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14 November 2025, Cluj-Napoca, Romania

Book of abstracts

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Casa Cărții de Știință
Cluj-Napoca

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Book of abstracts

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- Babeş-Bolyai University, Faculty of Economics and Business Administration, Department of Economics and Business Administration in Hungarian Language
- Pro Oeconomica Educatione Association
- Transylvanian Museum Society (EME), Department for Law, Economics and Social Sciences
- Regional Committee of the Hungarian Academy of Sciences in Cluj (KAB)

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PROGRAM

Friday, 14 November 2025

09.00–09.30	**Registration of participants** (Lobby 1st floor)
09.30–10.30	**Plenary session 1** (Room 118)
09.30–09.45	**Welcome speeches**
09.45-10.30	**Prof. Dr. Dc. Vatroslav ŠKARE** (University of Zagreb, Faculty of Economics and Business, Croatia): *Chasing the social media storm: the making of a research agenda*
10.30–11.00	**Coffee break** (Lobby 1st floor)
11.00–12.30	**Plenary session 2** (Room 118)
11.00–11.45	**o. Univ.-Prof. Dr. Wolfgang MAYRHOFER** (WU Vienna, Austria): *Anything goes? Guiding principles for future management research that counts*
11.45–12.30	**Assoc. Prof. Dr. Habil. Bálint-Zsolt NAGY** (Babeș-Bolyai University, Faculty of Economics and Business Administration, Cluj-Napoca, Romania): *Unorthodox times: why is the equity premium so low?*
12.30–14.00	**Lunch** (Lobby 1stfloor)
14.00–15.45	**Panel sessions 1**
	Economics (Room 120), Management (Room 118), Marketing (Room 127)
15.45–16.00	**Coffee break** (Lobby 1st floor)
16.00–18.00	**Panel sessions 2**
	Business Information Systems (Room 120), Management (Room 118), Marketing (Room 127)
19.00–21.00	**Conference dinner**
	Location: Restaurant “Rhédey Café”, Piața Unirii 9

BUSINESS INFORMATION SYSTEMS SECTION

Location: Room 120

Moderators: Miklós GUBÁN, Gyöngyvér-Emese KOVÁCS

16.00–16.15 Szilveszter FEKETE, Balázs FEKETE, Ildikó-Réka CARDOȘ: *What accountants want? Possibilities for digitalization and automation of accounting work with the Syntax Flow software*

16.15–16.30 Botond GÁLL: *Data-driven optimization and efficiency improvement of warehouse processes: a corporate case study*

16.30–16.45 Miklós GUBÁN, Mihai-Constantin AVORNICULUI, Dorottya KRIECHBAUMER: *Bringing cutting-edge research to the classroom: material acceleration platforms for applied university students*

16.45–17.00 Mihai-Constantin AVORNICULUI, Ákos GUBÁN: *Synergy and cancelling effects among overlapping platforms*

17.00–17.15 Hilda HARI, Gyöngyvér-Emese KOVÁCS: *Access-related threats when using mobile platform applications*

17.15–18.00 Discussion

ECONOMICS SECTION

Location: Room 120

Moderators: **Bálint-Zsolt NAGY, Imre SZÉKELY**

14.00–14.15 Tamás BUKUR: *What to mean by "fair" in Europe's fair share debate?*

14.15–14.30 Tünde DEZMÉRI: *From responsibility to resilience: how ESG performance shapes residual credit exposure in the European banking industry*

14.30–14.45 Réka HORVÁTH: *Could universities play a role in social innovation and social entrepreneurship?*

14.45–15.00 Emőke SÁNDOR, Katalin-Gizella LUKÁCS, Botond BENEDEK, Yang CHENG, Krisztina DEMETER, Dávid LOSONCI: *The impact of digitalization on the use of AI and productivity: the case of Romania*

15.00–15.15 Péter KISS: *A comparative analysis of machine learning models for forecasting invoice payment behaviour*

15.15–15.30 Imre SZÉKELY, Botond LÁZÁR: *The effect of the C-FRSI on the primary balance in the European Union*

15.30–15.45 Discussion

MANAGEMENT SECTION

Location: Room 118

Panel session: Innovation Management

Moderators: Béla-Gergely RÁCZ, Ottó CSÍKI

14.00–14.15 Mihály GÖRÖG: *Classical vs. agile approach to managing projects: is the emperor naked?*

14.15–14.30 Tünde-Petra SZABÓ, Annamária DÉZSI-BENYOVSZKI: *Technological orientation in entrepreneurship: the role of skills and national contexts*

14.30–14.45 Réka IZSÁK, László-Csaba SEER, Botond BENEDEK, Ildikó-Réka CARDOȘ: *Navigating the digital shift: the interplay of cognitive biases and decision styles in technology acquisition by Eastern European SMEs*

14.45–15.00 Levente SZÁSZ, Ottó CSÍKI, Albachiara BOFFELLI, Matteo KALCHSCHMIDT, Béla-Gergely RÁCZ, Réka IZSÁK: *The role of innovation ecosystems in the successful implementation of Industry 4.0 technologies*

15.00–15.15 Péter DEZSŐ, Levente SZÁSZ, Ferencz CSUSZNER: *Who wins government funds for digital transformation? Profiling Romanian SMEs funded under EU Recovery and Resilience Facility*

15.15–15.30 József POÓR, Zsuzsanna SZEINER, Agneš SLAVIĆ, Kinga KEREKES: *Management consulting from the client perspective: insights from Hungary, Romania and Serbia*

15.30–15.45 Discussion

Panel session: Human Resource Management

Moderators: Monica-Aniela ZAHARIE, Kinga KEREKES

16.00–16.15 Lavinia-Mihaela BECEA, Monica-Aniela ZAHARIE: *Systematic literature review of sustainable human resource management: a multi-level analysis of the nomological network*

16.15–16.30 Irina-Ioana PELIN: *Ethical leadership in public sector: a systematic literature review through the lenses of nomological networks*

16.30–16.45 Helga-Timea CSEPEI, Monica-Aniela ZAHARIE: *AI advancements and subjective career success: a scoping review*

16.45–17.00 Kinga-Evelyn ANTAL: *From message specificity to fit: understanding generation Z's attraction to job ads*

17.00–17.15 Adrian MOISE, Claudia-Lenuța RUS: *Adoption of knowledge management platforms in Romania: the impact on organizational innovation*

17.15–17.30 Patricia-Iulia RAȚIU, Anamaria PETRE: *Employees' perceptions of artificial intelligence on human resource management decisions*

17.30–17.45 Nora DOBRE: *From demographic diversity to gentelligence: challenges of cross-generational coworking*

17.45–18.00 Discussion

MARKETING SECTION

Location: Room 127

Panel session: Marketing 3.0

Moderators: Attila-Endre SIMAY, Mónika-Anetta ALT

14.00–14.15 Ovidiu-Ioan MOISESCU, Oana-Adriana GICĂ, Izabella TÖRÖK: *Decoding what makes travel influencers truly influential for generations Y and Z*

14.15–14.30 Éva MARKOS-KUIBUS, Tamás-Viktor CSORDÁS: *University students' visual self-reflections about their university experiences: the university's role in identity construction vs. grassroots marketing of university life*

14.30–14.45 Attila-Endre SIMAY, Györgyi KŐVÁGÓ, Mónika PÓNUSZ: *Technology acceptance of M-commerce applications*

14.45–15.00 Kinga NÉMETI, László-Csaba SEER*: An investigation of competencies predicting salesperson success in the digital era*

15.00–15.45 Discussion

Panel session: Marketing 4.0

Moderators: Tamás-Viktor CSORDÁS, Zsuzsa SĂPLĂCAN

16.00–16.15 Ibolya VIZELI, Mónika-Anetta ALT: *The effect of consumer-perceived flow in the metaverse on brand perceptions and purchase intention: an empirical study*

16.15–16.30 Andor DARVAS: *From privacy concerns to consumer awareness: synthesizing the literature on online behavioural advertising*

16.30–16.45 Kinga FORRÓ: *Emerging digital technologies in fashion shopping: a systematic review*

16.45–17.00 Anamaria-Petruța TÎRNĂVEAN: *Augmented reality in retail: a systematic literature review on how AR shapes consumer behaviour*

17.00–18.00 Discussion

ANYTHING GOES? GUIDING PRINCIPLES FOR FUTURE MANAGEMENT RESEARCH THAT COUNTS

Wolfgang Mayrhofer
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Abstract

Starting from the current conditions of doing management research, in particular in the areas of HRM, OB, and careers, this presentation reflects on guiding principles for future research activities. It argues that research oriented towards being context-conscious, actor-transcending, moralizing-abstinent, time-sensitive, and collaboration-oriented offers great potential for progress. While not necessarily constituting *conditiones sine quibus non*, these guiding principles indicate benchmarks for rigorous and relevant research in management.

