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BOOK OF ABSTRACTS

Digital Innovation & AI: A Double-Edged Sword for Sustainable Heritage Capitalization

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ROMANIAN ACADEMY
National Institute for Economic Research "Costin C. Kiritescu"
INSTITUTE OF NATIONAL ECONOMY

BOOK OF ABSTRACTS
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Digital Innovation & AI: A Double-Edged Sword for Sustainable Heritage Capitalization

ROMANIAN ACADEMY
National Institute for Economic Research "Costin C. Kiritescu"
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CONFERENCE OBJECTIVE

The goal of the conference is to examine the many facets of heritage capitalization and how it relates to contemporary issues such as digital transitions, energy problems, food crises, and environmental preservation. Heritage capitalization serves as a link between the past and the future in a world of swift change and increasing complexity. Our objective is to promote discussions, encourage teamwork, and increase awareness of the ways in which heritage may support sustainable development.

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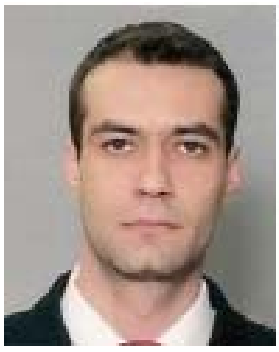

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Researcher at the National Institute for Economic Research "Costin C. Kiritescu", Romanian Academy and also he is teaching at Bucharest University of Economic Studies, Bucharest, Romania. He holds a PhD in economics. Main topics of research are focused on digital transition, labour market disequilibria, skills mismatch, financial inclusion, energy transition and sustainable development, cultural heritage interpretation, and digitalization and socio-economic evaluation. He has a good international cooperation as a team member in interdisciplinary research projects.

PLENARY SESSION: KEYNOTE PRESENTATIONS

STUDENTS' PERCEPTION OF THE CONNECTION BETWEEN ARTIFICIAL INTELLIGENCE AND CULTURAL HERITAGE

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Abstract
In the context of rapid digitalization and the increasing application of Artificial Intelligence (AI) in cultural heritage, understanding students' perceptions of these technologies has become essential. This study addresses how students from all academic disciplines perceive the integration of AI in the preservation, promotion, and reinterpretation of cultural heritage. The main objective is to identify students' knowledge levels, attitudes, expectations, and willingness to engage in interdisciplinary projects that leverage AI for cultural purposes, highlighting the role of education in preparing future professionals for a digital cultural environment.
A quantitative and exploratory approach was employed, using a structured questionnaire distributed to a sample of students from diverse fields of study. The survey included Likert-scale items to assess perceptions of AI usefulness, trust in AI technologies, interest in AI applications in heritage, and willingness to participate in digital cultural initiatives. Open-ended questions were also included to capture qualitative insights on expectations and concerns. Data were analysed using descriptive statistics, ANOVA tests to identify differences between different criteria, and the analysis of the qualitative responses.
The study found that students generally hold a positive perception of AI's potential in cultural heritage, with notable differences across the field of study. Students in different fields demonstrated higher familiarity and confidence in AI applications, while students from other fields showed moderate interest, coupled with concerns regarding authenticity and cultural impact. Despite these variations, most students expressed a willingness to participate in interdisciplinary projects combining their expertise with AI tools. The findings underscore that both technical knowledge and exposure to digital cultural initiatives influence perceptions, and that fostering interdisciplinary collaboration is key to maximizing AI's role in heritage preservation and promotion.
This study adopts an original interdisciplinary perspective by examining students' perceptions across all academic fields. By combining quantitative and qualitative data, it provides a comprehensive view of attitudes, knowledge, and engagement willingness regarding AI in cultural heritage. The research offers practical insights for universities, museums, and cultural institutions seeking to integrate AI into educational programs and heritage projects, emphasizing digital literacy, ethical application, and collaborative innovation in the preservation and promotion of cultural heritage.

Keywords: *artificial intelligence, cultural heritage, students' perception, digital technology, interdisciplinary education, cultural projects*

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HERITAGE IS OUR FUTURE CAPITAL: HERITAGE CAPITALISATION TURNS LIVING CULTURAL, HISTORICAL, SCIENTIFIC, AND NATURAL ASSETS INTO AN INTEGRATED PUBLIC-VALUE AGENDA FOR SUSTAINABLE DEVELOPMENT - NOT MERELY A STRATEGY FOR MONETISATION

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Abstract
This presentation reframes heritage capitalisation as more than the commercial use of historic assets. It is a responsible process through which tangible and intangible heritage can generate shared cultural, social, economic, ecological, and democratic value. For universities, this means connecting scholarship and development while keeping communities central to decisions about meaning, ownership, access, and benefit-sharing.
The talk traces this public-value framework across identity and living tradition; innovation, drawing on cases such as Catalan castells and Congolese rumba; digitalisation and its promise of wider access alongside concerns about consent, cybersecurity, and AI ethics; and environmental stewardship amid climate pressures. It also examines risks of commodification, appropriation, unequal benefit-sharing, illicit trafficking, conflict, and institutional loss of legitimacy.
International frameworks - including the Faro Convention, UNESCO instruments on illicit trafficking and AI ethics, the Historic Urban Landscape Recommendation, and World Heritage impact-assessment guidance - provide foundations for accountable practice. Cases from Chitwan National Park and the University of Aberdeen's return of Benin Bronzes illustrate how development can be redesigned and restitution pursued through assessment, participation, and transparent governance.
The presentation invites faculty to move from observing heritage governance to practising it: audit collections and relationships, embed ethical and climate-aware approaches in teaching and research, build international partnerships, and measure public value beyond visitor numbers or revenue. Its central argument is that heritage becomes future capital when communities retain agency and universities help co-create sustainable, inclusive, and secure futures.

