:*** Branding, online branding, Purchase intention, hedonic motivation, innovativeness.

## **The Impact of Instagram and TikTok Micro-Influencers on Purchase Intentions: Mediating Role of Trust, Engagement, and Consumer Involvement**

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## **Abstract**

*The digital marketing landscape is evolving, with Instagram and TikTok emerging as key platforms for influencer marketing. This study aims to contribute by identifying whether consumer trust, involvement, and engagement act as mediators in the link between micro-influence and buy intentions, therefore giving insights for businesses intending to use influencers in their marketing campaigns. In this study social influence theory is applied because people buy fiction or meet expectations to validate their acceptance. The survey questionnaire acted as a data collection tool, and an appropriate sampling strategy was used. The respondents' data were gathered using a cross-sectional survey design. Purposive sampling is employed throughout the selection phase to guarantee that respondents interact with micro-influencers on Instagram and TikTok. Users who frequently follow influencers on Instagram and TikTok will be the target audience for an online survey distributed via email lists and social media platforms. First, the data were entered into SPSS and screened using the data screening processes. PLS-SEM was used to evaluate the structural connectedness of the proposed model. The study hypotheses were tested, and all were accepted, demonstrating a positive relationship between the dependent and independent variables. A quantitative method that uses structural equation modeling (SEM) to describe how micro-influencers influence consumer decision-making processes directly and indirectly. A rigorous online survey of 410 participants discovered that micro-influencers had a significant and positive impact on consumer trust, involvement, and engagement. Furthermore, trust and engagement modify the relationship between micro-influencers, resulting in purchase intention and stressing the need for individualized contact in modern marketing techniques. This study presents a unified model of micro-influencer effectiveness, with practical implications for organizations that use these digital personalities as their preferred instruments to influence customer behavior, inspiring confidence about the possibilities of influencer marketing.*

## **Analyzing Scarcity Messages in Tourism Marketing with Neuromarketing Techniques: An Eye-Tracking Focused Approach**

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## **Abstract**

*In tourism marketing, travel agencies and hotels frequently use scarcity messages when designing and promoting their campaigns. These messages aim to attract potential tourists by emphasizing the limited availability of products and services. When searching for the best deals online, tourists may be tempted to miss out on a desired hotel option or, knowing a travel product is the last resort, to forgo other options in favor of a supposedly better one. Scarcity serves as a powerful cue, leading consumers to make positive inferences about a products overall quality and improve their attitudes toward it. Over the past decade, the use of neuromarketing techniques in tourism marketing has increased to better understand tourist behavior. Eye tracking is a neuromarketing tool that measures participants gaze movements, fixation duration, and attentional orientation to*

*visual stimuli. This technique objectively assesses subconscious responses and attention levels to visual materials by recording a persons gaze position, gaze duration, and eye movements. In marketing, it provides valuable insight into which areas of advertisements, websites, or product packaging attract the most attention. In this study, participants attention levels to stimuli containing messages about quantity and time scarcity will be measured using eye tracking. The eye tracking analysis will obtain numerical data on areas of interest containing scarcity messages, and participants attention levels will be determined. Additionally, heat maps, transparency maps, and dot maps will be created, and attention levels to visual stimuli will be assessed in detail. The findings will provide concrete recommendations for travel agencies and hotels to optimize their advertising campaigns containing scarcity messages. This study will highlight the importance of understanding tourist behavior with neuromarketing tools and pave the way for more data-driven and effective approaches to tourism marketing.*

## **Gender-Based Marketing and the 2D:4D Ratio: A Qualitative Analysis**

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### **Abstract**

*Gender-based marketing strategies have long been employed to explain consumer behavior; however, notable limitations remain in the literature. Much of the existing research relies on binary gender categories and self-reported measures, which tend to overlook individual differences and often reinforce stereotypes. This study addresses this gap by examining the 2D:4D ratio as a potential variable in marketing research. The 2D:4D ratio, a biological indicator of prenatal androgen exposure, has been widely investigated in psychology and behavioral sciences. Previous findings demonstrate that lower 2D:4D ratios are associated with risk-taking and competitiveness, whereas higher ratios are linked to empathy and social orientation. These characteristics are closely connected to consumer preferences, brand loyalty, and responses to advertising strategies. Adopting a qualitative research approach, this study explores how incorporating the 2D:4D ratio can move beyond binary gender distinctions and contribute to a deeper understanding of individual differences in consumer behavior. The findings highlight that consumer decisions can be shaped not only by cultural and social dynamics but also by biological predispositions. Such an approach provides a more holistic perspective and opens the way for more inclusive and innovative marketing strategies. In conclusion, the study emphasizes a critical gap in the current literature and suggests that integrating biological markers such as the 2D:4D ratio may enrich theoretical frameworks and practical applications in marketing. By doing so, it also contributes to the advancement of SDG 9 (Industry, Innovation, and Infrastructure) and SDG 10 (Reduced Inequalities) through the development of sustainable and inclusive marketing practices.*

## **New findings and Notes on the Early Ottoman Cannons Production, Use and Prevalence, Until 1453**

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### ***Abstract***

*When the Ottomans sieged to Constantinople in 1453, they relied not only on their large army but also on their large-calibres cannons. Indeed, the conquest of the city with the aid of firearms significantly influenced the Ottomans adoption and dissemination of cannon technology. In this regard, numerous studies have been conducted on how the Ottomans produced, used, and developed firearms during and after the Mehmed the Conqueror period. While these studies assess when the Ottomans first used cannons, issues such as where and in what quantities these weapons were produced have not been sufficiently researched or discussed. This study will examine existing literature on firearms history in comparison with early Ottoman, Byzantine and Balkan sources, revealing new findings regarding the production of early Ottoman cannons. Furthermore, the calibre, prevalence, effectiveness, and the location and method of production of early Ottoman cannons will be comprehensively evaluated. Therefore, this study will examine the firearms used by the Ottomans up to the Conquest of Constantinople, and the production processes involved will be explored. Finally, the types and characteristics of these weapons, as well as their use in Ottoman warfare, will be discussed. This study, which examines the production and prevalence of cannons and other firearms, will contribute to a better understanding of the nature of warfare and to Ottoman military history in the first half of the 15th century.*

## **The Impact of Industry 4.0 on Supply Chain Sustainability during Disruptions: A Review of Current Research**

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### ***Abstract***

*As organizations strive to balance economic growth with environmental and social responsibility, sustainability has become a central concern in contemporary Supply Chain Management (SCM). Supply Chain Digitalization (SCD), enabled through Industry 4.0 (I4.0) technologies has emerged as a key driver of sustainable supply chains (SCs). However, a critical problem persists despite the adoption of Digital Technologies (DTs) such as Artificial Intelligence (AI), Block Chain Technology (BT), the Internet of Things (IoT), Machine Learning (ML) etc. sustainability often deteriorates when SCs face disruptions. This raises the question of how digitalization can effectively sustain environmental and social performance while ensuring economic growth under*

*crisis conditions. To address this issue, the study adopts a Systematic Literature Review (SLR) approach, collecting and analyzing academic publications sourced from databases such as ScienceDirect and Google Scholar, using predefined keywords related to SCD, sustainability, and disruption management. The review synthesizes existing research, identifies the key challenges of I4.0 implementation and maintaining sustainability during disruptions, and highlights significant research gaps for further exploration. While the study advances theoretical understanding of digital sustainability nexus, limitations remain, including the exclusion of emerging sources, rapidly evolving technologies, and limited empirical validation. The findings reveal that digitalization's potential to ensure sustainability in SCs during disruptions is undermined by fragmented integration, technological immaturity, and weak organizational readiness. In conclusion, bridging this resilience gap requires not only adopting appropriate DTs but embedding them strategically to align technology, people and processes i.e. transforming disruption into an opportunity for sustainable advantage in SCs.*

**Keywords:** Supply Chain Management; Digitalization; Sustainability; Industry 4.0; Disruptions; Systematic Literature Review.