Keywords: management research, methodology, ethics, temporality, context-sensitivity

JEL codes: M12, B49

UNORTHODOX TIMES: WHY IS THE EQUITY PREMIUM SO LOW?

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Co-author**: Botond BENEDEK**

Abstract

The equity premium puzzle, which traditionally highlights an unexplained gap between implied stock returns and the risk-free rate, has recently shifted toward an unusually low equity premium. To explore this shift, we analyse data from January 2019 to December 2023, a period shaped by the Covid-19 pandemic, the global energy crisis, and persistent inflation. The study evaluates the roles of market volatility (VIX index), relative risk aversion, Brent crude oil prices, gold price, Covid-19 cases, and breakeven inflation. Regression results reveal that both volatility and risk aversion are significant but negatively related to the equity premium – contradicting conventional theory. Nonlinear wavelet coherence confirms these results, showing that the inverse relationships are most pronounced during the inflationary period, potentially reflecting inflation aversion, whereby investors shift into equities despite high risk. Brent oil price also significantly influences the premium, while gold and Covid-19 cases have limited effects. Robustness checks and Granger causality tests reinforce the primacy of volatility and risk aversion as determinants. Our findings highlight structural shifts in risk pricing during polycrisis conditions.

Keywords: equity premium, partial wavelet coherence, relative risk aversion, multiple endogenous structural breaks

JEL codes: G12, G14, C58

CHASING THE SOCIAL MEDIA STORM: THE MAKING OF A RESEARCH AGENDA

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Abstract

"…it is a lonely, scary time to be a brand manager…" Susan Fournier and Jill Avery observed in their 2011 paper on brand management in the digital age. Since then, the social media landscape has evolved into an even more volatile and emotionally charged arena. Brand managers now confront waves of customer outrage, irony, and activism online, what we call social media storms (SMS). Traditionally, such storms are framed as crises, to be managed and mitigated through defensive communication. But what if a social media storm could also be an opportunity?

This keynote tells the story of how that question brought together four scholars from different countries and areas of research in marketing. What began as an informal conversation about digital negativity evolved into a shared research quest to understand the transformative potential of social media storms. The project, culminating in the Routledge book "Social Media Storms: Empowering Leadership Beyond Crisis Management", examined how brands can convert negative sentiment into engagement, resilience, and even empowerment. The session reflects on how collective curiosity, trust, and persistence can turn a turbulent idea into an interesting research agenda.

Keywords: consumer sentiment, social media storms, brand management

JEL code: M310

SYNERGY AND CANCELLING EFFECTS AMONG OVERLAPPING PLATFORMS

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Abstract

Platforms belonging to the same cluster — such as social media platforms, content- and knowledge-sharing platforms, or operating system platforms — often exhibit a strong overlap in their target audiences. Due to these overlaps, in many cases, the intersection set of audiences may display reinforcing effects. Moreover, when such platforms are used simultaneously, synergistic effects may also emerge. Conversely, despite having a non-empty intersection of audiences, their combined influence on this shared user group may weaken the original individual effects or even neutralize each other — for instance, in the case of politically opposed platforms sharing content. Furthermore, it may occur that, despite belonging to the same cluster, their effects remain independent and do not influence each other in any observable way.

In this paper, we define a practical quantitative concept and metric for platform impact, followed by the formulation of a function that captures the joint effects of platform interactions within their audience intersection. With these definitions, it becomes possible to conduct a detailed analysis of multiple platform effects across an arbitrary number of platforms.

Keywords: platform, platform grouping, platform effect, synergy, shopping basket equivalence

JEL code: 033

WHAT ACCOUNTANTS WANT? POSSIBILITIES FOR DIGITALIZATION AND AUTOMATION OF ACCOUNTING WORK WITH THE SYNTAX FLOW SOFTWARE

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Abstract

Due to the intense competition among companies operating in the field of accounting services, the need to reduce costs and to accelerate the execution of tasks, the organization of the accounting work (accounting services) must be rethought. This is currently characterized by the fashionable concepts of digitalization, automation, and the use of artificial intelligence (AI). But this means to change the work culture of accountants, to reorganise the accounting offices' teams, and to redesign their internal processes.

In our paper, we study the meaning of digitalization for an SME providing accounting services, the available automation options, and the ways AI-provided opportunities can be used in the company's activities. We analyse the functions provided by the Syntax Flow software and formulate suggestions regarding the identified shortcomings and opportunities.

Keywords: accounting career, Theory of Planned Behaviour, Social Cognitive Career Theory, emerging economy, professional bodies, students, accounting profession

JEL codes: J24, M40, O15

DATA-DRIVEN OPTIMIZATION AND EFFICIENCY IMPROVEMENT OF WAREHOUSE PROCESSES: A CORPORATE CASE STUDY

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Abstract

Warehouse operations represent a critical component of supply chain performance, directly influencing delivery times, operational costs, and customer satisfaction. In many companies, however, the layout and product placement strategies evolve intuitively rather than based on objective performance data. Furthermore, in Romania, many companies continue to rely heavily on manual labour for order picking and shipment preparation, as the country's progress in digitalization and warehouse automation remains relatively slow. This study presents a data-driven approach to warehouse process optimization using real operational data from a Romanian wholesale and distribution company.

The analysis is based on over 200,000 WMS (Warehouse Management System) log entries covering more than 30,000 picking journals. Python-based scripts were developed to calculate route lengths to identify inefficiencies, and model optimized product placement strategies. A frequency-based reallocation method combined with KPI evaluations was applied to compare the current warehouse layout with simulated alternatives, aiming to minimize travel distances and improve picking efficiency. Preliminary results indicate a potential improvement of up to 27% in total travel distance within the tested warehouse zone. Moreover, the developed framework supports decision-makers in visualizing spatial inefficiencies through interactive heatmaps and data-driven reallocation proposals.

This research demonstrates how data analytics can transform warehouse management from experience-based decisions to quantifiable, model-supported strategies. Future work will focus on analysing co-ordered products to identify grouping patterns, applying clustering techniques to refine product placement, and exploring adaptive "healing" mechanisms for continuous layout optimization. Additionally, the impact of these adjustments on overall warehouse performance will be systematically monitored through KPI-based evaluation.

Keywords: warehouse optimization, data analytics, efficiency improvement, process optimization, WMS data, case study

JEL codes: L91, C61, M11

BRINGING CUTTING-EDGE RESEARCH TO THE CLASSROOM: MATERIAL ACCELERATION PLATFORMS FOR APPLIED UNIVERSITY STUDENTS

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Abstract

This paper presents a practical example of how an introduction to Material Acceleration Platforms (MAPs) and other advanced, high-throughput, automated research tools can be effectively integrated into applied university education for master's students from diverse academic backgrounds. The concept will be demonstrated as a sub-module of a "Heterogeneous Catalysis" course, with a focus on the synthesis, characterization, and design of catalysts. The audience consists of an interdisciplinary group of students with backgrounds in chemical engineering, mechanical engineering, materials science, and computational modelling. A detailed approach will be presented on how advanced materials research tools, such as MAPs and other automated solutions, are incorporated into a module traditionally focused on legacy lab tools. The goal is to combine both conventional methods and cutting-edge techniques within the same curriculum, ensuring that students are exposed to a broad spectrum of solutions, from foundational to advanced, providing a well-rounded education early in their academic careers.

A proposed structure for a lecture series and laboratory practice will be outlined, allowing students to apply theoretical knowledge in real-world contexts and gain practical experience in accelerating catalyst synthesis, characterization, and design. These strategies are intended to foster interdisciplinary knowledge integration, preparing students for the multifaceted challenges of modern materials science and engineering. Additionally, the presentation will introduce active teaching methods that align with the learning objectives, such as flipped classrooms, collaborative problem-solving sessions, and virtual lab simulations. Concrete example exercises and best practices will be shared, with a focus on engaging students and continuously monitoring their progress. Insights from the project "Time Efficiency: Implementing Flipped Learning to Activate Students" in the "Heterogeneous Catalysis" module will be presented. The paper will also address the challenges and opportunities of integrating advanced tools into graduate education, particularly in an interdisciplinary context. Feedback from students participating in this interdisciplinary pilot program will be shared, along with suggestions for improvement and insights into how students from different academic fields engage with these methods. Practical recommendations for educators wishing to incorporate similar approaches into their courses will be provided, emphasizing the importance of adapting to the diverse learning needs of students from various disciplines.

Keywords: education, chemical industry, artificial intelligence, law, practice

JEL code: 033

ACCESS-RELATED THREATS WHEN USING MOBILE PLATFORM APPLICATIONS

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Abstract

Mobile platforms have become an integral part of our lives and play a significant role. The use of a platform is essential for the operation of mobile devices, as it creates the connection between the hardware and the user. Mobile platforms are a segment of hardware platforms on which an operating system is installed and on which various applications can be developed. The applications used by professionals are usually a system created and installed by a third party, so it is important to discuss the security of access to the system. Therefore, it is essential to determine the conditions under which these devices can be used safely in everyday operations and to identify access-related threats that require attention. Furthermore, it is crucial to examine users' access rights and the operations they can perform.