Keywords*: heritage capitalization, tangible and intangible heritage, sustainable development*

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FROM BLACK GOLD TO GREEN VALUE: SUSTAINABLE REUSE OF INDUSTRIAL HERITAGE IN CULTURAL TOURISM OF PLOIEȘTI

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Abstract
***Objective**: Europe holds thousands of decommissioned industrial sites – refineries, mines, gasworks and power stations – that are simultaneously a liability for local budgets and an underexploited cultural asset. Converting such a site into a functioning tourism product is not primarily an architectural problem; it is a problem of market assessment, financing and credibility. Romania offers a particularly telling case. In 1857, Wallachia became the first country in the world with officially registered crude oil production, and the Mehedințeanu installation on the edge of Ploiești supplied the kerosene that made Bucharest the first city with oil-based public street lighting. Ploiești, often called the world capital of black gold, today hosts the National Museum of the Oil Industry, part of the European Route of Industrial Heritage, alongside decommissioned refinery sites. The city is thus a live laboratory in which heritage value, energy transition and urban regeneration intersect. The specific deindustrialisation that followed the fall of communism, together with the energy transition process of recent years, has left a deep mark on Romania's oil and gas industry. The objective of the paper is to analyse how the industrial heritage of Ploiești can be sustainably reused for cultural tourism and how an industrial city can turn genuine sustainability efforts into a strong and credible image, without falling into greenwashing.*
***Method**: The research adopts a qualitative case-study design focused on the city of Ploiești. It combines a historical and documentary analysis of the local oil industry and of its tangible and intangible heritage with a review of the scientific literature on industrial heritage, cultural tourism and urban regeneration. The study further examines the European policy and regulatory framework relevant to the topic, including EU cohesion policy, the Just Transition Fund and the stricter EU rules on environmental claims addressed to consumers. Selected examples of industrial heritage reuse from the European Route of Industrial Heritage are used as benchmarks, and the financing instruments available to local authorities and private investors are mapped and compared.*
***Results**: The analysis shows that the closure of refineries and of companies producing petroleum products, although socially and economically painful, creates new opportunities for the reuse of industrial heritage in Ploiești. Such sites can be transformed into museums, interpretation centres, creative hubs and cultural tourism routes linked to the history of oil. The paper identifies a set of financing options able to support this process, namely EU cohesion funding, the Just Transition Fund, municipal green bonds and public-private partnerships, and discusses the conditions under which each of them can be mobilised. The results also highlight that the credibility of the city's green image depends on measurable environmental outcomes, transparent communication and the involvement of local communities and stakeholders. In a context of stricter EU requirements regarding*

environmental declarations, unsubstantiated sustainability claims represent a reputational and legal risk for both municipalities and tourism operators.
***Originality**: The originality of the study lies in its integrated approach, which links industrial heritage, energy transition, sustainable finance and the prevention of greenwashing within a single analytical framework applied to a former oil city. Rather than treating heritage conversion as an architectural or purely cultural issue, the paper frames it as a question of market assessment, financing and credibility. It thus offers practical guidance to local authorities, heritage managers and investors on how Ploiești – and other European cities with a similar industrial past – can transform the legacy of black gold into green value.*

***Keywords**: industrial heritage, energy transition, oil industry, deindustrialisation, cultural tourism, urban regeneration, greenwashing, sustainable finance*

***Acknowledgement**: This research was supported by a grant from the Petroleum-Gas University of Ploiești, Romania, project number GO-GICS-14819/26.06.2026 and GO-GICS-14483/23.06.2026, within the Internal Grants for Scientific Research.*

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ROMANIAN CASTLES AND PALACES THROUGH VISITORS' EYES

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Abstract
Objective: *This paper analyzes the experiences and preferences of visitors to castles and palaces in Romania - as expressed in online reviews - to identify opportunities for improving and diversifying cultural tourism offerings.*
Method*: The research employs a qualitative analysis of 1,399 reviews posted on TripAdvisor for 18 castles and palaces across three historical regions: Moldavia, Wallachia (Muntenia), and Transylvania. This analysis is complemented by expert assessments regarding the relevance of the gathered information for informing managerial decision-making.*
The ***results*** *highlight predominantly positive emotional responses and a preference for integrated tourism experiences - those that combine visits to heritage sites with accommodation, dining, transportation, and local activities. The reviews also underscore the importance of information provision, interactive applications, accessibility, and pricing options. These findings suggest that there is an opportunity to develop cultural packages tailored to different visitor segments by incorporating complementary services and integrating heritage sites into thematic itineraries. Such an approach requires cooperation among local authorities, heritage site administrators, and private tourism service providers, supported by digital tools for promotion and marketing.*
Originality: *The study demonstrates the value of analyzing online reviews - supplemented periodically by expert evaluations - as a tool to help adapt tourism offerings to visitor preferences and to enhance the tourism value of cultural heritage.*

Keywords*: cultural heritage, visitor preferences, emotional responses, integrated tourism experiences*

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PAPER PRESENTATIONS

DAY 1, October 28, 2026

DIGITAL INNOVATION AND CULTURAL HERITAGE CAPITALISATION IN THE EUROPEAN UNION: OPPORTUNITIES, DIVIDES AND SUSTAINABILITY RISKS IN THE AI ERA