## **Probing the Impact of a Heterogeneous Board on Sustainability: The Role of Family Ownership in Emerging Economies**

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### **Abstract**

*The objective of the study is to determine how board heterogeneity (i.e., gender, age, and specialization) affects the sustainability (financial, social, and environmental). Along with evaluating board heterogeneity and various sustainability aspects, it also seeks to evaluate the moderating effects of family ownership. The sample consists of 178 textile companies from three emerging South Asian economies (Pakistan, India, and Bangladesh) for the period of six years from 2018 to 2023. The finding indicates that while age diversity has a positive impact on financial sustainability, gender diversity has a positive impact on social and environmental sustainability. Specialized diversity has a positive impact on sustainability in terms of finances and the environment. While family ownership has a moderating effect, it enhances the relationship between social sustainability and gender diversity. Furthermore, family ownership enhances the relationship between age diversity and financial sustainability; this trend is also prominent in specialized diversity. The study has beneficial implications for the textile industry since companies*

*can improve their sustainability performance by reshaping the rewards of having a heterogeneous board*

## **Strategic Agility and Business Performance of SMEs in Pakistan: Does Environmental Turbulence Matter?**

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### ***Abstract***

*The economic growth of a country is notably impacted by the contributions of small and medium-sized enterprises (SMEs). SMEs are, in fact, often faced with many performance issues that arise from the changing environment. To improve the outcomes, the use of the right strategies is imperative. Strategic agility is one of the dynamic capabilities that allow a business to survive the negative effects of environmental turbulence. The dearth of studies complicates the understanding of the relationships among these variables. This study investigates the influence of strategic agility on business performance. It also examines the environmental turbulence's effect on the relationship between strategic agility and business performance by being a moderating variable. The research involves the evaluation of business performance through the analysis of three types of indicators: financial, market, and non-financial performance. This approach is innovative in that it not only employs financial metrics but also provides a complete overview of business performance. In this study, the data was collected by 408 SMEs in Pakistan, utilizing probability sampling techniques, specifically stratified random sampling. SmartPLS 4 was used to conduct the structural equation modeling for this research. The results showed, strategic agility significantly enhances business performance. Additionally, environmental turbulence was not found to be a moderating factor of the agility-performance relationship. This dynamic capability-based study provides strategic management academia with several insights about obtaining superior performance. More specifically, it argues that organizations achieve superior performance when they engage in proactive strategic actions rather than passively reacting to turbulent conditions. This research also refutes the existing theoretical conjectures about the moderation of strategic agility and business performance by environmental turbulence. It also clarifies why this moderation was absent in Pakistan. The results provide SME owners with essential information necessary for strategic agility, enabling improved decision-making and the development of adaptable strategies. Policymakers and SMEDA can utilise these insights to develop SME support programs that enhance strategic agility, thereby facilitating long-term business growth and stability. This study significantly advances the field of strategic management by offering essential practical guidance for improving business performance in emerging economies, particularly in Pakistan.*

*Keywords: Strategic Agility, Business Performance, Environmental Turbulence, SMEs*

## **Shaping Tomorrow's Investment: Unravelling the Socially Responsible Investment (SRI) Intention, the combined use of Partial Least Squares (PLS-SEM) and Necessary Condition Analysis (NCA)**

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### ***Abstract***

*The present study aims to examine the factors that influence individual investor intentions to invest in socially responsible investing (SRI) as there is a dearth of research in behavioural aspects of the investors. Therefore, by empirically evaluating a model consisting of attitude, subjective norms, perceived behavioural control and SRI Bias this study attempted to fill the gap. Theory of planned behaviour has been employed as the study's theoretical framework. The present study used a survey research method and a self-administered questionnaire to collect the data. The data was gathered from individual investors investing in Pakistan Stock Exchange in Twin cities. A total of 449 responses were evaluated using the partial least squares structural equation modeling (PLS-SEM) and necessary condition analysis (NCA). The PLS-SEM findings evidenced that attitude, subjective norms and SRI bias significantly impact the intention to invest in SRI. However, perceived behavioral control turned out to be insignificant in predicting intention to invest in SRI. Furthermore, religiosity significantly moderates the relationship between attitude and intention to invest in SRI. NCA on intention to invest in SRI identified critical predictive factors. The analysis revealed that attitude, subjective norms, perceived behavioral control and SRI bias are all necessary for predicting intention to invest in SRI. This study investigates the impact of attitude, subjective norms, perceived behavioural control and SRI Bias along with the moderating role of religiosity between attitude and intention in the Pakistani context. More importantly, the study employed a multi-method approach (e.g. a combined approach of PLS-SEM with NCA) to determine the sufficient and necessary conditions of the outcome variable i.e. intention to invest in SRI.*

## **Role of FinTech Adoption and Digital Agricultural Finance in Farm Productivity**

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### ***Abstract***

*Access to digital agricultural finance and farm productivity is greatly affected by the adoption of FinTech and financial literacy. This study aimed to investigate how FinTech adoption and financial literacy contribute to enhancing farm productivity through improved access to digital credit and better financial decision-making by farmers. The analysis is based on data collected from 400 farmers in the Faisalabad district using purposive sampling through a structured survey questionnaire. The research uses econometric and statistical methods, such as Partial Least Squares Structural Equation Modeling (PLS-SEM) and SPSS, to examine the relationships among financial literacy, FinTech adoption, access to digital agricultural finance, and farm productivity. The findings reveal a significant impact of FinTech adoption, access to agricultural finance, and financial literacy on farm productivity. Digital agricultural finance significantly mediates the relationship between FinTech adoption and farm productivity, and financial literacy significantly moderates this relationship, enhancing farmers' ability to effectively utilize FinTech solutions for improved productivity. These results offer valuable insights for policymakers, financial institutions, and agricultural stakeholders to develop effective digital financial strategies that promote sustainable agricultural development. The study is limited to a single district, which may reduce the generalizability of the findings. Future research should include more regions for wider applicability.*

## **Entrepreneurial Ecosystem, Start-Ups and AI, a Global Perspective**

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***Abstract***

*Artificial Intelligence (AI) has significantly influenced all aspects of life in present era. The impact of AI especially on entrepreneurial ecosystems is gaining attention to ensure Start-Ups success through aid of technology. However, limited literature covered the importance of AI in relation to entrepreneurial ecosystems and Start-Ups. The aim of current study is to review systematically the existing literature on Artificial intelligence role in entrepreneurship. Specifically, to explore the role of AI as a key driver in entrepreneurial ecosystems and effects Start-up growth. A systematic literature review (SLR) method was followed to examine the related researches which analyse the relationship between AI and entrepreneurship. Meta-analysis technique has been used to recommend findings from 40 publications sourced from reputable academic journals, resulting in a considerate implication of AI for digital entrepreneurship. The role of AI in entrepreneurial activities has gained attention over the last decade. The literature suggest that Start-Ups operations and scalability is significantly modifies through AI. It offers opportunities along with challenges to Start-Ups. AI serves as key driver within entrepreneurial ecosystems by reducing Start-Up costs, increase accuracy in decisions, increase growth trajectories, support innovation through automation. The review highlights several opportunities created by AI, including access to new markets, improved efficiency, and effective utilization of entrepreneurial resources. However, potential biases in AI algorithms, ethical concerns and data privacy issues are observed as the key challenges. Based on the research findings the study recommends an AI-based entrepreneurial framework formulate to increase interdisciplinary dialogue among policymakers, practitioners, and researchers. This framework intent to direct evidence based policymaking and practical applications, enabling the effective incorporation of AI in entrepreneurial contexts. The study proposed valuable insights for scholars, researchers, academicians interested to investigate AI and digital entrepreneurship, entrepreneurs and aspiring entrepreneurs aiming to leverage AI capabilities and intrapreneurs within organizations interested to innovate through AI. The study suggests the need for future research to devise robust theoretical models accessing AI's influence on entrepreneurship. Adoption of holistic and dynamic perspectives on digital entrepreneurship. Explore the negative consequences of AI in entrepreneurial ecosystems to ensure composed understanding and responsible adoption. The potential of AI is equally constructive or destructive for entrepreneurial ecosystems. The impact of AI on entrepreneurial ecosystems and Start-up growth mainly depends on how users deployed its capabilities. AI supports Start-ups and reshapes entrepreneurial landscapes by assisting in cost reduction, quick decisions and scalable growth. This study contributes to existing literature and offers practical insights regarding AI's benefits and also discussing the risks associated with AI in entrepreneurship.*