This research aims to define the security and operational conditions under which professional users can securely access and reliably operate mission-critical mobile applications on modern mobile platforms. The focus is on ensuring protected data access, trusted execution and resilience against device- and network-level threats in everyday operational environments.

Keywords: mobile platform, IT security, access protection

JEL codes: O33, L86, D82

WHAT TO MEAN BY "FAIR" IN EUROPE'S FAIR SHARE DEBATE?

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Abstract

In the European Union, a heated debate has emerged about whether the current practice of network neutrality regulation might endanger the development of very high-capacity networks and thus threaten the competitiveness of the European telecommunications sector. Operators insist that large content providers, who are effectively free riding on operator infrastructure, should be required to contribute a "fair share" of the costs of delivering their content; they believe new policies should facilitate this. Yet in most policy discussions, "fairness" appears as a purely rhetorical concept, seldom accompanied by concrete methods of quantification. Many policy recommendations suggest that cost shares should be bargained by operators and content providers, and regulators should step in if negotiations are not successful. Although this paper does not take a position on either side of the debate, by employing a cooperative game-theoretic framework it seeks to clarify what "fair share" could mean in rigorous economic terms.

My theoretical model builds on the externality created by content providers originating large volumes of internet traffic, who do not pay for and have no incentive to limit the resulting infrastructure costs. Central to our cooperative framework is the hypothetical "grand coalition," in which all players (operators, content providers, and consumers) cooperate to maximize a joint surplus, thereby fully internalizing this externality. Hypothetical coalitions, including only part of the players, might also partially reduce it. Each coalition's value is defined in its ability to mitigate the externality, and each player's contribution to that mitigation provides a basis for allocating costs. I rely on the Shapley value to examine how operators, content providers, and consumers should share traffic-generated costs under this widely used conception of fairness.

Results suggest that, according to the Shapley value, operators and content providers should split costs equally, leaving no direct burden on consumers. In the case of multiple competing operators, their half of the cost should be further split between them equally. The model aims for ease of practical implementation; hence, the suggested share measures depend only on observable cost parameters. With such a cost-sharing regulation in place, and taken into account by players in their optimization, the market equilibrium shifts closer to the social

optimum, infrastructure deployment rises, and at high infrastructure cost levels, both consumer surplus and total welfare improve.

Keywords: fair share, cost sharing, Shapley value

JEL codes: L96, C71, L52

FROM RESPONSIBILITY TO RESILIENCE: HOW ESG PERFORMANCE SHAPES RESIDUAL CREDIT EXPOSURE IN THE EUROPEAN BANKING INDUSTRY

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Abstract

In the last decade, Environmental, Social, and Governance (ESG) attributes have gained traction both at the level of companies' boardrooms and in the investment world. In the present study we examine how financial intermediaries such as commercial banks are taking part in this process. More precisely we analyse the link between ESG scores and net non-performing loan (NPL) rates in a sample of European banks within the 2011-2023 period.

Using multiple panel regressions with time fixed effects we obtain a negative relationship between ESG scores and NPL rates. From a risk management perspective, the results imply that borrowers associated with higher ESG standards are more likely to exhibit responsible financial behaviour, leading to fewer defaults and reduced provisioning needs. This supports the notion that ESG integration is not just a reputational or compliance exercise, but a strategic lever for enhancing asset quality and long-term financial stability.

Keywords: ESG score, net non-performing loan ratio, residual credit risk, panel regressions, instrumental variables

JEL codes: C58, G10, G21

COULD UNIVERSITIES PLAY A ROLE IN SOCIAL INNOVATION AND SOCIAL ENTREPRENEURSHIP?

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Abstract

This research looks at the role that universities (HEI's) can play in the field of social innovation and social entrepreneurship. As this is an under-researched topic, we try to answer questions such as:

1) How do we define the strategic area of social innovation and social entrepreneurship and what is the role of HEI in this area?
2) Is the area of social innovation and social entrepreneurship relevant for all four dimensions of the university system and more specifically to each of the three missions and what should a university do to make advancements in the area of social innovation and social entrepreneurship?
3) Are there specific driving factors or bottlenecks mentioned in the literature depending on policy, legal framework, place-based contexts and/or internal, organizational aspects and/or type, specialization, size/ complexity of educational specialization, history of the institution (old or new institution)?
4) What are the existing practices (good or bad) presented in the literature and from which the Eutopia Alliance and/or its members could learn?

After answering these questions and summarising the conclusions, a stakeholder analysis matrix will be used to look at how the world looks from the perspective of universities and what possible perspectives this offers for university engagement in social innovation and social entrepreneurship.

Keywords: HEI, universities, social innovation, social entrepreneurship, university alliances

JEL codes: A1, M1

A COMPARATIVE ANALYSIS OF MACHINE LEARNING MODELS FOR FORECASTING INVOICE PAYMENT BEHAVIOUR

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Abstract

The purpose of this research is to develop and compare the performance of various models to find the most effective method for predicting invoice payment delays for a large Romanian company. The objective is to create a practical, data-driven tool for proactive trade credit risk management. Late payments significantly impact cash flow and operational efficiency, highlighting the problem's importance.

The literature review reveals a clear trend of moving beyond traditional credit scoring models, which rely primarily on static financial ratios, towards more dynamic machine learning approaches. Recent literature emphasizes the importance of integrating non-financial, behavioural, and transactional data to enhance predictive accuracy. A key challenge identified in the literature is the prevalent issue of class imbalance in credit default datasets, which can bias model performance.

This study utilizes a real-world dataset comprising 236,673 invoices from 1,094 unique small and medium-sized enterprise customers of the host company between 2022 and 2024. The data uniquely combines financial statement figures with proprietary behavioural and transactional data, such as payment history and sales channel information. From an initial set of 175 engineered features, 16 significant predictors were selected using t-tests, chi-square tests, a stepwise logistic model, and VIF analysis to control for multicollinearity. The methodology involved splitting the data, handling outliers via Winsorization, and addressing the severe class imbalance using the ROSE oversampling technique for applicable models. The performance of a traditional logistic regression model was benchmarked against several machine learning algorithms: Random Forest, XGBoost, LightGBM, SVM, K-NN, and a Deep Neural Network (DNN). Models were evaluated using a comprehensive suite of metrics suitable for imbalanced data, including F1-Score, ROC-AUC, and Average Precision (AP).

The main findings clearly indicate that tree-based ensemble models significantly outperform the traditional logistic regression. The XGBoost model delivered the most robust and balanced performance, achieving the highest scores across the most critical metrics (F1-Score: 0.683, ROC-AUC: 0.953, AP: 0.664). This demonstrates its superior ability to identify customers likely to delay payments. The results confirm that incorporating behavioural and transactional data alongside financial metrics provides substantial predictive power. The final model offers the company an effective tool for managing credit risk for existing clients, enabling more targeted and efficient collection strategies.

Keywords: trade credit risk, late payment prediction, machine learning, XGBoost, feature engineering, imbalanced data

JEL codes: G32, C53, C55

THE IMPACT OF DIGITALIZATION ON THE USE OF AI AND PRODUCTIVITY: THE CASE OF ROMANIA

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Abstract

Digital transformation and the widespread adoption of artificial intelligence (AI) are getting to new levels, yet implementing AI remains a challenge. Digital readiness models (Hizam et al., 2020) assume that when companies provide the right environment for digital technologies, adoption becomes easier. Building on this, our idea is that the more digital technologies firms use, the more experienced they become, and thus more likely to invest in AI. However, not all digital technologies provide the relevant basis for AI. Thus, our first research question (RQ1) investigates what kind of digital technologies influence the use of AI. Companies apply the latest technologies to increase operational and business performance (e.g., Vu et al., 2024). The second research question (RQ2) examines how much the use of AI and certain digital technologies contributes to better company performance.

To address the research questions, we used the 2023 Eurostat microdata on ICT usage in enterprises for Romania (Eurostat, 2024a). The dataset covers firms with more than 10 employees across different sectors and sizes, representing around 10-20% of all enterprises in each country (Eurostat, 2024b). In Romania, the sample includes 9,807 firms.

The ICT survey covers a wide range of digital technologies, including high-speed internet, ERP, CRM, business intelligence, online/EDI sales, mobile apps, cloud computing, social media, advanced data analytics, supply chain data sharing, e-invoicing, and AI. It collects information about AI technologies and their purposes (or areas), as well as company-specific data such as number of employees, turnover, and material costs.

We defined a binary variable indicating AI adoption, coded as 1 if a firm reported using at least one type of AI technology. This served as the dependent variable in a logistic regression to examine the role of digital technologies in AI use (RQ1). Main industry categories and firm size were used as control variables.

For RQ2, firm performance was proxied by productivity, measured as (turnover – material costs)/number of employees. We conducted an OLS regression to identify digital technologies (including AI) influencing this firm performance measure.