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Abstract
Cultural heritage is increasingly recognised not only as a repository of identity and collective memory but also as a strategic resource for sustainable economic development. At the same time, artificial intelligence, cloud technologies, digital platforms and advanced digitisation are reshaping the ways in which heritage assets are preserved, accessed, promoted and transformed into economic and social value. This study examines whether digital readiness enhances the capacity of European Union Member States to capitalise on their cultural heritage and investigates the disparities and sustainability risks associated with this transformation. Using comparative data for the EU-27 from official sources, including Eurostat and UNESCO, the analysis combines indicators of cultural heritage endowment with measures of artificial intelligence adoption, cloud computing and digital skills. A composite Digital Readiness Index is developed and related to tourism intensity, cultural employment and cultural entrepreneurship. The empirical strategy combines descriptive analysis, country clustering and panel regression models, including an interaction between heritage endowment and digital readiness. The study tests whether digital capabilities strengthen the relationship between cultural heritage resources and economic outcomes while also examining differences in capitalisation performance and tourism pressure across Member States. The expected contribution is threefold: to provide a multidimensional framework for measuring cultural heritage capitalisation, to introduce digital readiness as a moderating factor in this relationship, and to highlight the dual role of digital transformation as both an opportunity for value creation and a potential source of new territorial and sustainability divides. The findings are expected to support evidence-based policies for a more inclusive, digitally enabled and sustainable valorisation of European cultural heritage.

Keywords*: cultural heritage; digital innovation; artificial intelligence; heritage capitalisation; digital readiness; sustainable development; tourism intensity.*

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HERITAGE-LED GROWTH IN OLD DHAKA: MAPPING THE ECONOMIC VALUE OF MUGHAL-ERA URBAN FABRIC

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Abstract
Objective: *The Old Dhaka Historic District has a good amount of Mughal urban fabric, but there is considerable stress in the spatial-economy system as a result of urban transformation, deterioration, uncoordinated densification and lack of integration of heritage conservation and economic development. The current literature on heritage is mostly dedicated to the architectural and historical significance of monuments, often failing to consider the economic value embedded in the indigenous urban fabric and local economic practice of Old Dhaka. The main purpose of this study is to identify and conceptualize the economic value created by or related to the Mughal urban fabric.*
Method: *The present study uses a multi-disciplinary method which combines spatial mapping with Geographic Information Systems (GIS), heritage asset inventory and analysis of historical cartography and space syntax analysis. The research differs from a financial assessment of value by investigating a number of aspects of economic value within the historic urban context. Spatial analysis is conducted in order to understand topological relations between physical heritage assets, native spatial characteristics and economic concentrations. Using the measure of integration based on spatial analysis, the mapping connects specific spatial characteristics of heritage assets to their surroundings economic activities in order to determine dominant commercial activities, spatial characteristics and development potentials within the historic core of Old Dhaka.*
Results: *Preliminary results indicate that the Old Dhaka structure in the urban space is still an ecosystem with a high level of integration from an economic perspective. As regards its commercial value, it is seen that there are many commercial activities and craft activities in the traditional mahallas with the morphology of the shop-house and the narrow street frontages. From the spatial economic value point of view, it is shown that the historic street grid has high functional integration and is organic in nature through the space syntax analysis. The spatial analysis can be used to locate historic clusters from a tourism and regeneration value perspective that can be revitalized and become a sustainable local employment source. Furthermore, the results clearly demonstrate that heritage-led regeneration could contribute to the solution of the externalities produced by unorganized densification.*
Originality: *This research contributes to heritage economics through its re-interpretation of the research question that shifts the perspective away from a mainly conservationist approach towards an economic geography perspective that is rooted in heritage economics. The research is based on spatial mapping and economic activity*

analyses for an integrated approach. The streets, buildings, markets and open spaces of Old Dhaka are not viewed as a relic, but as an urban heritage ecosystem, and are believed to be able to contribute to sustainable development.

Keywords: *Mughal urban fabric, Old Dhaka, heritage economics, space syntax, GIS mapping, heritage-led regeneration*

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DIGITAL TRANSFORMATION AND CULTURAL HERITAGE CAPITALIZATION: AN INSTITUTIONAL FRAMEWORK FOR EFFICIENCY, TRANSPARENCY AND PUBLIC ACCESS IN THE CONTEXT OF THE TWIN TRANSITION

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Abstract

Objective: *This article examines how digital governance can contribute to the capitalization and sustainable management of cultural heritage by improving institutional efficiency, transparency, coordination, and public access. The study focuses primarily on the digital dimension of the twin transition and considers how digital transformation can support more sustainable approaches to heritage governance. Its central question is which institutional arrangements enable digital capabilities to generate meaningful improvements in the management, accessibility, and public value of cultural heritage. The analysis distinguishes the availability of digital tools from the achievement of effective heritage-related outcomes. Digital platforms, databases, and online services can coexist with fragmented institutional responsibilities, duplicated procedures, limited interoperability, and unequal access. The objective is therefore to develop an integrated framework for assessing how digital governance can support cultural heritage capitalization through institutional modernization.*

Methods: *The study uses a purposive integrative review of peer-reviewed research and official institutional publications, combined with documentary analysis of digital government developments in the Republic of Moldova. The analytical approach focuses on organizational transformation, administrative efficiency, transparency, inclusion, interoperability, and measurable public-service outcomes that can be transferred to the field of cultural heritage governance. The analysis distinguishes theoretical arguments, empirical findings, comparative maturity indicators, and institutional results. Three analytical questions guide the synthesis: which administrative mechanism is transformed through digitalization, which institutional condition enables that transformation, and which observable outcome would demonstrate an improvement in heritage governance and public access. The study is conceptual and does not involve primary data collection or causal estimation.*