# **Exploring the Evolution and Future Trajectories of Green Financing and Governance: A Comprehensive Bibliometric Analysis Over Five Decades**

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## ***Abstract***

*A detailed four-stage process is employed to supply a solid backdrop for a deep analysis of the dynamic green finance-green governance nexus. The research design is a sequence of Literature Search plus Inclusion and Exclusion Criteria application followed by Bibliometric analysis followed by Critical analysis of the literature review. The research is conducted to chart systematic linkages and underlying patterns in scholarly studies of green finance and green governance. Research begins with a broad spectrum of operation to get relevant studies through various database and research platforms. Once the preliminary phase of research is done, Inclusion and Exclusion Criteria carefully selects articles to be included for analysis. The method adopts key criteria to include principal research and discard that is not relevant. Bibliometric analysis is a quantitative analysis of publication patterns combined with researcher and topic-concentration themes in studies of literature that was reviewed. Through critical analysis of literature studies scholars apply selected article material to derive qualitative knowledge points that expose regular progressions with new unfolding themes. From such a synthesis of studies a broad picture of existing knowledge is created that depicts green finance and green governance systems in*

*conjunction. The presented research work increases overall understanding of our topic in question and also guides experts towards conceptualizing future evolution in models of sustainable finance and governance. This bibliometric analysis enhances understanding between green governance and green finance and also presents fundamental foundations to guide future studies in new directions. The four-stage approach to studies constructs a productive method of researching green finance and green governance relationships in their dynamic structure.*

## **Sustainable or Superficial? Unpacking the Long-Term Value of CSR in BRIC Economies**

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### ***Abstract***

*This study investigates the relationship between Corporate Social Responsibility Permanency (CSR) and Sustainable Enterprises in the BRIC context. This study used the yearly data of non-financial firms of the BRIC countries (Brazil, Russia, India and China) from 2010 -2024. This study uses panel regression models to investigate the impact of CSR permanency on sustainable enterprises. The results show active CSR permanency can help to promote sustainable development. Moreover, corporate governance elements such as press freedom and committed institutional monitoring ownership help to control the CSR process on sustainable business development. Sustainable enterprises of BRIC countries gain investors and stakeholders' support and trust by performing CSR initiatives permanently. This study sample is limited to BRIC countries, and the findings are related to the links only between CSR and Sustainable enterprises. Theoretically, this study provides a basis for next studies on corporate social responsibility (CSR) and sustainable businesses; its outcomes could inspire governments and businesses from the standpoint of corporate governance. This study presents crucial managerial and practical implications. The results could be helpful to the key stakeholders and regulatory authorities who are looking to promote ethical related activities of the firms. It further extends the previous literature on the link between CSR and Sustainable enterprises, finding a new element that affects the firm's health. The research provides empirical results encouraging further investigations into*

*the subject matter. These results are useful to investors and firms looking to opt for CSR activities for the longevity of the respective firms.*

**Keywords:** *Corporate Social Responsibility, Sustainable enterprises, Freedom of press, Dedicated Institutional Monitoring Ownership.*

## **Trust or not to Trust: Receiver Decisions in a Cheap-Talk Sender Receiver Game**

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### ***Abstract***

*This experimental study uses the Sender-Receiver Game to examine how Receivers' trust decisions are affected when they anticipate moral accountability from Senders. 101 undergraduate students (mixed disciplines) from Universities in Islamabad, aged 18–23 played a Cheap Talk sender-receiver game in two treatments in a controlled Lab Environment. The Sender is given the opportunity to send either a truthful (equal payoff to both) or untruthful message (more payoff to sender) to the Receiver in each Treatment. The Receiver then had to decide whether or not to believe the message. Receivers in the Baseline Treatment were not told if they would discover the truth about the message sent. Under the Shame Treatment, Receivers were made aware in advance that they would be notified if the sender had lied, and the sender would also be made aware that truthfulness of their message will be revealed to the Receiver. The results show that receivers' Trust in the Shame Treatment has significantly increased. Stronger normative expectations seem to be triggered by the expectation of post-decision truth revelation, where Receiver assumes senders would act honorably to prevent internal shame. This illustrates how expected moral responsibility can influence conduct even in one-time encounters. The Results highlight how small transparency cues can change trust dynamics in strategic situations, supporting both the Normative Expectations Theory and research on moral signaling. According to the study, in situations when official enforcement is lacking, implementing inexpensive moral feedback methods may help to foster trust. By shaping people's expectations about being held morally accountable, trust can be encouraged even in one-time or anonymous interactions.*

## **Uncovering the Nexus of Financial Inclusion, Informality, and Tax Revenues**

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***Abstract***

*This study examines the interaction between financial inclusion, the informal economy, and tax revenues in a sample of OECD countries. Using a panel dataset covering the period 2000–2023, the direct and indirect effects of financial inclusion on tax revenues are investigated. Empirical analyses show that the tax revenue-increasing effect of financial inclusion is particularly pronounced in countries with a high informal economy. In addition to the basic estimations made with fixed-effects models, the mediating role of the informal economy is tested through structural equation models. Furthermore, threshold regression analyses reveal that financial inclusion has a limited impact below a certain level, but its tax base-widening effects become stronger above a certain threshold. The findings indicate that the marginal effect of financial inclusion is relatively weak in high-income OECD countries, while its effect is much stronger in countries with lower levels of inclusion and more widespread informality. These results emphasize that financial inclusion policies not only contribute to deepening the financial system but also serve as a critical tool for strengthening fiscal capacity and reducing tax losses.*

**Impact of FinTech adoption on Financial Decision Making: A Case study of Generation-Z**

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***Abstract***

*This study examines the impact of financial technology on financial decision-making of Pakistani Generation Z. Although Generation Z is the most tech-savvy generation, it mostly lacks financial literacy to make realistic financial choices in this new digital environment by examining the relationship between financial decision-making and fintech deployment, with digital literacy and mobile payment systems acting as mediators, the provided research will aid in closing this gap. The study was founded on the quantitative, cross-sectional survey approach and the Unified Theory of Acceptance and Use of Technology (UTAUT). The valid responses received were 387, and the assessment was made through Partial Least Squares Structural Equation Modeling (PLS-SEM), to determine the influence of social influence, performance expectancy, effort expectancy, and facilitating conditions which influenced adoption of fintech, which in turn influenced financial behavior. The interpretation of the findings shows that the increased financial choices of people and fintech adoption are strongly correlated positively. Digital literacy emerged as a mediating factor of paramount importance, allowing the users to understand and use fintech tools more adequately. The use of mobile payment system also had a positive impact as it advocated real time tracking and convenience of financial transactions. These results have been used to point out that educational and policy-level interventions are required to enhance digital financial literacy in young people. The research is informative to fintech developers, educators, and policymakers who want to empower people financially and include them in the economy using technology.*

**ASPECT-BASED SENTIMENT ANALYSIS ON EMPLOYEE FEEDBACK  
ON WORK-LIFE BALANCE IN IT INDUSTRY USING MACHINE  
LEARNING**

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### **Abstract**

*This project applies Aspect Based Sentiment Analysis (ABSA) framework to explore Work Life Balance (WLB) concerns in the Information Technology (IT) industry by analyzing unstructured employee feedback. The IT sector often faces high turnover rates due to its nature of blurring boundaries between work and personal life. While many organizations acknowledge the importance of work life balance, they often lack the tools to deeply understand the root causes of employee dissatisfaction expressed in open ended feedback. To address this, the proposed system combines contextual embeddings from BERT with a Support Vector Machine (SVM) classifier to detect sentiment linked to specific work life balance aspects such as workload, flexibility, working hours, and organizational culture. The extracted aspect level sentiments are then interpreted to generate practical, data-driven recommendations aligned with the identified concerns, which helps the organization to make informed decisions. By automating the analysis of large volumes of qualitative feedback, this project offers a scalable solution that transforms employee voices into actionable insights. The ultimate goal is to help organizations improve work life balance practices, reduce employee turnover, and foster healthier, more sustainable work environments in the IT industry.*