In the Romanian sample, 3.15% of firms (309 out of 9,807) report using AI, with strong variation across industries - a) electricity, gas, steam, and air conditioning supply; b) information and communication, c) professional, scientific and technical activities are far ahead of others - and firm size (large firms adopt AI far more than SMEs). AI is most commonly applied in online marketing.

The logistic regression results show that AI adoption is significantly driven by digital solutions such as high-speed internet, social media, EDI-type sales, data analytics, business intelligence systems, and cloud services, with firm size and certain sectors also playing a major role. Data analytics and EDI-type sales have a weaker but positive effect, while having a website shows a negative influence. For productivity (RQ2), OLS models reveal that several digital technologies, including internet speed, ERP, CRM, business intelligence systems, cloud services, EDI, and websites, are positively associated with firm performance, while sales through online marketplaces reduce productivity. Importantly, AI itself shows no significant impact on productivity across all models.

Our study provides guidance for firms and policymakers on the steps to take before adopting AI and places the findings in a broader context. As companies seek business advantages through digital technologies, understanding their performance impacts can help shape future development directions.

Keywords: artificial intelligence, Industry 4.0 technologies, performance, productivity, digitalization

JEL codes: L11, L25, L60, O14, O33

THE EFFECT OF THE C-FRSI ON THE PRIMARY BALANCE IN THE EUROPEAN UNION

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Abstract

The study seeks to answer the economic policy question of how effectively fiscal rules operate in EU member states. The relevance of the topic lies in the widespread phenomenon of excessive deficits observed across countries worldwide. Loose fiscal policy can cause significant economic and social harm; therefore, it is essential for policymakers to prevent it.

According to the literature, fiscal policy rules may differ in several respects, such as their nature, legal framework, or the parts of the public sector they cover. The methodology of the Fiscal Rule Index (FRI), developed by the European Commission, incorporates these aspects into a measurement framework that assesses the fiscal policy rules of EU member states.

Using panel regression for the period 2009–2019 and covering EU countries, the study examines how fiscal rules affect the primary balance. The results are partly consistent with previous findings in the literature: the mere introduction of fiscal policy rules does not in itself improve the sustainability of public finances. However, the research identifies heterogeneous effects among different country groups within the EU.

Keywords: fiscal rules, primary balance, Fiscal Rule Index

JEL codes: E61, E62, H62

FROM MESSAGE SPECIFICITY TO FIT: UNDERSTANDING GENERATION Z'S ATTRACTION TO JOB ADS

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Abstract

As Generation Z becomes a dominant force in the labour market, organizations are rethinking how they communicate job opportunities. This study examines how the level of detail in job advertisements influences Generation Z's perceptions of fit, employer attractiveness, and intention to apply. Grounded in specificity theory and person-environment fit theory, an experimental design was implemented with Generation Z participants, who were randomly assigned to evaluate job ads differing in informational depth across five dimensions: salary, company information, benefits, responsibilities, and job requirements. The results reveal that higher informational specificity significantly enhances perceptions of ad informativeness, needs-supplies (N-S) fit, and demands-abilities (D-A) fit, which in turn increase organizational attractiveness and application intention. Among all dimensions, detailed descriptions of responsibilities and benefits had the strongest effects, while company background details showed weaker influence. These findings highlight that Generation Z values transparency and clarity when assessing job opportunities. The study extends recruitment literature by demonstrating that message specificity functions as a key mechanism driving perceived fit and attraction, offering actionable insights for employers seeking to engage younger talent through more effective, data-informed job communication.

Keywords: Generation Z, message specificity, person–environment fit, organizational attractiveness, willingness to apply

JEL codes: M51, J24

SYSTEMATIC LITERATURE REVIEW OF SUSTAINABLE HUMAN RESOURCE MANAGEMENT: A MULTI-LEVEL ANALYSIS OF THE NOMOLOGICAL NETWORK

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Abstract

Finding a key route to effectively integrate social and green business intentions into organizational strategies has evolved as a challenge that affects the global economy. To address this issue, researchers have increasingly focused on a novel and evolving strategic concept: sustainable human resource management (sustainable HRM). The purpose of this paper is to provide a comprehensive review of this concept by employing a nomological network framework covering the antecedents, consequences, moderators and mediators of this phenomenon. Consequently, a systematic literature review was conducted, encompassing 62 papers published in journals listed in the 2022 ABDC Journal Quality List. These papers were gathered from the Web of Science and Scopus databases.

The analysis revealed that several contextual factors and organizational settings support the implementation of sustainable HRM, which further impacts the societal, organizational, and individual outcomes. In terms of antecedents, nearly 70% of the reviewed articles (32 out of 46) addressed aspects of organizational settings, providing insights into the necessary conditions for implementing sustainable HRM practices. In terms of consequences, individual-level outcomes (52%) and organizational-level outcomes (35%) received the most attention in research. The mediators affecting sustainable HRM practices and outcomes received limited attention while moderators of this relationship were overlooked.

First, this paper contributes to the management literature by offering a refined theoretical model of a sustainable HRM implementation system, highlighting the key determinants and consequent effects of this phenomenon. Second, this paper offers practical and managerial implications, as our findings support HR managers in their successful transition to sustainability.

Keywords: systematic literature review, sustainable HRM, nomological network

JEL codes: J24, M14, Q01, Q56

AI ADVANCEMENTS AND SUBJECTIVE CAREER SUCCESS: A SCOPING REVIEW

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Abstract

Responding to growing uncertainty about AI's impact on careers, this scoping review systematically maps what is known about how AI influences subjective career success (SCS) across workplace settings. Guided by the sustainable career ecosystem framework, 64 articles were identified and synthesized following JBI and PRISMA-ScR guidelines. We identify three main pathways through which AI affects SCS: empowerment and augmentation, which enhance learning and satisfaction; automation and control, which risk deskilling and burnout; and collaboration and trust, which enable sustainable, meaningful work. We map who is in scope, where AI is studied, what inputs are considered, and which SCS outcomes are reported. Studies focus on individuals and organizations as actors, with governments covered less often. Contexts span local, national, and global settings. Across outcomes, the SCS facet most often addressed is learning & self-development, followed by work–life interface and career/job satisfaction. Addressing our research questions, we clarify how AI operates across multiple ecosystem levels, identify mechanisms linking AI use to SCS, and expose critical gaps, offering directions for studies that jointly model AI, antecedents of SCS, and SCS; empirically test proposed conceptual frameworks; focus on future work self and examine underexplored SCS dimensions (financial success, interpersonal relations).

Keywords: artificial intelligence, subjective career success, sustainable career ecosystem

JEL codes: O33, J28, J24

WHO WINS GOVERNMENT FUNDS FOR DIGITAL TRANSFORMATION? PROFILING ROMANIAN SMES FUNDED UNDER EU RECOVERY AND RESILIENCE FACILITY

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Abstract

This study aims to investigate the distinctive characteristics of SMEs benefiting from government funds for digital transformation taking into consideration both the scores and grant-sizes obtained. Focusing on the national Digitalization of SMEs grant under the EU Recovery and Resilience Facility, this research builds an organizational and location profile of funded firms and the allocation ranges in which awards are made.

Our analysis relies on official beneficiary lists from the implementing authority and public registries. For the purposes of this paper, we develop a descriptive profiling framework aligned with heterogeneity dimensions frequently examined in the SME digitalization literature. Specifically, we characterize winner SMEs by firm size, age, sector, region, and urban–rural location, and we cross-tab these with grant sizes and scores.

We expect to observe score-based admission patterns with discernible thresholds, alongside regional and/or sectoral clustering of funded firms. We anticipate that organizational and locational traits—particularly larger size, urban location, and operations in more innovation-intensive sectors—will be associated with higher scores. Independently of scoring, we expect heterogeneity in awarded amounts, with larger or financially stronger firms and innovation-intensive sectors tending to obtain larger grants, while smaller or less innovative firms being concentrated in lower grant ranges.

The results serve two audiences. Empirically, we provide a portrait of the SMEs that successfully secure digitalization funding, highlighting regional and sectoral concentrations and the score thresholds at which projects were admitted. On the one hand, for academic researchers, the study offers a transparent baseline for further studies analysing the effect of EU grant programs and for understanding patterns of SME digitalization dynamics. On the other hand, for policymakers, it provides actionable evidence to calibrate eligibility and scoring, target outreach to underrepresented areas or industries, and fine-tune future calls to broaden and deepen Romania's SME digital transformation.