Results: *The synthesis identifies three mechanisms through which digital governance can support cultural heritage capitalization: integration of procedures and information flows, visibility of decisions linked to institutional accountability and corrective action, and accessible resolution of users' and stakeholders' needs. Applied to cultural heritage, these mechanisms may support integrated heritage registers, more coherent administrative procedures, improved access to cultural resources, enhanced coordination between public institutions, and greater transparency in decisions concerning heritage protection and use. Their effectiveness depends on clear institutional responsibility, reliable and interoperable data, staff capability, inclusive access, and credible oversight. Digitalization should therefore be assessed not only through the existence of platforms or digitized collections, but through its capacity to reduce administrative burden, improve access to heritage resources, strengthen institutional coordination, and facilitate meaningful public participation. In the context of the twin transition, digital tools may also support more resource-efficient approaches to heritage management, although the environmental effects require separate empirical evaluation.*

Originality: *The article proposes an institutional framework linking digital capabilities to specific administrative mechanisms and observable outcomes in cultural heritage governance. Its contribution lies in bringing institutional performance, public access, administrative burden, transparency, and corrective capacity into a common evaluative structure. Rather than treating digitalization as an end in itself, the framework considers cultural heritage capitalization as a process in which technology creates public value only when supported by appropriate institutional arrangements. The approach provides a basis for further empirical research on digital heritage governance and offers a conceptual foundation for assessing the role of digital transformation in sustainable cultural heritage management.*

Keywords: *cultural heritage, heritage capitalization, governance, digital transformation, institutional modernization, public access, interoperability, sustainable development, twin transition, Republic of Moldova.*

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SUSTAINABLE ECONOMIC GROWTH AND SDG8: A COMPARATIVE ANALYSIS OF ACCOUNTING INDICATORS ACROSS THE FOOD INDUSTRIES OF POLAND, ROMANIA AND SLOVENIA

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Abstract
Context and motivation: *The Sustainable Development Goals (SDGs), defined by the United Nations, represent a global framework for assessing economic, social, and environmental progress by 2030. Among these, SDG 8 – "Decent Work and Economic Growth" – is directly relevant to the analysis of economic performance at both sectoral and firm levels. In this context, accounting plays an essential role in transforming abstract sustainability objectives into measurable indicators, enabling the empirical assessment of economic progress. The study analyzes the food industry in Poland, Romania, and Slovenia, using comparable OECD data to investigate the relationship between economic performance and SDG 8.*
Objective*: The research pursues three main objectives:*
1. Operationalizing SDG 8 through economic and accounting indicators (turnover, value added, number of employees);
2. Comparing the performance of the food industry in Poland, Romania, and Slovenia based on OECD data;
3. Evaluating the relationship between labor productivity and sectoral economic growth in the context of sustainability.
Method*:*
1. Research design: The study adopts a quantitative comparative design based on cross-country sectoral analysis. The approach aims to evaluate economic performance in relation to SDG 8 – Decent Work and Economic Growth – using aggregated industry-level data.
The analysis focuses on the food industry in three European economies: Poland, Romania, and Slovenia, selected due to their different positions in terms of productivity, industrial structure, and level of economic development. The analysis is static (cross-sectional) and focuses on a recent comparable year available.
2. Data sources: The data used in the analysis are obtained from: OECD STAN (Structural Analysis Databases) and European sectoral reports & databases (FoodDrinkEurope/EMIS/Eurostat SBS). The indicators are harmonized at the European level for economic sectors and allow for comparisons across countries.

3. Analytical approach: The analysis is conducted in three stages: descriptive analysis, comparative analysis of economic efficiency and interpretation in relation to SDG8.
4. Conceptual framework: This framework enables the translation of SDG objectives into a set of quantifiable accounting indicators.
***Results**: The results reveal significant differences among the three economies. SDG 8 should be understood as a multidimensional objective that simultaneously includes: economic growth, employment and efficiency.*
The value-added analysis confirms structural differences, with Slovenia and Romania showing relatively higher shares of value created relative to turnover compared to Poland. Accounting provides essential tools for measuring these dimensions, but it cannot fully capture the qualitative aspect of "decent work".
***Originality**: The study makes three main contributions:*

1. *It proposes an integrated framework for analyzing SDG 8 based on the correlation between OECD data and accounting indicators at the sectoral level.*
2. *It demonstrates the role of accounting as an infrastructure for quantifying economic sustainability beyond traditional financial reporting.*
3. *It highlights the heterogeneity of economic performance among Eastern European economies, showing that progress toward SDG 8 is not uniform and simultaneously depends on economic scale, productivity, and employment structure.*

***Keywords**: SDG 8, economic sustainability, labor productivity, role of accounting, OECD*

ROMANIAN ACADEMY
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GEOGRAPHICAL INDICATIONS AS REGIONAL HERITAGE CATALYSTS: TRENDS AND REGIONAL DISPARITIES IN THE REPUBLIC OF MOLDOVA