## **ENHANCING ARTIFICIAL INTELLIGENCE-BASED DECISION SUPPORT SYSTEM (DSS) FOR TESTING AND LEARNING SYSTEM**

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### **Abstract**

*The shift to digital education, accelerated by the COVID-19 pandemic, has exposed critical gaps in many online learning platforms. While these systems increase accessibility, they often lack timely assessments, personalized feedback, and adaptive learning pathways, leading to reduced student engagement and weaker academic outcomes. This study aims to address these challenges*

*by developing an AI-based Decision Support System (DSS) that leverages machine learning and data mining to enhance online education. The system analyzes student performance data to provide adaptive learning recommendations, automate assessments, and generate actionable insights for educators. By employing AI-driven analytics, it supports personalized learning paths, boosts student engagement, and reduces educator workload through automated yet accurate grading. Predictive tools are also incorporated to identify students at risk of falling behind, enabling proactive intervention. The research adopts a dual approach of reviewing current AI applications in education and evaluating suitable machine learning techniques for personalization, while also outlining the technical requirements for system implementation. The findings indicate that automated assessments, real-time analytics, and personalized recommendations are highly valued by both students and educators, underscoring the system's practical relevance. The originality of this project lies in its integration of adaptive recommendations with predictive analytics to create a learner-centered digital environment. However, the study acknowledges limitations related to data privacy, scalability, and integration with existing Learning Management Systems (LMS), which will be addressed in future development. Overall, the proposed framework offers institutions a practical pathway toward more engaging, tailored, and efficient online learning.*

**Keywords:** *Artificial Intelligence (AI), Decision Support System (DSS), Online Learning and Testing (Assessment) Platform, Personalized Education, Learning Analytics.*

## **AI-DRIVEN FINANCIAL SCAM DETECTION SYSTEM USING NLP AND MALAYSIAN SOCIAL MEDIA DATA**

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### ***Abstract***

*Financial scams have increasingly exploited social media, posing serious risks to users and the broader economy. This study set out to build an AI-driven system to detect these scams using Natural Language Processing (NLP) on Malaysian social media data. It followed the CRISP-DM process, centering the approach on text preparation, feature extraction, and model training. Two strategies were tested: a baseline Support Vector Machine (SVM) using TF-IDF, and a*

*sophisticated, fine-tuned multilingual BERT (mBERT) model designed to handle imbalanced data. The mBERT model consistently delivered superior results across all key metrics, proving that transformer models are highly effective for spotting subtle deceptive language. A Streamlit application was deployed to visualize the findings, successfully linking the academic results to practical use. These results show great promises for using AI to fight fraud, especially where localized data is hard to find. This research is unique in that it is targeted directly at Malaysian social media and thus offers a localized framework. However, the system is not without obvious limitations: small size of data, using text only and no full real-time integration. Future work should scale with larger, more diverse data and launch the system out into action for real scalability.*

**Keywords:** Scam Detection, Natural Language Processing, Social Media Analytics, Machine Learning, Financial Cybersecurity

## **Estimation of Post-operative Life Expectancy in the Lung Cancer Patients with Machine Learning Algorithms**

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### **Abstract**

*Oxygen is fundamental for sustaining life in all mammals. It is transported into the blood through the mouth or nose, trachea, bronchi, and alveoli. The trachea, bronchi, and alveoli together form the lungs. Lung cancer is the most common type of cancer among men and the fourth most common type among women in Turkey. It is also by far the leading cause of cancer-related deaths in the United States. In this study, a dataset consisting of 470 samples and 17 features from patients diagnosed with lung cancer who underwent surgery was used to predict post-operative life expectancy using machine learning methods. First, data preprocessing steps such as encoding and scaling were applied. Then, several machine learning algorithms were implemented. The best results obtained were an F1 score of 0.8765 and a recall of 0.8376.*

## **BLOCKCHAIN TECHNOLOGY IN HALAL INDUSTRY: A RAMEWORK ASSESSING READINESS AND POTENTIAL FOR INNOVATION, A CASE OF MALAYSIA**

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***Abstract***

*Malaysia is a leading global halal hub (Halal Development Corporation [HDC], n.d.). Still, the integrity of halal certification is increasingly challenged by opaque supply chains and fraudulent practices, which weaken consumer trust (Hassam et al., 2025). This study assesses the readiness and innovation potential of blockchain adoption in Malaysia's halal food and beverage (F&B) industry by creating a validated implementation framework. An exploratory sequential mixed-methods approach is used, beginning with a systematic literature review, followed by qualitative interviews and focus groups with key stakeholders, including halal certifiers, manufacturers, logistics providers, regulators such as JAKIM, and technology vendors. A large-scale survey will be conducted afterward, analyzed through exploratory and confirmatory factor analysis (EFA/CFA) and partial least squares structural equation modeling (PLS-SEM), to refine and validate the framework. Early findings suggest blockchain could improve traceability and auditability in halal supply chains, reducing non-compliance risks while elevating transparency and consumer trust. However, adoption readiness depends on technical infrastructure, regulatory alignment with JAKIM, stakeholder awareness, and financial factors like cost and return on investment (Zahari et al., 2025). The study adds value by providing a practical framework and readiness-assessment tool for policymakers and industry stakeholders, offering policy and operational recommendations to advance Malaysia's halal blockchain initiatives from conceptual maturity (TRL 2) toward pilot readiness (TRL 4). Limitations include reliance on self-*

*reported stakeholder perspectives and the need for longitudinal validation once blockchain pilots are fully implemented.*

**Keywords:** *blockchain adoption, halal supply chains, readiness assessment*

## **DEEPPFAKE IMAGE DETECTION USING TRANSFER LEARNING ON PRETRAINED CONVOLUTIONAL NEURAL NETWORKS**

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### ***Abstract***

*This study develops an image-based deepfake detection system to identify AI-generated fake images. Three pretrained CNN models (Xception, ResNet50, and EfficientNetB3) were evaluated using transfer learning on a subset of the Diverse Fake Face Dataset (DFFD). Model performance was measured with accuracy, precision, recall, F1-score, AUC-ROC, specificity, and inference time. Results show Xception performed best, achieving 91.21% accuracy, 91.78% F1-score, and 97.33% AUC-ROC, with low false negatives and stable training. The Xception model was deployed as a web platform for manual image verification and a browser extension for real-time detection. The system is fast, reliable, and user-friendly, helping users verify images directly online. Limitations include image-only detection, a limited training dataset, and restricted browser support. Future work can extend detection to videos and audio, highlight manipulated regions, and support more browsers and mobile devices. This study provides an effective, practical tool for deepfake detection and a comparison of CNN models for real-time use.*

**Keywords:** Deepfake Detection, Xception, Convolutional Neural Networks, transfer learning, web-based system

## **RNA-SEQ GENE EXPRESSION–BASED CANCER DETECTION WITH MACHINE LEARNING AND DIMENSIONALITY REDUCTION**

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### ***Abstract***

*Gene expression data holds significant promise for early cancer detection, but its high dimensionality (over 60,000 genes) creates challenges for effective modeling and interpretation. This study applies machine learning techniques to classify cancer presence using gene expression profiles. To reduce dimensionality, the SelectKBest method was used to select the top 500 genes. The datasets were sourced from TCGA, GTEx, and TARGET via the UCSC Xena platform. After preprocessing, nine traditional machine learning classifiers and a neural network model (MLP) were evaluated. Models such as Support Vector Machine (SVM) and Nearest Neighbours achieved very high accuracy, exceeding 99%. The next phase will focus on validating model robustness, identifying signs of overfitting, experimenting with deep learning architectures like recurrent neural networks (RNNs), and designing a basic user interface to support real-world deployment.*