Keywords: SME digitalization, government grants, allocation and scoring, acceptance rate, regional disparities

JEL codes: L25, L26, O33, O38

FROM DEMOGRAPHIC DIVERSITY TO GENTELLIGENCE: CHALLENGES OF CROSS-GENERATIONAL COWORKING

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Abstract

As workplaces increasingly encompass five generations, organisations face both challenges and opportunities in fostering collaboration across age groups. This presentation explores cross-generational co-working patterns and cross-generational mentoring as a strategic response to demographic diversity in the workplace. Drawing on qualitative case studies and recent HR research, it analyses how reciprocal mentoring relationships enhance knowledge transfer, psychological safety, and organisational adaptability. The presentation argues that cross-generational mentoring should be deliberately structured to prevent stereotypes and foster mutual learning. When mentoring becomes bi-directional, it strengthens intergenerational trust, supports inclusive leadership, and contributes to sustainable talent development. Furthermore, the presentation introduces and contextualises the concept of gentelligence — the strategic use of intergenerational intelligence to leverage age diversity as an organisational asset. The discussion is grounded in an ongoing PhD thesis examining the impact of demographic change on HR management and the evolving role of HR in managing multi-generational dynamics in a rapidly ageing and technologically transforming labour market.

Keywords: cross-generational mentoring, knowledge transfer, demographic diversity, inclusive leadership, talent development

JEL codes: M12, M53, J24

CLASSICAL VS. AGILE APPROACH TO MANAGING PROJECTS: IS THE EMPEROR NAKED?

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Abstract

Agile approaches to project management emerged around the new millennium, primarily in the software development industry. Their underlying principles and values are stipulated in the Agile Manifesto (Beck et al., 2001). Most authors (Conforto et al., 2016; Gustavsson et al., 2022; Nyman & Ööri, 2023; Xia et al, 2024) agree that in a project management context the term agility primarily implies flexibility, i.e. accepting and reacting quickly to changing demands throughout implementing a project. In terms of the project triangle, Dalcher (2023) visualizes this by turning the classical project triangle upside-down. In this way, an agilely managed project includes fixed time and cost constraints, while the expected project outcome is flexible. Another feature of an agilely managed project is adopting the project-based company perspective (Bechtel et al., 2023; Ben-David et al., 2012; Tam et al., 2020). Further to the software development industry agile project management approaches became accepted and applied practices for various types of projects as well (Bianchi et al., 2021; Moreno et al., 2024; PMI, 2024; Serrador & Pinto, 2015).

An agile project management approach has a few different genres (referred to as agile frameworks, agile practices or agile methods), however it is broadly accepted by both academics and practitioners that the most prominent agile method is the Scrum framework (Kaufmann et al., 2020; Kuciapski & Marcinkowski, 2023; Paulk, 2009). At the same time, agile protagonists postulate that agile project management is the counter-pole of traditional (classical) project management (Conforto et al., 2016; Kaufmann et al., 2020). They consider agile and traditional project management as two parallel project management universes which are independent from each other, thus there is no common feature of them. In order to utilize the advantageous potential of both the approaches, a hybrid practice was proposed to combine traditional and agile approaches (Bianchi et al., 2021; Lalic et al., 2022; Malik et al., 2021). One might say that agile and traditional approaches are the extremes, i.e. these approaches are at the opposite ends of the scale, while hybrid is an in-between category. However, hybrid is a combination of agile and traditional approaches rather than being a pure approach per se, since in a hybrid practice both the agile and the traditional approaches are used alternatively (Wysocki, 2019).

Agile protagonists (Conforto et al., 2016; Kaufmann et al. 2020) postulate only one extant approach to the traditional project management practices, i.e. only one fixed combination of the project management tools and methods (solutions). In this way, there is a gap in literature related to comparing agile practices and the potential available in traditional project management for creating different project management approaches.

This conference presentation addresses this gap, and its primary aim is to highlight that an agile approach to managing projects is not another parallel project management universe. Moreover, the author states that agile solutions are available as an outcome of organic development, which evolved before the Agile Manifesto, within the traditional project management domain. This aim is achieved, based on a predefined set of aspects, by means of a comparative analysis of the Scrum agile framework (as the most prominent and defined agile method) and traditional project management. This comparative analysis relies on published documents, studies in professional journals, and books. As for traditional project management, those seminal journal articles and books were considered primarily that were published before the appearance of the Agile Manifesto. While prefixed project management approaches (agile and traditional) make possible an approach level tailoring to project context, the outcomes of the proposed comparative analysis provide the potential for a tool level tailoring, i.e. a context-related creation of PM tools or other related methods that suits the characteristics of a given project context. Thus, there is a potential for creating several combinations (i.e. approaches further to the two prefixed approaches) to cope with the challenges of different projects.

Keywords: agile project management, comparing traditional and Scrum project management practices, context-related use of PM tools, Scrum method, traditional project management

JEL code: M10

NAVIGATING THE DIGITAL SHIFT: THE INTERPLAY OF COGNITIVE BIASES AND DECISION STYLES IN TECHNOLOGY ACQUISITION BY EASTERN EUROPEAN SMES

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Abstract

This study investigates the cognitive landscape of managerial decision-making in the context of digital technology acquisition and adoption among Small and Medium-sized Enterprises (SMEs) in Eastern Europe. The primary purpose is to identify and map the prevalent cognitive biases, heuristics, and decision styles that influence these critical investment decisions and to analyse how their interplay contributes to suboptimal outcomes, thereby hindering the region's digital transformation. In an era where digitalization is synonymous with competitiveness and resilience, SMEs in Eastern Europe exhibit a notable lag in technology adoption. Although external challenges like access to money are frequently blamed, the psychological drivers of decision-making within these firms are a critical but often overlooked area. Understanding how cognitive limitations and ingrained decision-making patterns lead managers to reject or misapply beneficial technologies is essential for developing targeted interventions to foster innovation and sustainable growth in this vital economic sector.

The theoretical foundation of this research is rooted in Behavioural Decision Theory, which posits that human judgment is subject to systematic errors and mental shortcuts. Our study extends this framework into the domain of behavioural operations, examining how these psychological phenomena manifest in the high-stakes environment of technology procurement. We build upon existing literature that challenges purely rational models of organizational buying, demonstrating that cognitive factors are powerful determinants of success. To gather rich, contextual data, we employed a two-step methodology, beginning with a questionnaire distributed to 90 decision-makers in Romanian SMEs, followed by 17 in-depth, semi-structured interviews. The interview transcripts were analysed using a deductive, thematic approach to identify and categorize the behavioural patterns.

Our analysis identified a range of cognitive biases and heuristics that consistently impact technology acquisition, including tendencies to over-rely on easily recalled information, anchor on initial data, maintain the status quo, and follow peer trends. Furthermore, our findings illuminate the significant role of managerial decision styles. We conclude that the interaction between inherent cognitive biases and managers' individual decision-making approaches is a powerful predictor of acquisition outcomes. This synergy systematically reinforces suboptimal choices, impeding innovation and efficient resource allocation within the firm.

Keywords: cognitive bias, decision-making, decision styles, technology adoption, digital transformation, SMEs, Eastern Europe

JEL codes: D83, M12, O33

ADOPTION OF KNOWLEDGE MANAGEMENT PLATFORMS IN ROMANIA: THE IMPACT ON ORGANIZATIONAL INNOVATION

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Abstract

This study explores how employees' perceptions of knowledge management (KM) platforms shape innovative behaviours and organizational innovation capacity within the Romanian context. In an economy undergoing digital transformation and facing increasing pressures to adapt, the effective implementation of KM technologies is becoming a key factor for sustaining competitiveness. The research draws on the Unified Theory of Acceptance and Use of Technology (UTAUT; Venkatesh et al., 2003), which identifies four core determinants — performance expectancy, effort expectancy, social influence, and facilitating conditions — that influence technology acceptance and its organizational outcomes. Data were collected from Romanian employees who actively engage with KM platforms, using a standardized survey and quantitative analyses, including structural equation modeling (SEM). The findings offer partial support for the UTAUT framework: performance expectancy significantly predicted the intention to use KM platforms, and actual use was positively linked to organizational innovation. However, effort expectancy, social influence, facilitating conditions, and organizational size did not show significant effects. This paper contributes to the theoretical refinement of UTAUT in a distinct socio-organizational environment and provides practical insights for digital transformation strategies and innovation development in Romanian organizations.

Keywords: knowledge management platforms, UTAUT, organizational innovation, innovative behaviour, digital transformation, employee perceptions, technology acceptance, facilitating conditions, social influence, Romania

JEL codes: O31, O32, M10

ETHICAL LEADERSHIP IN PUBLIC SECTOR: A SYSTEMATIC LITERATURE REVIEW THROUGH THE LENSES OF NOMOLOGICAL NETWORKS

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Abstract

Ethical leadership gained popularity within the academic world in the past 20 years, mostly due to the importance of ethics in managing both public and private organizations during crises. In the public sector, ethical leadership research entered a period of significant growth in 2020. The current paper employs nomological networks as theoretical lenses in order to provide a comprehensive overview of the empirical research on ethical leadership in the public sector from 2005 until June 2025. A rigorous and systematic search process based on the PRISMA flow diagram was conducted resulting in a sample of 152 peer-reviewed articles. The results reveal that, in the public sector, ethical leadership literature met a significant growth phase in the past 5 years, with predominant focus on individual, follower-related outcomes. Most studies use Brown et al. (2005) conceptualization and measure and adopt a quantitative approach. Anyhow, more than 10 scales and definitions were utilised in investigating ethical leadership overall. Few studies provide insights regarding less examined areas such as antecedents or stakeholder-related outcomes. An integrated conceptual framework was developed, and implications have been discussed. Future research recommendations are also provided following the theoretical framework structure.