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Abstract
Objective: *Cultural heritage generates sustainable economic value when it is legally protected and commercialized in a form buyers can trust. Geographical indications (GIs), appellations of origin (AOs), and traditional specialities guaranteed (TSGs) serve as collective intellectual property instruments designed to convert terroir, local know-how, and cultural traditions into protected, marketable assets without displacing value from originating communities. Despite Moldova's rich viticultural, agricultural, and culinary heritage, collective heritage tools remain severely underutilized compared to firm-level brand protection. This study pursues three objectives: (i) to quantify Moldova's national filing and granting activity for AOs (1993–2025), GIs (2010–2025), and TSGs (2019–2025), isolating domestic producer initiatives from foreign entries; (ii) to examine the regional distribution of the domestically registered geographical denominations across Moldova's development regions (Centre, South, North, and National) to identify regional disparities in adoption; and (iii) to evaluate whether recent legal and institutional alignment with the European Union acquis (2023–2026) is positioned to address domestic dormancy.*
Method: *The research adopts a quantitative and diagnostic approach utilizing official administrative statistics from the State Agency on Intellectual Property (AGEPI), covering registry series from 1993 through April 2026. The empirical analysis focuses specifically on resident national applications and granted protections across legal categories, isolating domestic producer activity from foreign reciprocity entries. Three core indicators are examined: cumulative resident applications, cumulative granted protections, and net registration success rates. The 25 registered national denominations are categorized by development region based on producer localities specified in AGEPI database records.*
Results: *At the macroscopic level, resident industrial property statistics (1993–2025) reveal a profound structural imbalance: trademarks dominate national applications (40,557 filings, 63.50%), followed by industrial designs (2431 filings, 4.68%), patents (8,369 filings, 13.10%), and plant varieties (560 filings, 0.88%). Combined, resident AO (14 filings, 0.02%), GI (11 filings, 0.02%), and TSG (6 filings, 0.01%) applications represent a mere 31 filings out of 51,948 - a marginal 0.05% share over more than three decades. However, among applications actually submitted, registration efficiency is remarkably high: 7 AOs granted (50% success rate), 11 GIs granted (100% success rate), and 6 TSGs granted (100% success rate), yielding an overall national success rate of 77.4% (24 grants out of 31 filings). This proves that examination rigor is not the primary bottleneck; rather, dormancy stems from the lack of domestic applications reaching AGEPI. Regional analysis demonstrates significant concentration: the Centre region accounts for 10 denominations (40.0%), driven by proximity to Chişinău and the Codru viticultural massif; the South holds 6 denominations (24.0%), reflecting Budjak steppe and Lower Dniestr heritage; while the North holds only 2 denominations (8.0%), despite its significant agricultural capacity. Seven denominations (28.0%) are classified as national (Divin GI and 6 TSGs). Finally, policy analysis shows a rapid acceleration in institutional alignment (2023-2026), marked by accession to the Geneva Act of the Lisbon Agreement (Oct 2024), draft legislation transposing EU Regulations 2024/1143 and 2023/2411.*
Originality: *This study provides a long-term empirical analysis (1993–2026) dedicated specifically to resident geographical indications, appellations of origin, and traditional specialities guaranteed in the Republic of Moldova. By establishing a multi-decade baseline of domestic filing and registration trajectories, examining the*

regional distribution of registered denominations across development regions, and contextualizing these patterns within recent EU legal alignment (2023-2026), the paper offers a grounded diagnostic of collective heritage IP adoption in a transition economy.

Keywords: *geographical indications, appellations of origin, heritage capitalization, regional development, intellectual property, Republic of Moldova, EU accession*

Funding: *The research was performed within the framework of Subprogram 030101 "Strengthening the resilience, competitiveness, and sustainability of the economy of the Republic of Moldova in the context of the accession process to the European Union", institutional funding, National Institute for Economic Research, Academy of Economic Studies of Moldova.*

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CENTRAL BANKS, CULTURAL HERITAGE AND CLIMATE RISK

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Abstract
Objective: *Climate change threatens not only economies and ecosystems but also humanity's collective memory. Floods, wildfires, sea-level rise and heatwaves increasingly damage historic sites, museums, archives and art collections on every continent, and these losses are in most cases irreversible. The paper examines, from a global perspective, the role central banks can play in protecting cultural heritage. The analysis has two dimensions. The first looks at central banks as direct custodians of heritage: historic headquarters, archives, numismatic and art collections. The second looks at them as financial system actors that can shape how the climate risks facing cultural assets are assessed, insured and financed.*
Method: *The study conducts a qualitative comparative analysis of climate strategies, financial stability reports and policy documents published by central banks in Europe, North America, Latin America, Asia-Pacific and Africa. It also covers international coordination frameworks such as the NGFS, the BIS and the FSB. The documents are examined against three criteria: regional exposure to physical climate risks, the central bank's legal mandate, and the instruments already used to manage climate risk.*
Results: *The paper proposes a typology of instruments through which central banks can help protect cultural heritage:*

- *integrating cultural assets into climate risk scenarios and stress tests;*
- *narrowing the global insurance protection gap;*
- *supporting green finance for restoration and adaptation;*
- *managing their own heritage responsibly;*
- *running commemorative coin programmes with an educational purpose.*

The findings reveal significant regional differences, driven by exposure to climate hazards, institutional capacity and legal mandates. The paper argues that safeguarding cultural heritage can be integrated into central banks' climate resilience policies without stretching their mandates beyond their limits. It thus contributes to an underexplored field at the intersection of climate economics, central banking and cultural economics.