**Keywords:** cancer detection, gene expression, machine learning

## **Impact of Motivational factors and Green Behaviors on Employee Environmental Performance**

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**Abstract**

*With the emergence of a green environment and green business, the banking sector has also enforced green practices. This study aims to explore the impact of motivational factors and green behaviors on the environmental performance of banking sector employees. This is a quantitative study and data has been collected through a cross-sectional survey of the questionnaire in the banking sector. 300 questionnaires were distributed to the bank employees. PLS-SEM was used to find the statistical results. The study finds a positive impact of Extrinsic motivation and Intrinsic motivation on Employee Environmental Performance, the mediating effect of Task-related Green Behaviors was also found to be positive. The study does not support the effect of Voluntary Green Behaviors on Employee Environment Performance and its mediating effect was also not supported. The study findings and deep knowledge of the impact of motivational and behavioral employee environmental performance on banking sector employees have provided new directions for researchers and policymakers. This study will help the policymakers in strategically developing rewarding policies for the employees that would definitely create a positive impact on performance. The results of the study have provided empirical confirmation of employees' motivational needs and their impact on green behaviors that collectively impact employee environmental performance.*

**Keywords:** *Employee Environmental Performance, Extrinsic Rewards, Intrinsic Rewards, Voluntary Green Behaviors and Task-related Green Behaviors.*

**Remote Work and Employee Engagement Post-COVID: A Human Capital  
Perspective from South Asia**

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**Abstract**

*The COVID-19 pandemic brought an unprecedented shift in work environments, leading to the widespread adoption of remote work practices. While remote work offers flexibility and autonomy,*

*it also presents challenges related to communication, performance tracking, and employee engagement. This study aims to explore the impact of remote work on employee motivation, engagement, and performance within the service sector in South Asia, focusing on firms in Pakistan and India. Utilizing a quantitative survey of 400 employees and qualitative insights from HR managers, the research identifies key enablers and barriers to remote employee engagement. The results highlight that flexible scheduling, digital wellness initiatives, and transparent communication significantly enhance employee satisfaction and retention. Conversely, the absence of physical interaction, weak team cohesion, and lack of digital infrastructure negatively affect engagement. The paper also explores how human resource management (HRM) practices must evolve—through the adoption of virtual training, AI-driven performance evaluation, and adaptive leadership—to support hybrid and remote work cultures. The study proposes an integrated framework for digital human capital management aligned with organizational goals and employee well-being. These findings offer practical recommendations for HR leaders and contribute to academic literature by bridging the gap between remote work and employee engagement models in developing countries.*

**Keywords:** Remote Work, Employee Engagement, Human Capital, HRM, Post-COVID Workplace, South Asia, Digital Workforce

## **Differential Geometric Analysis of Minimal Surfaces in the Crimean-Congo Hemorrhagic Fever (CCHF) Related CCHFV N Protein and Comparison with Protein 1m17**

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### ***Abstract***

*This study investigates the differential geometric features of the CCHFV N protein, which is associated with Crimean-Congo hemorrhagic fever (CCHF). In particular, we analyze its minimal surface properties, since minimal surfaces are closely related to the mathematical description of structural stability in macromolecules. Using the PyMOL software, we construct a three-dimensional model of the CCHFV N protein and evaluate its Gaussian curvature and other differential geometric characteristics. To complement this, we develop a Python-based program to quantify and visualize these minimal surface features. The results are then compared with the minimal surface properties of protein 1m17, which we have previously studied. The comparison highlights the mathematical patterns and invariants of minimal surfaces across different protein*

structures, contributing to the understanding of geometric and topological models of biomolecules.

## **Approach To Children With Crimean-Congo Hemorrhagic Fever**

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### **Abstract**

*Crimean-Congo Hemorrhagic Fever (CCHF) is a severe and fatal disease characterized by fever and hemorrhages, caused by infection with the Crimean-Congo Hemorrhagic Fever virus, which belongs to the Nairovirus genus of the Bunyaviridae family, transmitted to humans by infected ticks. The mortality rate of the disease ranges from 3% to 30%. First detected in Turkey in 2002 in Tokat, CCHF is endemic in the northeastern part of Turkey. Transmission of the virus to humans occurs through tick bites, contact with viremic animals, and contact with infected body fluids/blood. Humans are the only hosts for the CCHF virus. The course of the disease typically consists of four stages: incubation, pre-hemorrhagic, hemorrhagic, and convalescent, with symptoms and findings varying according to the stage of the disease. Especially those involved in animal husbandry, farmers, and healthcare workers are the groups most at risk. There are very few studies in the literature examining cases in children, but it has been found that CCHF is less common in children than in adults, although clinical and laboratory findings are similar to those in adults. Although there is insufficient experience in the treatment of children diagnosed with CCHF, supportive treatment for symptoms is administered. Early diagnosis and treatment are crucial for prognosis in CCHF. CCHF is an important infection that must be considered, especially in pediatric patients from endemic areas with a history of tick bites and symptoms and findings such as fever, muscle pain, thrombocytopenia, and bleeding. This review aims to draw attention to CCHF in children.*

## **AI in Women's Health: A Supportive Tool for Clinical Practice**

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### **Abstract**

*Artificial intelligence (AI) is rapidly advancing in obstetrics and gynecology, bringing new dimensions to clinical practice. Traditional methods often struggle to interpret complex data, whereas AI-supported algorithms can process large datasets to provide faster and more reliable results. This enhances patient care and strengthens decision-making processes for clinicians. In antenatal care, AI holds great potential in distinguishing between high- and low-risk pregnancies. Advanced models show promise in predicting preterm birth, preeclampsia, and gestational diabetes. The integration of AI into cardiotocography, ultrasonography, and magnetic resonance*

*imaging allows earlier and more accurate detection of fetal growth restriction and other anomalies. In assisted reproductive technologies, the role of AI is expanding steadily. Objective sperm and oocyte SELECTION, automated monitoring of embryo development, and ploidy prediction contribute to higher IVF success rates, improving both treatment efficiency and patient satisfaction. In gynecology, AI supports cancer and molecular biology research, while the combined interpretation of clinical notes, laboratory results, and imaging accelerates diagnostic processes. Chatbot applications can answer routine patient questions, provide educational resources, and guide personal care, enabling clinicians to dedicate more time to quality patient management. The integration of AI with telemedicine allows consultants to serve wider populations in small towns and rural areas, facilitating early diagnosis and triage. However, principles of safety, transparency, and clinical responsibility remain essential for sustainable and ethical implementation. In conclusion, AI is emerging as a powerful adjunct in obstetrics and gynecology, with applications in pregnancy monitoring, risk prediction, cancer diagnosis, IVF, and patient support.*

## **ACL prevention program on dynamic knee valgus in football**

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### ***Abstract***

*Knee injuries are highly prevalent among football players. High mechanical loads during landing or directional changes often cause a medial collapse of the knee, known as dynamic knee valgus (DKV). Numerous studies have identified excessive DKV as a key risk factor for knee injuries, including anterior cruciate ligament (ACL) rupture. Preventing ACL injuries is therefore crucial in football. Previous research has demonstrated that well-structured injury prevention programs can enhance joint stability and movement technique, thereby reducing injury risk. Eighteen young female soccer players (mean age:  $15 \pm 1.11$  years) participated in a 10-week ACL prevention program. All participants were free from lower limb injuries. DKV was assessed using a Kinect camera before and after the intervention. Paired t-tests were conducted to compare DKV and squat depth between the pre- and post-test conditions. A significant improvement was observed in right-side DKV ( $p = 0.02$ ) and squat depth on both sides ( $p < 0.001$ ) following the intervention. However, no significant difference was found in left-side DKV ( $p = 0.50$ ). The ACL prevention program may effectively reduce dynamic knee valgus (DKV), thereby decreasing the risk of ACL injuries in female soccer players. These findings support the implementation of targeted physiotherapy interventions in female football, aiming to*

*enhance knee stability and reduce injury incidence. Coaches and sports health professionals are encouraged to integrate such prevention programs into training routines to minimize injuries and shorten rehabilitation periods.*