Keywords: ethical leadership, systematic literature review, nomological network, leadership, public sector leadership

JEL codes: O15, O38, L88, L32, H83

MANAGEMENT CONSULTING FROM THE CLIENT PERSPECTIVE: INSIGHTS FROM HUNGARY, ROMANIA AND SERBIA

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Abstract

Management consulting, as a knowledge-intensive business service, plays a key role in addressing specific organizational challenges across various operational areas. This study examines the patterns and drivers of management consulting usage among client organizations in three Central and Eastern European countries — Hungary, Romania, and Serbia. Based on a 2024 questionnaire survey involving 295 organizations (Hungary: 152, Romania: 65, Serbia: 78), including CEOs, HR managers, and procurement officers from diverse industries, the paper explores the frequency and scope of consulting engagement, as well as the motivations for adopting or rejecting such services.

Results indicate that most organizations use consultants occasionally, with many maintaining ongoing relationships with selected providers. The primary motivations for using consultants include the lack of internal expertise and limited organizational capacity. Consulting services are most frequently sought in education and training, finance and risk management, marketing and sales, and human resource management. Non-users cited inability to cover the high costs of consulting services, lack of access to suitable specialists, and reluctance to expose internal processes to external parties. Across all three countries, enhancing competitiveness emerged as the leading motivation for future consulting engagements, surpassing priorities such as digitalization and artificial intelligence adoption.

Keywords: management consulting, clients' perspective, Hungary, Romania, Serbia

JEL code: M10, L84

EMPLOYEES' PERCEPTIONS OF ARTIFICIAL INTELLIGENCE ON HUMAN RESOURCE MANAGEMENT DECISIONS

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Abstract

Considering the increase of AI use in the workplace in recent years, this research aims to offer an overview of the perception of employees regarding the implementation and use of AI in human resource management decisions and compare these perceptions across demographic characteristics.

This research has used a quantitative approach and data analysis. An online survey was administered to employees working in the IT and banking sectors. Data were analysed using descriptive statistics, one-way ANOVA, and structural equation modeling. Findings show that employees have a positive view on AI use particularly in training and recruitment process, but view performance assessment by AI negatively. Factors such as gender have no impact on perception, whereas factors such as age, field of work and frequency of AI use are shown to have a significant impact. Most considerable correlation was identified in the field of work category, people working in IT having a significant positive outlook/perception in comparison to those working in the banking industry. Frequency of AI use had a positive influence on performance appraisal, recruitment and selection, and training, but had no influence on compensation and rewards. Moreover, employees with higher education levels tended to have a more positive perception of recruitment, selection, training, and performance appraisal processes.

This study contributes to the literature by providing important data about the perception employees have related to the use of AI on human resource management decisions in Romanian context. This is especially relevant for companies that are looking to implement AI technology in their human resource management process, in the context of technological advancement and HRM transformation.

Keywords: artificial intelligence, human resource management activities, organizational support, human resource effectiveness

JEL codes: O33, M12, M15, J24

TECHNOLOGICAL ORIENTATION IN ENTREPRENEURSHIP: THE ROLE OF SKILLS AND NATIONAL CONTEXTS

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Abstract

The study investigates how individual characteristics (age, gender, education), entrepreneurial attitudes (risk-taking, perceived skills, opportunity recognition), and national conditions (GDP per capita, digital readiness, sustainable development performance jointly shape technology-oriented entrepreneurship. It also examines how national environments may moderate individual-level effects. Digitalization fundamentally transforms economies and societies, shaping innovation and competitiveness (European Commission, 2022). EU policies and funding programmes foster entrepreneurial ecosystems (Vial, 2019). The COVID-19 pandemic accelerated digital adoption while exposing persistent gender and firm size-related inequalities (Yáñez-Valdés & Guerrero, 2024). Linking digital technologies with sustainability can enhance productivity and inclusion (Awal & Chowdhury, 2024).

Using Global Entrepreneurship Monitor (GEM) data from 15,721 individuals in 45 countries, technological orientation was measured by the expected adoption of digital technologies. Micro-level predictors include age, gender, and education, while macro-level variables comprise GDP per capita, the Digital Readiness Index, and the SDG 2022 scores. Relationships were tested using multilevel logistic regression models.

The results show that older age reduces, while higher education and entrepreneurial skills increase the likelihood of technological orientation. Social sustainability considerations also have a positive impact. Among contextual factors, only the SDG score shows a significant negative association. The findings highlight the combined influence of individual and national factors on technology-driven entrepreneurship. Policies that strengthen education and integrate sustainability with digitalization can foster inclusive, innovation-driven transformation across European economies.

Keywords: technological orientation, entrepreneurship, digital readiness, sustainability, GEM data, multilevel modelling

JEL codes: L26, M13, O33, C25

THE ROLE OF INNOVATION ECOSYSTEMS IN THE SUCCESSFUL IMPLEMENTATION OF INDUSTRY 4.0 TECHNOLOGIES

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Abstract

While Industry 4.0 (I4.0) technologies are expected to bring significant performance benefits to manufacturing firms, many still struggle with their implementation. On the one hand, although the lack of economic and financial resources is generally among the most significant barriers to implementation, manufacturing management has limited leverage to overcome this challenge. On the other hand, the lack of necessary knowledge and competencies, another frequently cited barrier, can be more actively managed to achieve higher I4.0-related benefits. Therefore, this paper adopts a knowledge-based perspective, arguing that the successful adoption of I4.0 technologies depends on the available sources of knowledge and the manufacturer's ability to recombine them with its existing knowledge base.

The study analyses data from 293 manufacturing plants across seven different countries, based on a survey developed by the Global Manufacturing Research Group. The data were analysed using partial least squares structural equation modeling (PLS-SEM) in SmartPLS version 4.

This paper contributes to the understanding of how innovation ecosystems (a dynamic network of actors, activities, and relationships that collectively shape and support innovation performance) influence the implementation of digital technologies in manufacturing. The results provide evidence of the distinct roles played by internal and external innovation ecosystems in the adoption of both traditional and I4.0 digital technologies. During the development stage, the external innovation ecosystem contributes significantly to the adoption of digital technologies, suggesting that external interactions and stimuli strongly foster technological innovation. At the same time, however, the internal ecosystem appears to reduce innovative momentum. Conversely, in the implementation phase, the internal ecosystem plays a fundamental role in driving the adoption of digital technologies by supporting their effective deployment, while the external ecosystem has no significant influence. These findings highlight the importance of involving innovation actors throughout the entire innovation process while recognizing their

distinct contributions during different stages of the innovation life cycle. Specifically, the external ecosystem acts as a creative stimulus for the adoption of digital technologies, whereas the internal ecosystem facilitates their implementation. Finally, both traditional and I4.0 technologies are found to improve operational performance.

Keywords: Industry 4.0, innovation, knowledge

JEL codes: M11, O31

FROM PRIVACY CONCERNS TO CONSUMER AWARENESS: SYNTHESIZING THE LITERATURE ON ONLINE BEHAVIOURAL ADVERTISING

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Abstract

Privacy and data protection have long been central issues in consumer behaviour research, as trust is a prerequisite for decision-making in digital environments. With the expansion of Online Behavioural Advertising (OBA), tensions between personalization and intrusion have intensified, while regulatory frameworks such as the EU's GDPR, the CCPA in the United States, and China's PIPL seek to strengthen transparency and user control. Yet scholarly debate questions whether these rules foster genuine awareness rather than mere formal consent. Against this backdrop, this study undertakes a systematic literature review (SLR) to assess the state of OBA research after the enforcement of GDPR and related regulations, with particular attention to how privacy, consent, and consumer awareness are integrated into empirical inquiry.

Following the SPAR-4-SLR protocol and applying the Antecedents–Decisions–Outcomes (ADO) framework, 559 articles indexed in Web of Science between May 2018 and April 2025 were screened, resulting in a final dataset of 40 empirical studies. The ADO structure enabled the mapping of 221 antecedents, 107 decision-related variables, and 111 outcomes, which were subsequently categorized into thematic groups. This approach ensured a transparent and reproducible synthesis of the fragmented OBA literature, providing insights into the antecedents that drive consumer responses, the decisions they make in relation to targeted advertising, and the resulting outcomes in terms of attitudes, behaviour, and effectiveness.