Keywords: *central banks; cultural heritage; climate change; climate risk; financial stability; global comparative analysis*
JEL Classification *E58, Q54, Z11*

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AI-GENERATED STORYTELLING OF CULTURAL HERITAGE: THE EFFECTS OF PERCEIVED AUTHENTICITY AND EMOTIONAL ENGAGEMENT ON TOURISTS' VISIT INTENTION

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Abstract
Objective: *This study aims to explore the effect of AI-generated cultural heritage stories on tourists' visit intention by applying the Stimulus-Organism-Response (SOR) theoretical paradigm. With the growing use of generative AI to create narrative content about heritage sites, it remains unclear whether AI-generated content can elicit the same psychological reactions as content created by humans. Therefore, the purpose of this study is to investigate the effect of the environmental stimulus (AI-generated storytelling) on the tourist's visit intention, and to test the mediating effect of perceived authenticity and emotional engagement as organism level constructs between the environmental stimulus and the tourist's visit intention in the case of AI-mediated communication in the field of heritage tourism.*
Method: *The study adopts a quantitative survey-based design with focus on the SOR paradigm. A large language model was used to generate a storytelling stimulus, a narrative script along with the audio/visual resources from a selected cultural heritage site, followed by a review to ensure the story is coherent and culturally accurate. Participants were presented with this information and then asked to fill out a structured questionnaire that included multi-item Likert scales adapted from the literature on tourism and consumer behavior that measured perceived authenticity, emotional engagement, and the intention to visit. The data were gathered from the tourists and potential tourists who were interested in cultural heritage tourism through an online survey technique by purposive/convenience sampling method. The conceptual model was developed to outline the stimulus (S), perceived authenticity (O1), emotional engagement (O2), as parallel organism-level (O) mediators, and the response (R), which is the intention to visit. The reliability and validity of the measurement model were evaluated using Partial Least Squares Structural Equation Modeling (PLS-SEM), as well as the structural and mediation relationships between constructs.*
Results: *The results suggest that storytelling from AI can positively influence both the authenticity and emotional connection with cultural heritage, aligning with the stimulus aspect of the SOR model. Authenticity plays a significant and positive role in the intention to visit, implying that AI-generated stories can be trusted and culturally authentic if properly crafted. Another surprising positive predictor is emotional engagement, which was as large or larger than perceived authenticity, indicating the emotional impact of AI-generated narrative content. Mediation analysis shows that the relationship between AI-generated storytelling and visit intention is partially mediated by perceived authenticity and emotional engagement, meaning that the impact of AI storytelling on visit intention can happen through much more than just a stimulus-response pathway. Contrary to perceived authenticity, emotional engagement has a slightly greater mediating role, indicating that affective resonance may play a more direct role on behavioral intention than cognitive authenticity assessments in the context of AI-mediated storytelling.*
Originality/Value: *The study is among the first to empirically build on the SOR framework in the context of AI-generated cultural heritage storytelling, an area that is still in its infancy and largely unrecognized as a cross*

between generative AI, cultural heritage communication and tourist psychology. In contrast to previous tourism research on human-generated text or established digital marketing stimuli, this study provides new understanding on the impact that algorithmically generated narratives have on tourists' cognitive and affective reactions and visit intentions. The results offer heritage managers and destination marketers practical insights into the responsible use of AI storytelling to build up trustful perceptions about the authenticity of a destination's heritage and to add emotion to it but also inspire further research on AI-human co-created stories and trust in AI-mediated heritage communication.

Keywords: *AI-generated storytelling, cultural heritage tourism, perceived authenticity, emotional engagement, visit intention.*
Funding: *This study did not receive any grants from any third parties.*

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ECONOMIC RESTRUCTURING AND FIXED ASSETS VALORISATION IN POST-COMMUNIST ROMANIA

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Abstract
***Objective**: Romania's command economy left behind a significant stock of fixed capital, accumulated over several decades and embedded in the country's agricultural and industrial infrastructure. After 1989, the transition to a market economy fundamentally altered property regimes, production organization, and the logic governing the use of these assets; the ensuing transformations had economic consequences extending far beyond the mere disappearance or functional repurposing of built structures. While some of the existing capital was integrated into new economic structures, other assets were privatized, fragmented, underutilized, abandoned, or removed from the productive cycle. Despite the importance of this process for understanding the post-communist transition, the economic fate of the fixed capital accumulated during the command economy period has rarely been analysed in an integrated manner. This study examines how the inherited agricultural and industrial infrastructure was transformed after 1989 and to assess the extent to which the trajectory of these assets can help explain Romania's economic restructuring. At the same time, the research discusses the possibility of reinterpreting a portion of this fixed capital as an economic asset that, under certain conditions, can acquire new value through reuse, conversion, and integration into contemporary development initiatives;*
***Method**: The research proposes an economic and historical-institutional approach centred on the concept of inherited fixed capital. The analysis aims to reconstruct the evolution of agricultural and industrial infrastructure by correlating data from statistical, administrative, legislative, cadastral, and archival sources, supplemented by documents regarding the operation and transformation of former production units. The focus is not solely on the physical identification of assets, but rather on the shift in their economic function and the interplay between changes in ownership, production restructuring, and the preservation or loss of physical capital. From this perspective, inherited infrastructure is analysed in relation to the continuity of productive activity, conversion to alternative economic uses, asset depreciation and their withdrawal from the economic circuit. This approach allows for an examination of the market economy transition not only through conventional macroeconomic indicators but also through the transformation of the material base upon which the post-communist market economy was built.*
***Results**: Preliminary analysis suggests that the restructuring of the Romanian economy after 1989 entailed not only a change in institutions and resource allocation mechanisms but also a profound transformation of the existing fixed capital stock. Inherited fixed assets followed widely divergent trajectories, highlighting both the sector-specific characteristics and the ways in which ownership changes and enterprise restructuring influenced the capacity to sustain economic activities. In agriculture, the dismantling of collective and state structures altered the relationship between property, capital, and production organization, while in industry, restructuring led to*