## **THE ROLE OF ISLAMIC COGNITIVE RESTRUCTURING ON STRESS REDUCTION AND SPIRITUAL WELL-BEING**

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### ***Abstract***

*The recent researches show growing cases of stress and mental health issues among university students particularly in the Muslim community in Pakistan. Cognitive restructuring techniques are culturally appropriate ways to increase the psychological strength and spiritual well-being of Muslims. This research investigates the role of Cognitive Restructuring through examples mentioned in the Quran on stress reduction and spiritual well-being. The research is quantitative in nature and it targets the Muslim community in Pakistan. The research involves 15 participants who were willing to take part in structured mindfulness sessions by using the Cognitive Restructuring Technique through examples mentioned in the Quran. The sample includes people of both genders from young and early adulthood (18-26) age groups. The participants are all university students from twin cities. Pre and post-test Quasi-experimental design control group is used to evaluate the impact of structured mindfulness sessions on the sample. DASS- 21 (Depression, Anxiety, and Stress) Scale developed by Lovibond and Lovibond and the Spiritual Well-Being Scale developed by Bufford and Puloutzian are used. On weekly basis pre-test, mid-test and post-tests intervention assessments are conducted using the scales to measure stress and spiritual well-being changes. The data is analyzed using SPSS software. The findings display a significant drop in stress scores ( $p < 0.05$ ) and a remarkable improvement in spiritual well-being after the intervention, with participants claiming that they have developed better coping techniques and have strengthened their bond with their faith. These outcomes point out the influence and potential of the Cognitive Restructuring Technique through examples mentioned in the Quran in therapeutic settings. This provides significant information for mental health interventions, directed toward promoting psychological resilience as well as spiritual fulfillment in various cultural contexts.*

*Key Words: Psychotherapy, Muslim Community, Islamic Cognitive Restructuring*

# THE ROLE OF HYPNOTHERAPY IN REDUCING MIGRAINE RELATED STRESS AND ENHANCING QUALITY OF LIFE IN YOUNG ADULTS

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## **Abstract**

*Migraine is a prevalent chronic neurological disorder characterized by recurrent, often incapacitating headache attacks accompanied by symptoms such as aura, nausea, and sensory disturbances. It affects approximately 12% of adults worldwide, with a higher prevalence in women (18%) than in men (6%). Previous research has indicated that a history of migraines may increase the risk of brain damage. Stress, defined as any internal or external stimulus that elicits a biological response, is a key trigger of migraine episodes, while quality of life (QoL) encompasses an individual's overall well-being within their cultural, social, and environmental context. The present study aimed to evaluate the effectiveness of hypnotherapy in reducing migraine intensity, improving psychological well-being, and enhancing overall QoL among young adults. A pilot randomized controlled trial (RCT) was conducted using purposive sampling. Fourteen young adults with migraine were recruited and randomly assigned to a therapeutic group (n=7) or a control group (n=7) using a fishbowl sampling technique. The therapeutic group received structured hypnotherapy sessions, whereas the control group received no such intervention. Migraine intensity and QoL were assessed both before and after the intervention. Data were analyzed using t-tests: independent samples t-tests compared post-intervention group differences, and paired samples t-tests assessed within-group pre-post changes using SPSS. It was hypothesized that participants receiving hypnotherapy would show a significant reduction in migraine intensity and frequency, alongside marked improvements in QoL and psychological functioning, compared to the control group. Findings from this pilot study are expected to support hypnotherapy as an effective complementary intervention for migraine management.*

*Keywords: Migraine, hypnotherapy, stress, quality of life, intervention.*

## EXPLORING SOCIO-CULTURAL CHALLENGES OF PAKISTANI TRANSGENDER COMMUNITY: A MULTIMODAL ANALYSIS OF PRINT MEDIA DISCOURSE

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***Abstract***

Transgenders, commonly known as *khawaja sira* in Pakistan, symbolize a gender identity that has existed in South Asian culture for centuries and continues to hold a distinct social presence in the Pakistan. The study explores photographic representation of Pakistani transgenders that how these individuals are visually and textually represented in national and international news media. It highlights the socio-cultural narratives surrounding their portrayal. The data set comprises photographs from the online editions of leading national and international newspapers—*The New York Times* (2 images), *Dawn* (2 images), *NPR* (3 images), and *Deutsche Welle* (1 image). Recognizing the compelling role of images in shaping societal perceptions (Nabers & Shim, 2011), the study draws on the frameworks of Social Semiotics and Systemic Functional Linguistics to interpret how visual and textual cues contribute to the discourse surrounding transgender identities. Hence, Kress and van Leeuwen’s Visual Grammar and Halliday’s Transitivity system serve as analytical tools to decode how visual narratives communicate exclusion, discrimination, and socio-political invisibility. Captions, taglines, and disclaimers are also examined to uncover the interplay between image and text. The findings of the research indicate that transgender individuals are frequently represented in isolated, stereotypical, and victimized roles which reflect deep societal neglect. A critical insight discloses the limited visual presence of transgenders in Pakistani media especially, underscoring a lack of inclusive visibility. As the **UN Sustainable Development Goals 5 that is “Gender Equality”** and **10 that talks about “Reduced Inequalities”** strongly emphasize inclusion and equal representation of all genders. Inclusion of transgenders will not only promote diversity but also contributes to comprehensive social development indicators such as education, healthcare, and social cohesion. Since Pakistan is a signatory to the UN SDGs, it is imperative for it to indicate these commitments by ensuring the inclusive visibility and mainstreaming of all gender identities in media and policy narratives.

**THE ROLE OF SEMANTIC PROSODY IN SHAPING MEDIA  
NARRATIVES: A CORPUS-ASSISTED CRITICAL DISCOURSE  
ANALYSIS OF THE IRAN-ISRAEL CONFLICT**

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## **Abstract**

*Media discourse plays a critical role in shaping public perception, especially in conflict reporting, where language subtly conveys ideological positions. Despite increasing interest in media bias, limited research has systematically examined how Semantic Prosody (SP) functions as a covert discursive mechanism in politically sensitive narratives. This study investigates how SP is used to construct ideologically contrasting representations of the Iran-Israel Conflict (IIC) in English-language newspapers from Iran—the Tehran Times (TT)—and Israel—the Jerusalem Post (JP). Adopting a mixed-method approach and a Corpus-assisted Critical Discourse Analysis (CACDA) framework grounded in Stubbs’s (1996) conception of SP, the study analyzed a purpose-built corpus of 300 editorials and opinion articles from both newspapers. AntConc software was used to extract and examine keyword frequencies, collocational patterns, and concordance lines, focusing on key lexical items such as Iran, Israel, regime, attack, resistance, etc. Findings revealed that each newspaper strategically employs SP to construct opposing moral narratives: TT frames Iran positively through collocates emphasizing legitimacy and resistance, while portraying Israel as aggressive; JP reverses this pattern, depicting Israel as defensive and Iran as a threat. These patterns illustrate the context-dependent ideological function of SP. Theoretically, the study advances understanding of how lexical choice and collocation reinforce ideological stances in media discourse, enriching Critical Discourse Analysis (CDA) and Corpus Linguistics (CL) through the application and extension of Stubbs’s SP model. Practically, the findings underscore the need for critical media literacy in education and more transparent language practices in journalism, particularly in conflict reporting, thereby aligning with the United Nations Sustainable Development Goals (SDGs), especially SDG 4 (Quality Education), by fostering informed citizenship through critical literacy, and SDG 16 (Peace, Justice and Strong Institutions) by advocating responsible media discourse that supports transparency, fairness, and peace-oriented reporting.*

**Keywords:** *Semantic Prosody; Media Discourse; Corpus-assisted Critical Discourse Analysis (CACDA); Critical Discourse Analysis (CDA); Corpus Linguistics; Iran-Israel Conflict; Ideology; Collocation; Media Bias; Critical Media Literacy; Sustainable Development Goals (SDGs)*