The findings reveal three major patterns. First, although privacy concerns, intrusiveness, and trust dominate the antecedent dimension, regulation-related constructs—such as cookie consent—are only sporadically examined, particularly at the decision level where consumer consent should logically appear. This disconnect underscores a gap between regulatory intent and empirical operationalization. Second, theoretical approaches remain fragmented: while models such as the Elaboration Likelihood Model, Privacy Calculus, and Persuasion Knowledge Model are applied, many studies rely on ad hoc or context-specific frameworks, limiting cumulative theory building. Third, methodological preferences skew heavily toward crosssectional experiments and surveys, with qualitative, longitudinal, and mixed-method approaches remaining rare. These imbalances constrain understanding of the dynamic, contextual, and ethical dimensions of consumer responses to OBA.

Overall, the review highlights that although transparency and consent are central in regulatory discourse, they remain underrepresented in empirical OBA research. For practice, the findings suggest that balanced personalization—emphasizing transparency, fairness, and credible data stewardship—can mitigate perceptions of surveillance and foster trust. For policy, the absence of decision-level analysis of consent points to the need for empirical studies that test whether regulatory mechanisms enhance awareness and autonomy rather than merely acceptance rates. Future research should therefore integrate regulatory constructs into established theoretical frameworks, broaden methodological diversity, and explicitly connect antecedents, decisions, and outcomes. Such steps can provide more robust guidance to practitioners, policymakers, and scholars, advancing understanding of personalized advertising in evolving data-governance regimes.

Keywords: online behavioural advertising, privacy concerns, cookie consent, consumer awareness, systematic literature review, personalization, advertising effectiveness

JEL codes: M31, M37, K24, L86

EMERGING DIGITAL TECHNOLOGIES IN FASHION SHOPPING: A SYSTEMATIC REVIEW

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Abstract

The fashion industry is inherently fast-paced and continuously evolving, demonstrating high sensitivity and adaptability to the dynamic nature of innovation. Emerging digital technologies – such as artificial intelligence (AI), immersive-reality, including augmented and virtual reality (AR/VR), internet of things (IoT), blockchain – contribute a new layer to the online fashion experience, shaping the entire customer journey in ways that resonate with digital-first trends and customer expectations. In this context, such advancements foster a cross-disciplinary synergy between the fields of fashion, technology, and business, reaching a critical inflexion point in retail. An increasing number of fashion brands are integrating emerging solutions into their strategies, prompting growing academic interest in understanding their impact on consumer behaviour and the fashion shopping experience. A literature review is especially relevant at this juncture, as the field experiences rapid technological evolution, creating new research imperatives.

This study presents a systematic literature review of 90 studies published between 2014 and mid-2025. Reflecting the topic's interdisciplinary nature, the reviewed studies represent 38 academic journals, with a notable dominance of retail and fashion-apparel domains. Employing the SPAR-4-SLR protocol (Paul et al., 2021), the objective was to explore the application of emerging digital technologies in fashion shopping, with a focus on their influence on consumer behaviour. Additionally, the study aimed to discover how these technologies shape customer experiences, within the four dimensions of the experience economy theory (Pine and Gilmore, 1998).

The analysis of the derived studies resulted in four thematic clusters of technological use cases: (1) Virtual fitting solutions and augmented apparel experiences, (2) Intelligent fashion retail assistance and design, (3) Virtual fashion shopping spaces, and (4) Emerging solutions. Within each cluster, studies were further categorized according to the identified consumer behaviour dimensions. According to Pine and Gilmore's (1998) theory of the experience economy, customer experiences are shaped by physical involvement (entertainment and aesthetics), and cognitive connection (education and escapism). By mapping the identified technologies onto these dimensions, this review integrates technology with experiential value creation in fashion shopping context. Finally, the study proposes future research directions to guide further investigation in this rapidly evolving field.

Keywords: digital technologies, fashion shopping, consumer behaviour, SPAR-4-SLR, experience economy

JEL codes: M31, M37

UNIVERSITY STUDENTS' VISUAL SELF-REFLECTIONS ABOUT THEIR UNIVERSITY EXPERIENCES: THE UNIVERSITY'S ROLE IN IDENTITY CONSTRUCTION VS. GRASSROOTS MARKETING OF UNIVERSITY LIFE

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Abstract

Visual social media platforms play a pivotal role in how university-age individuals process and communicate information. Through curated imagery and interactive content, users engage in experiential sharing, identity construction, and peer influence. These visual narratives enhance cognitive accessibility, support self-expression, and shape how information is perceived and retained.

University years are a key transitional phase in identity formation. Students must feel socially and academically connected to their institution; thus, the university's image becomes part of their identity and this ought to be reflected in their social media activity. However, research on the link between social media self-representation and student identity remains limited.

On the other side, strong individual student identities contribute to a strong university reputation, which is shaped by impressions of institutional behaviour and the channels through which these impressions are conveyed. Universities should therefore encourage visual self-representation of student belonging — via strategic branding, visually attractive spaces, merchandising, and storytelling.

Our empirical study provided a platform for students to reflect on their learning and overall experience. Data was collected across four semesters at a Hungarian university: Spring 2021 (emergency distance education), Fall 2021 (fully online semester), Fall 2022 (gradual return to the classroom), and Spring 2025 (fully "normal"). Marketing students (n=329) participated in our "virtual Instagram exhibition," uploading "instagrammable" images that expressed their current educational experiences. A qualitative visual content analysis was conducted on 329 colleges, examining both the micro-environment of learning spaces and the macro-environment of their relationship to the university.

Preliminary results show great variation in student experience representations across semesters. The university environment remains always recognizable, though differently. During distance education, online platforms and branded virtual spaces dominate, with emphasis on learning materials. As students returned to the classroom, physical university spaces (e.g., classrooms, libraries) re-emerged, and in the final sample, external spaces (e.g., cafés, parks) appeared alongside the university's "safe learning spaces" as an integral part of university life. Iconic learning materials persist throughout, serving as peculiar identity-forming elements.

Regarding branding as a conscious university activity, merchandise (e.g., tote bags, mugs) appears prominently in early samples, symbolizing attachment during physical absence. As traditional education resumes, these fade, replaced by space branding — photos taken in university spaces with iconic visual elements. Functional university spaces proliferate in later samples, reflecting institutional efforts to transform learning environments into experience-based "points of interest."

Results highlight that universities, like consumer brands, can benefit greatly from strategic branding. Spatial and symbolic brand elements were identified, along with the growing importance of experiential branding — where both physical and virtual environments, as well as iconic materials, contribute to a coherent yet adaptable brand identity. This calls for curated experiences that foster emotional attachment and student-driven brand advocacy.

Keywords: higher education branding, physical learning environment, students as brand advocates, visual social media narratives

JEL codes: M39, D83, I23

DECODING WHAT MAKES TRAVEL INFLUENCERS TRULY INFLUENTIAL FOR GENERATIONS Y AND Z

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Abstract

In recent years, influencer marketing has evolved into a core pillar of digital communication strategies across industries, particularly in tourism and hospitality, where influencers have become key mediators between destinations and prospective travellers. Drawing on the elaboration likelihood model, this study investigates the antecedents of travel influencers' impact on their followers' travel decisions, and explores whether these mechanisms differ between Generations Y and Z. The proposed research model incorporates three categories of antecedents: (a) influencer-related characteristics (perceived attractiveness, trustworthiness, expertise, and popularity), (b) message-related attributes (attractiveness of the published content), and (c) perceived follower–influencer similarity.

Within the ELM framework, influencer-related characteristics function as peripheral cues influencing judgments, while content attractiveness and perceived similarity serve as central cues fostering deeper cognitive elaboration. Generational differences are hypothesized to moderate these relationships, as members of different cohorts engage with digital content and social media influencers in distinct ways.

Empirical data were collected through an online survey administered to social media users (307 Generation Z and 395 Generation Y respondents) who follow at least one influencer posting about travel destinations. The constructs included in the model were measured using established scales that were adapted to the context of the research. Data were analysed using partial least squares structural equation modeling and bootstrapping-based multi-group analysis.

The results reveal that influencers' perceived attractiveness and popularity do not significantly affect followers' destination choices in either generational group, while perceived expertise consistently exerts a positive and significant influence across both cohorts. Generational differences emerge in the relevance of other determinants: for Generation Z, the attractiveness of the published content represents a strong predictor of destination choice, whereas trustworthiness does not. Conversely, for Generation Y, trustworthiness is a key determinant, while content attractiveness is non-significant. Perceived follower–influencer similarity significantly drives influencer impact for both generations but is considerably more influential for Generation Y, representing the most salient factor in this cohort.

Overall, the study advances theoretical understanding of influencer effectiveness by integrating ELM with generational cohort theory, offering a nuanced account of how cognitive processing routes differ between younger and older digital consumers. Practically, the findings suggest that travel influencers and destination marketers should tailor their strategies to generational preferences: while Generation Z responds more strongly to visually and emotionally appealing content, Generation Y places greater value on trust. These insights provide actionable guidance for destination management organizations and hospitality brands aiming to optimize influencer collaborations and communication strategies in a rapidly evolving digital landscape.