instances of continuity and adaptation alongside processes of deindustrialization, liquidation, or the loss of productive capital. An additional challenge is the fragmentation of information regarding these assets across various institutions and documentary sources, making it difficult to coherently assess the scale and value of the inherited capital. Furthermore, the survival of certain assets through the transformations of recent decades raises questions about their current economic potential - particularly in cases where reuse or repurposing could generate new productive functions and prevent the total loss of value embodied in existing physical capital;
***Originality**: The study's main contribution lies in re-evaluating command economy agricultural and industrial infrastructure through the lens of economic theory and capital analysis, rather than viewing it solely as the material manifestation of a defunct economic system. The paper proposes the concept of "inherited fixed capital" as a tool for interpreting the post-communist transition, proceeding from the premise that economic transformation did not unfold on a blank slate free of historical constraints; instead, it was shaped by the structure, quality, and utilization of the fixed capital stock existing at the start of the transformation process. From this perspective, the preservation, reuse, depreciation, or destruction of assets emerge as components of the structural adjustments. The study introduces the notion of an "economic afterlife" for fixed capital, whereby infrastructure built under a centralized production system continues to generate value, opportunity costs, or economic constraints within a fundamentally different institutional framework. The link to the concept of heritage thus arises from the capacity of certain fixed assets to acquire new economic functions, without the analysis being reduced to their historical or symbolic dimensions.*

***Keywords**: fixed capital stock, productive assets, economic restructuring, post-communist transition, economic heritage, agricultural infrastructure, industrial infrastructure*

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THE GEOMETRY OF INDUSTRIAL RELATIONS: AN EQUILATERAL TRIANGLE MODEL OF INSTITUTIONAL BALANCE

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Abstract
Objective. *Industrial relations are typically examined through legal, economic, sociological, or institutional perspectives. While these approaches have generated a substantial body of knowledge, they often rely on descriptive or actor-centered frameworks that make it difficult to visualize the balance of relationships within the system as a whole. This paper explores an alternative perspective by proposing a geometric interpretation of industrial relations based on the structure of the equilateral triangle. The central argument is that industrial relations may be understood as a dynamic space created by the interaction between three principal actors: employees, employers, and regulatory institutions. The study seeks to determine whether geometric concepts can provide a useful conceptual language for describing institutional equilibrium, shifts in influence, and the emergence of cooperation or conflict within labour systems. Particular attention is given to the Romanian industrial relations environment, which has undergone significant institutional transformation during the post-transition period and therefore offers an appropriate context for illustrating changes in the balance among actors.*
Method. *The study employs a qualitative and interdisciplinary methodology that combines industrial relations theory, institutional analysis, systems thinking, and elementary geometry. The model is developed around the properties of the equilateral triangle, a geometric figure traditionally associated with symmetry and balance. Within the proposed framework, each vertex represents one of the three principal actors of the industrial relations system, while the area enclosed by the triangle is interpreted as the relational space produced by their interaction. Particular attention is devoted to the relationship between area and height, which serves as a conceptual mechanism for illustrating the effects of institutional pressure, organizational strain, bargaining capacity, or regulatory intervention. Rather than treating geometric formulas as mathematical ends in themselves, the analysis uses them as heuristic instruments designed to facilitate understanding of complex institutional dynamics. The paper is theoretical in nature and does not rely on primary empirical data; instead, it develops a conceptual model intended to complement existing approaches to the study of industrial relations.*
Results. *The analysis suggests that the geometric framework offers a simple but expressive way of visualizing changes within industrial relations systems. In its ideal form, the equilateral triangle represents a state of institutional equilibrium in which none of the actors dominates the others and the relational space remains stable. However, industrial relations rarely remain static. Legislative reforms, changing labour market conditions, shifts in bargaining power, productivity pressures, or alterations in public policy may affect the relative position of actors and, consequently, the configuration of the system. Within the proposed model, such developments can be represented through changes in geometric dimensions that alter the area and internal balance of the triangle. Applied conceptually to Romania, the framework illustrates how periods of institutional reform, modifications of collective bargaining arrangements, or shifts in state intervention may reshape the relational space shared by labour, capital, and regulatory authorities. The model further suggests that zones of stability, cooperation, tension, and conflict can be interpreted as different geometric configurations generated by changing institutional conditions. Viewed in this way, industrial relations become not only a system of actors and rules but also a dynamic space whose structure evolves over time.*

Originality. *The originality of the paper lies in introducing geometry as a conceptual tool for analysing industrial relations. Existing studies commonly focus on legal frameworks, bargaining structures, labour market institutions, power relations, or organizational behaviour. By contrast, the present study proposes a visual and analytical framework capable of representing the interaction among actors through the language of spatial balance. The contribution is not mathematical but conceptual. The geometric model is intended to provide a new way of thinking about institutional equilibrium and change rather than a replacement for established theories. By linking industrial relations to geometric representation, the paper opens opportunities for future theoretical development, comparative analysis, and the possible construction of indicators designed to measure institutional balance across different labour systems. More broadly, it argues that interdisciplinary approaches can enrich the study of industrial relations by offering alternative ways to understand how labour, capital, and the state interact within increasingly complex economic and social environments.*

Keywords: *industrial relations; institutional balance; equilateral triangle model; tripartism; geometric analysis; social dialogue; labour institutions.*
JEL Classification: *J50, J52, J53, K31, D02*

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THE EVOLUTION OF ROMANIA'S FOREIGN TRADE DURING THE INTERWAR PERIOD (1919–1939)