## **RHIZOMATIC BECOMINGS AND POSTHUMAN ETHICS: RETHINKING SUBJECTIVITY IN *ALITA: BATTLE ANGEL* (2019) AND *EX MACHINA* (2015)**

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## **Abstract**

*This study highlights the posthuman rhizomatic subjectivities and ethical agencies of artificial cyborgs in the films: *Alita: Battle Angel* (2019) and *Ex Machina* (2015) Based on the theoretical*

*ideas of rhizome put forward by Deleuze and Guattari, Haraway's cyborg manifesto, Walton's gender of a cyborg and Thompson's character analysis method. The study examines two main questions: 1) how do these films visually and narratively obscure the distinctions between humans and machines by using aesthetic strategies to undermine organic and synthetic distinctions; (2) how does rhizomatic identity formation complicate humanistic concepts of consciousness, agency, and ethical responsibility. Based on meticulous analysis of the film, this study argues that Alita and Ava are not derivative human beings but rhizomatic posthuman beings (cyborgs) who keep on evolving, reject instrumentalization and learn to live according to relational morals. The rejection of fixed subjectivity shows a new ethics of becoming according to which identity is fluid, affective and constituted through rupture and connection. These films contribute to posthuman discourse by rethinking the ethical and ontological potential of artificial female cyborgs.*

**Keywords:** *Posthuman, cyborg, rhizome, films, identity*

## **ARTIFICIAL INTELLIGENCE AND LINGUISTIC IMPERIALISM: INVESTIGATING THE DOMINANCE OF ENGLISH IN AI-POWERED LANGUAGE TECHNOLOGIES**

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### **Abstract**

*This study examines the dominance of English in widely used language technologies like ChatGPT, Google Translate, and Siri, focusing on how this affects speakers of Urdu and Pashto in Pakistan. By testing 30 prompts in English, Urdu, and Pashto—producing 90 responses—and conducting surveys with 100 students and interviews with 15 multilingual users, the research uncovers a clear gap in performance. English responses were consistently more accurate, fluent, and understandable, while Urdu and especially Pashto lagged behind in quality. Participants expressed frustration with mistranslations, poor grammar, and a lack of cultural relevance in the responses they received in their native languages. Many also highlighted technical barriers, such as limited keyboard options and weak voice recognition for Urdu and Pashto. As a result, around 70% of users said they often switched to English, even when it was less comfortable for them, leading to feelings of exclusion and marginalization. Using the lenses of Linguistic Imperialism and Technological Determinism, the study shows how language tools often reflect and reinforce global power imbalances. It calls for more inclusive development practices, greater attention to underrepresented languages, and policies that promote linguistic equity in digital spaces.*

**Keywords:** *Language inequality, Urdu, Pashto, AI language tools, linguistic imperialism, digital exclusion, language technology, linguistic justice.*

# **Beyond Security: U.S. Public Diplomacy And The Making Of The Turkish-American Alliance, 1945-53**

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## ***Abstract***

*What explains Turkey's rapid and durable alignment with the United States between 1945 and 1953? Prevailing realist accounts emphasize a severe external threat and the inducements of military and economic aid. This article advances a complementary argument: U.S. foreign public engagement was constitutive of the Turkish-American alliance because it transformed a security transaction into a socially legitimated partnership. Using process tracing across three periods 1945-47, 1948-50, and 1951-53, the analysis links discrete instruments of public diplomacy information broadcasting, cultural programming, educational and leader exchanges, and the publicity of economic assistance to observable shifts in Turkish elite rhetoric, press agendas, and policy uptake. The evidentiary base integrates U.S. and Turkish archival materials including FRUS and USIS and ECA country files, contemporaneous Turkish newspapers, and memoirs and oral histories. The study specifies causal mechanisms persuasion, socialization, and credibility signaling and adjudicates rival explanations through structured counterfactuals and targeted hoop and smoking-gun tests. The findings indicate that hard power created the opportunity structure for alignment, while soft power increased its depth by widening elite coalitions, generating popular acquiescence, lowering the domestic costs of cooperation, and strengthening perceptions of U.S. resolve. Effectiveness was conditional on a salient common threat, identity compatibility with Western modernizing projects, a permissive and state-aligned media environment, visible material complementarities, and sender consistency. Theoretically, the article integrates soft power into alliance politics as a force multiplier for credible commitment and nascent security-community formation. Policy implications include the premium on people-to-people investments and message credibility for sustaining allied goodwill under evolving strategic conditions.*

## **Artificial Intelligence and the Family: The Possibility of Privacy in the Home**

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## ***Abstract***

*Artificial intelligence (AI), like in many other aspects of life, has rapidly surrounded our homes, significantly transforming family dynamics, daily routines, and relationships among family members. The introduction of devices such as smart speakers, voice assistants, smart surveillance cameras, and innovative toys into households has raised serious concerns about privacy and personal confidentiality. Furthermore, the intersection of AI's effects on human life with*

*individuals' religious beliefs and practices complicates family privacy dynamics even further, requiring new approaches to privacy management. Existing research reveals significant security vulnerabilities associated with AI-supported devices, particularly concerning unauthorized data collection and breaches that endanger private family spaces. Devices with “always listening” features, such as Amazon's Alexa and Apple's Siri, further heighten concerns over surveillance and personal data control. Children's interactions with AI-powered toys intensify concerns about how easily their privacy may be compromised. This section summarizes the literature on AI's impact on family life, privacy concerns, and religious dynamics, drawing on analyses from existing databases, including Pew and World Values Survey (WVS). It proposes a multidimensional analytical model that focuses on technologies, religious values, and the concept of privacy to guide future research and policy development processes.*

## **Entrepreneurship, Clean Technologies and Food Security : An Integrated Approach to Strengthen Agricultural Sustainability in the Sahel**

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### ***Abstract***

*The Sahel faces a convergence of challenges ; declining soil fertility, climate variability, and growing food insecurity, all compounded by youth unemployment and weak entrepreneurial ecosystems. At the same time, clean technologies such as biofertilizers, solar-powered irrigation, and smart agricultural tools present untapped opportunities for sustainable transformation. This project seeks to integrate entrepreneurship, clean technologies, and food security to strengthen the resilience and sustainability of Sahelian agricultural systems. Through a research-action approach, it combines three complementary pillars :*

*Research and innovation, testing and validating green technologies adapted to local contexts  
Entrepreneurship and incubation establishing a science-driven incubator to support agri-tech startups and young innovators  
Knowledge transfer and impact training farmers, producing scientific publications, and creating digital platforms for wide dissemination.*

*By bridging science, markets, and policy, the project aims to establish a Sahelian green innovation hub that generates Scientific knowledge through rigorous experimentation.*

*Practical solutions for farmers to improve productivity and reduce costs. Employment opportunities by nurturing startups and empowering young entrepreneurs. Ultimately, the initiative will contribute to food security, climate resilience, and inclusive growth in the Sahel, positioning the region as a leader in green and entrepreneurial innovation.*

## **Revitalisation of Industrial Heritage through Adaptive Reuse and Urban Integration: The Case of the Promenade Plantée**

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### ***Abstract***

*Industrial heritage, once it loses its authentic function, is often perceived as leaving urban scars in the form of discontinuities and disruptions within the urban fabric. Yet these spaces not only preserve the historical and cultural values of the period in which they were active, but also contain latent potential. An increasingly recognised tendency suggests that such abandoned structures, through adaptive reuse, can be transformed into cultural, ecological, and social resources. This study examines this process through the case of the Promenade Plantée in Paris. Opened in 1993 on the disused Vincennes railway viaduct, the Promenade Plantée stands as one of the earliest and most influential projects to revitalise abandoned railway infrastructure. As an elevated linear park, it exemplifies the conversion of a disused railway into a continuous public green corridor, transforming a former urban scar into a connective and vibrant public space. Rather than erasing historical traces, the project combines architectural conservation with landscape design and adaptive reuse, giving new life to obsolete infrastructure while embedding it into everyday urban experience. This study argues that the Promenade Plantée demonstrates the potential of adaptive reuse to transform abandoned infrastructure into cultural and ecological resources. The analysis is structured around three interrelated dimensions: adaptive reuse and architectural conservation, focusing on the preservation of the viaduct's structural character while accommodating new functions; urban integration, emphasising the project's capacity to reconnect fragmented neighbourhoods, create public corridors, and contribute to green infrastructure; and social impact, considering both local effects and broader global influence. Methodologically, the research employs a case study approach supported by an in-situ visit, enabling first-hand observation of spatial, cultural, and experiential qualities. By situating the Promenade Plantée within wider debates on industrial heritage and urban scars, the paper contributes to ongoing discourse on heritage-led revitalisation and identifies lessons relevant for future practice.*