Keywords: influencer marketing, travel influencers, generational differences, Generation Y, Generation Z

JEL codes: M31, M37

AN INVESTIGATION OF COMPETENCIES PREDICTING SALESPERSON SUCCESS IN THE DIGITAL ERA

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Abstract

This research aims to identify the key success factors for corporate salespeople in the contemporary business environment, with a particular focus on the enduring impact of digitalization following the COVID-19 pandemic. The relevance of this problem stems from the significant transformation in sales processes and the need for an updated framework to guide sales managers and professionals in enhancing performance. While traditional sales skills remain important, the accelerated adoption of digital tools has created a skills gap, making it crucial to reassess which competencies are most predictive of success today.

The paper begins with a literature review that defines the core corporate function of sales, outlines the evolution of salesperson roles, and discusses foundational theories on sales performance. It synthesizes previous research into four key resource categories that potentially influence success: human capital (e.g., technical knowledge, sales effort), digitalization-enabling resources (e.g., analytical skills, digital adoption), customer value-enabling resources (e.g., customer engagement, relationship building), and social capital (e.g., networking, reputation). A central element of the conceptual model is Value Opportunity Recognition (VOR), which is theorized as a mediating competence that translates a salesperson's resources into performance.

To investigate the relationships between these factors, a quantitative study was conducted. Data were collected via a structured online questionnaire administered to N = 102 sales professionals in the corporate sector. The collected data were subsequently analysed using IBM SPSS Statistics, employing descriptive statistics, correlation analysis, and multiple linear regression to test the proposed hypotheses.

The findings reveal that analytical skills are the single most significant predictor of Value Opportunity Recognition (VOR) and, consequently, salesperson success. This highlights a critical shift towards data-driven sales approaches. Furthermore, a salesperson's technical product knowledge and the degree of effort invested in sales activities were also found to be strong positive determinants of VOR. The study also identified a moderating effect of corporate digital support. In contrast, such support directly enhances success; its interaction with VOR is negative, suggesting that extensive digital tooling can compensate for a salesperson's lower ability to recognize value opportunities independently. Conversely, several factors traditionally associated with sales success, such as those related to social capital and direct customer engagement, did not emerge as statistically significant predictors within this model. These results provide a relevant and updated guide for sales leaders seeking to recruit, train, and manage high-performing sales teams in the digital age.

Keywords: salesperson success, sales competencies, digitalization, value opportunity recognition (VOR), B2B sales, analytical skills, sales performance

JEL codes: M31, M12, M54, D83

TECHNOLOGY ACCEPTANCE OF M-COMMERCE APPLICATIONS

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Abstract

Digitalization, including the rise of the Internet, is leading to an increasing proportion of retailers introducing omnichannel processes into their operations, where traditional physical stores, web and mobile platforms operate in harmony (Zeithaml et al., 2000). And because by 2024, 95% of Hungarian households had a mobile phone subscription, and 75% of them had a mobile internet service connected to them, with an increasing number of smartphones (82%) (NMHH, 2025), our research focus on the technology adaptation of mobile commerce applications as a potential extension of e-commerce and m-commerce.

The so-called Technology Acceptance Model (TAM) is one of the most influential models of technology acceptance, with two main factors influencing an individual's intention to use a new technology: perceived ease of use and perceived usefulness. Perceived usefulness refers to the benefits to the consumer, while perceived ease incorporates the potential effort into the model (Davis, 1989). However, we incorporated some other factors into our model to provide a more comprehensive understanding of the technology acceptance of the younger Hungarian consumers.

These added variables can be the perceived security (which besides the perceived usefulness) positively influenced perceived trust, which directly influenced the willingness to use (Ruiz-Herrera et al., 2023). Thus, we would include the role of both perceived security and perceived trust in the model. Especially because trust can also be considered a well-known indicator of technology acceptance models, alongside perceived ease of use and perceived usefulness. Empirical results also prove that it is generally an explanatory factor of intention to use in the context of mobile commerce (Liébana-Cabanillas et al., 2017).

However, in our framework, trust would be considered a predictor of intention to use, as we assume trust can mediate the effects of perceived ease of use and perceived usefulness. Previous results in the context of international e-commerce can support this mediating role of trust among the variables (Wistedt, 2024). Meanwhile perceived risks can be involved as an antecedent of perceived security based on previous results in Hungarian samples (see Daragmeh et al, 2021; Wei et al., 2024).

Our empirical results from a survey conducted in June 2025 with 742 participants mainly supported this framework. Our sample consists of young internet users, who mainly reported their financial status around the average and live in Budapest or its suburbs, but around two third of them are female (65,5%). However, the results from PLS structural modeling suggested that perceived security influences the intention of use through perceived trust, so risk and security can contribute to the acceptance of mobile commerce applications indirectly. Meanwhile perceived ease of use also indirectly influences the intention of use via trust, while perceived usefulness has both direct and indirect effects on it.

Keywords: digital marketing, m-commerce, mobile applications, PLS-SEM, technology acceptance

JEL codes: C51, M30, M39, O33

AUGMENTED REALITY IN RETAIL: A SYSTEMATIC LITERATURE REVIEW ON HOW AR SHAPES CONSUMER BEHAVIOUR

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Abstract

The integration of augmented reality (AR) into the retail industry is reshaping how consumers interact with brands, products and shopping environments. This technology allows shoppers to visualize and virtually try on items before purchase, thereby bridging the gap between offline and online shopping experience. As augmented reality becomes increasingly utilized by retailers, understanding its impact on consumer behaviour has become a key research focus.

This paper aims to provide a structured review of existing literature on the role of AR in retail and to identify how it influences consumer decision-making processes. As retailers face ongoing digital transformation and increasingly rely on immersive AR technologies it is relevant to highlight key theoretical approaches and synthesize insights in order to comprehend how this technology reshapes the consumer behaviour. Understanding these mechanisms is crucial for both scholars seeking to advance theory and practitioners creating effective AR-driven strategies.

A systematic literature review was conducted, focusing on articles published in retailing, marketing, consumer behaviour and business journals. Data were collected by indexed databases such as Web of Science and SCOPUS, using targeted keywords. The selected studies were analysed thematically, accentuating theoretical frameworks, types of AR technology, research methodology, and empirical findings. The review identifies three core areas of current research: (1) attributes of augmented reality and their impact on consumer outcomes; (2) consumer's characteristics and psychological traits as influential factors, and (3) impact of perceived risks and barriers on consumer outcomes.

The main findings suggest that AR enhances consumer experience by offering realism and interactivity. Furthermore, consumers' individual characteristics play an important role in adopting and using AR. At the same time, risks and barriers such as privacy concerns hinder the purchase intention.

This study concludes by highlighting potential research gaps and outlining directions for future investigation that may further clarify the role of AR in retail contexts and consumer behaviour.

Keywords: augmented reality, immersive technology, consumer behaviour, retail, systematic literature review

JEL code: M31

THE EFFECT OF CONSUMER-PERCEIVED FLOW IN THE METAVERSE ON BRAND PERCEPTIONS AND PURCHASE INTENTION: AN EMPIRICAL STUDY

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Abstract

The rapid development of immersive technologies has transformed how consumers interact with brands. Among these, the metaverse offers unique opportunities for engagement by enabling interactive and immersive experiences in three-dimensional virtual environments. Companies have already started experimenting with branded virtual worlds, yet empirical evidence on how such environments shape consumer perceptions remains limited. While previous literature has examined flow theory in digital contexts such as gaming, online shopping, or augmented reality, little is known about how flow operates within branded metaverse experiences and how it affects consumer-brand relationships. Addressing this gap, the present study investigates the role of flow in shaping brand perceptions and purchase intentions in the metaverse.

The research employed a quantitative design in the apparel context, involving 209 Romanian students from both high school and university levels. Participants were invited to engage with Nikeland, Nike's branded virtual world hosted on the Roblox platform, and were subsequently surveyed using validated measurement scales from prior studies. The conceptual model was analysed through Partial Least Squares Structural Equation Modeling (PLS-SEM), a method suitable for predictive modelling and complex relationships.

Findings reveal that flow within the metaverse is driven by intrinsic enjoyment, automaticity, balance between challenge and skill, and a distorted sense of time. Importantly, flow was shown to positively influence consumer attitudes towards the brand and strengthen brand commitment. These enhanced perceptions further translated into increased purchase intentions, underlining the pivotal role of flow in virtual consumer-brand interactions.

This research provides valuable insights into consumer brand perceptions in the metaverse, where branding effectiveness is still largely unknown. Examining the impact of flow on these perceptions represents a novel contribution. Additionally, by utilizing a real-life example with

Nike's virtual world, this study enhances the originality and relevance of findings for researchers and practitioners.

Keywords: metaverse, flow, brand attitude, brand commitment, purchase intention

JEL codes: M31, M37, L86, D91