## **Education as Enterprise: Understanding the Business Models Behind International Schools in Spain and the Rest of the World**

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## **Abstract**

*The international school sector has evolved from a niche expatriate service into a globalized education industry worth over US\$67 billion annually. This study examines how international schools in Spain operate within a commercialized framework and compares their business models, profitability drivers, and market conditions with those of international schools worldwide.*

*Methods. A mixed-methods approach was adopted, combining quantitative market data (tuition averages, estimated revenues, and sector EBITDA benchmarks) with qualitative content analysis of school strategy documents, rankings, and institutional websites. Spain's case study sample included 25 leading schools across major regions (Madrid, Barcelona, Valencia, and Marbella). Comparative data were drawn from international school market reports (ISC Research, Cognitive Market Research, and GSI Education, 2024–2025). Publicly available profit proxies (tuition × enrolment estimates) and benchmark margins (15–35%) were used to evaluate profitability patterns. Spain hosts approximately 320 international schools, generating sector revenues estimated between US\$400–500 million annually. Profit margins (EBITDA) average 15–25%, constrained by high labour, taxation, and property costs. Top-tier institutions, such as SEK International Schools, King's College Madrid, and the American School of Barcelona, leverage strong brand reputations and academic rankings to justify tuition fees of €10,000–€25,000 per year. In contrast, international schools in Asia and the Middle East enjoy margins of 25–35%, driven by lower operational costs, government incentives, and surging demand from aspirational local families.*

*Discussion and Implications. The findings illustrate a clear geographical divide in profitability and market maturity. Spain's international schools operate in a stable yet saturated environment, while emerging regions benefit from expansion potential, lower costs, and rising domestic demand. The research calls for greater financial transparency, ethical reinvestment strategies, and policy oversight to strike a balance between educational quality and commercial sustainability. Ultimately, the study reframes international schooling as a hybrid enterprise.*

## **From *Scienza Nova* to naturalist intelligence and its practical fulfillment through education with reference to multiple intelligences theory application in a Romanian secondary school**

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## **Abstract**

*As the scientific community celebrates three centuries since Vico's *La Scienza Nuova*, it is appropriate to look into the way education has been approached from a scientific point of view since this magnum opus many sciences have emerged. The break through of psychology at the middle of the 19th century and the emergence of cognitive science during the second half of the 20th century are the main streams of science which could not escape the education field and science. It all started with the concern of knowing human and nature better. Therefore the paper analyzes the aspects of naturalist intelligence from the perspective of multiple intelligences theory*

*as applied to students in a Romanian secondary school with reference to non- formal education activities which are concern with the stimulation of science rather than simple empirical evidences. The results are oriented towards the Life Long Learning objectives and key competencies with reference to barriers in the way of knowledge, challenges and obstacles that may deviate a natural talent from one way to another as subject to human predicament.*

## **Validation and Implementation of A Newly Developed Soccer-Specific Skills and Agility Test**

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### **Abstract**

*This study aimed to design, implement, and validate a novel soccer-specific performance test integrating agility, dribbling, passing, shooting, and decision-making skills to better reflect real match scenarios. Traditional soccer performance tests often isolate physical attributes such as speed or agility and fail to capture the multifactorial demands of the game. In response, we developed a Soccer-Specific Agility and Skill Test (SSAT), inspired by previous protocols but modified to include continuous, game-like actions including directional changes with ball control, wall passes, and goal shooting with both feet. A total of 75 male soccer players from professional, amateur, and university levels participated. The study utilized a repeated-measures design to evaluate reliability and construct validity of the SSAT. Test-retest reliability was assessed using ICC and paired t-tests, while construct validity was determined via correlations with established agility and skill tests. Results demonstrated high internal consistency ( $ICC > 0.95$ ), no significant test-retest differences (except for Loughborough Passing Test,  $p < 0.01$ ), and moderate-to-strong correlations ( $r = 0.50-0.87$ ) between SSAT and comparable performance tests. Furthermore, the SSAT significantly differentiated performance levels across skill groups ( $p < 0.001$ ). The findings support the SSAT as a valid and reliable assessment tool that captures both the physical and technical-cognitive dimensions of soccer performance. Its ecological validity makes it a valuable instrument for talent identification, training program design, and performance monitoring. Limitations include a male-only sample and exclusion of goalkeepers, suggesting future research should explore broader applications and further psychometric validation.*

## **Field Tests in Performance Analysis of Combat Sports**

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## **Abstract**

*This study aims to contribute to the existing literature by thoroughly analyzing performance tests specific to combat sports, such as wrestling, judo, taekwondo etc. It also identifies the sport in which each test was developed, the performance components evaluated, and any sport-specific limitations. The literature search included PubMed, MEDLINE, Scopus, Web of Science, Google Scholar, ProQuest, MDPI, Frontiers, SpringerLink, ScienceDirect, Taylor Francis, JSSM, and DergiPark. No time restrictions were applied. An effort was made to review all tests used in analyzing combat sports performance. However, recent sources were prioritized to ensure the SELECTed tests aligned with modern practice. In wrestling, the tests exist for anaerobic performance and sport skills, but direct performance tests measuring agility, reaction, strength, or speed have not been observed. In judo, the tests measure anaerobic, aerobic performance, and strength; however, direct tests for reaction, speed, and agility are not observed. In Taekwondo, the tests measure anaerobic performance, aerobic capacity, strength, agility, reaction time, and movement speed, but no test specifically assesses sport-related skills. In boxing, tests evaluate anaerobic, aerobic, strength, and reaction performance, but sport-specific skill and agility tests are lacking. In kickboxing, the tests exist for anaerobic and aerobic performance, but none are available for strength, agility, or reaction time. Muay Thai tests evaluate anaerobic and aerobic ability but do not measure strength, agility, reaction time, or sport-specific skills. Karate includes tests for anaerobic and aerobic performance and agility, but it lacks assessments for strength, sport-specific skills, or reaction time. Consequently, it has been observed that discipline-specific tests for boxing are more advanced than those for other sports. In boxing performance assessment, tests measuring anaerobic performance are more frequently reported in the literature than those in other disciplines. Wrestling and Muay Thai have the fewest sport-specific tests in combat sports.*

## **Evaluation of Professional Motivation of Coach**

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## **Abstract**

*Coaches attitudes toward the problems and challenging conditions they encounter throughout their professional lives are crucial in their approach to their profession. The purpose of this study is to determine coaches professional motivations. Our study was designed using a quantitative research method, a survey model, and a cross-sectional descriptive survey technique. A total of 100 coaches working in Çorum were randomly SELECTed for inclusion in the study. A Personal Information Form, developed by the researcher in line with the study objectives, was used as the data collection tools and motivation scale for coaches. The Independent Samples t-Test (p0.05) was used to compare paired groups with normal distribution according to the variables included in the study. The Mann-Whitney U test was used for data that did not have a normal distribution (p0.05). For multiple comparisons, the One-Way ANOVA test was applied to data with normal distribution. The Kruskal-Wallis H test was applied to data that did not show a normal distribution. As a result of this study. It appears that female coaches have higher motivation levels than male coaches. No significant difference was found for any of the variables examined in the Professional*

*Motivation sub-dimensions. Based on these results, it is recommended that studies on Professional Motivation be conducted in different provinces and regions with larger sample groups, that individuals with different sociodemographic characteristics who are less motivated be included in the study, and that complementary studies be conducted.*