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Abstract
Objective: *The period between 1919 and 1939 represented a decisive stage in the evolution of the Romanian economy and in the country's integration into European and international commercial networks. Following the First World War and the creation of Greater Romania, the national economy underwent major territorial, demographic and structural transformations. The enlargement of the domestic market, the integration of new provinces and the expansion of agricultural, industrial and natural resources significantly influenced Romania's position in international trade. Foreign trade became an essential component of economic development, providing access to external markets for Romanian products while also facilitating the import of machinery, equipment and manufactured goods necessary for modernization. This paper examines the evolution of Romania's foreign trade between 1919 and 1939, with particular attention to the dynamics of exports and imports, the trade balance, the structure of traded commodities and the geographical orientation of commercial relations. The study also assesses the role played by foreign trade in the broader process of economic modernization during the interwar period.*
Method: *The research combines historical analysis with a quantitative examination of Romania's foreign trade. The study uses official statistical publications, economic reports, contemporary documents and specialized historical and economic literature. Statistical data concerning exports, imports, the trade balance and the main categories of traded goods are analysed comparatively throughout the interwar period. The research also examines changes in the geographical distribution of Romania's foreign trade and the evolution of relations with its principal commercial partners. Particular attention is given to several distinct stages: post-war reconstruction and economic adjustment during the 1920s, the effects of the Great Depression between 1929 and 1933, the subsequent economic recovery and the increasing role of state intervention and bilateral trade agreements during the second half of the 1930s.*
Results: *The analysis indicates that Romania's foreign trade reflected the structural characteristics of an economy in transition from a predominantly agrarian model towards a more diversified economic structure. Agricultural commodities, petroleum products, timber and other raw materials represented an important part of Romanian exports, while imports consisted largely of machinery, industrial equipment, manufactured goods and intermediate products. The international economic crisis beginning in 1929 had a significant impact on Romania's foreign trade by reducing external demand, lowering international commodity prices and diminishing export revenues. During the 1930s, Romania increasingly adopted protectionist measures, bilateral trade agreements and clearing arrangements in response to the fragmentation of international markets. At the same time, imports of machinery and technological equipment contributed to the modernization of several industrial sectors. The evolution of the trade balance demonstrates that Romania's external economic relations were closely connected to both domestic production structures and changes in the international economic environment.*
Originality: *The originality of the study lies in its integrated examination of Romania's foreign trade over the entire period from 1919 to 1939. Rather than analysing exports and imports as isolated statistical indicators, the research connects foreign trade with broader transformations in agriculture, industry, infrastructure and economic policy. The paper also highlights the changing relationship between Romania and its principal external markets and the gradual transformation of commercial policy during the 1930s. By combining quantitative evidence with historical and economic interpretation, the study contributes to a better understanding of the role*

of foreign trade in Romania's economic modernization and in its integration into European economic networks during the interwar period.

Keywords: *Romania, interwar period, foreign trade, exports, imports, trade balance, economic development, industrialization*
Funding: *This research received no external funding.*

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ARTIFICIAL INTELLIGENCE-ASSISTED DECISION SUPPORT FOR SUSTAINABLE BUILT HERITAGE CONSERVATION: A HUMAN-IN-THE-LOOP FRAMEWORK AND THE OPERATIONAL ROLE OF WALLACHIA EHUB

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Abstract
Objective: *The digital transformation of built cultural heritage conservation is increasingly supported by artificial intelligence (AI), computer vision, three-dimensional documentation, Heritage Building Information Modelling (HBIM), sensor technologies, and digital twins. Although these technologies can improve the collection, integration, and interpretation of complex heritage information, their use raises important questions concerning authenticity, data provenance, explainability, uncertainty, and professional responsibility. This study aims to develop and discuss an AI-assisted decision-support framework for sustainable built heritage conservation that integrates heterogeneous evidence while preserving expert responsibility. It also examines how regional innovation ecosystems, particularly Wallachia eHub (WeH), can support the practical implementation of such a framework and contribute to the European twin transition.*
Method: *The study employs a qualitative, practice-based, multiple-case-study methodology combined with a structured synthesis of recent literature. The proposed framework connects heritage evidence collection, AI-assisted analysis, decision-support synthesis, expert validation, conservation action, and continuous monitoring in a closed human-in-the-loop workflow. Its applicability is examined through two complementary Romanian case studies. The first, the Corbii de Piatră Cave Church, illustrates the integration of heterogeneous scientific evidence, including microscopy, SEM-EDS, X-ray diffraction, chemical observations, and radiocarbon dating, for material diagnosis. The second examines an executed urban architectural restoration project in which AI-supported tools contributed to geometric reconstruction, comparison of roof configurations, localized timberwork mapping, material sourcing, and historical finish analysis. The study further analyses the operational role of Wallachia eHub in supporting implementation through innovation ecosystems, Test Before Invest capabilities, funding mobilization, and specialized digital upskilling.*
Results: *The analysis shows that AI provides the greatest value when used as an analytical and decision-support layer rather than as an autonomous restoration agent. AI can correlate fragmented evidence, identify patterns, compare intervention alternatives, support predictive monitoring, and generate structured hypotheses. However,*

primary physical, documentary, scientific, and stratigraphic evidence must remain the basis of conservation decisions, while qualified specialists retain responsibility for interpretation, validation, and final action. The case studies demonstrate that even rejected AI-generated hypotheses can improve conservation practice by making alternatives explicit and prompting targeted verification. The findings also indicate that regional innovation ecosystems can reduce implementation barriers by connecting public authorities, research organisations, technology providers, and heritage specialists; enabling technologies to be tested before investment; mobilizing complementary green and digital financing; and strengthening the digital capabilities required for human-in-the-loop conservation.

Originality: *The study moves beyond isolated AI applications for detection, classification, or visualization by proposing an integrated, traceable decision-support framework that explicitly governs the evidentiary status of AI outputs. Its distinctive contribution is the combination of a human-in-the-loop conservation methodology with an operational regional innovation ecosystem model. By linking technical validation, professional responsibility, Test Before Invest services, twin-transition financing, and specialized skills development, the paper provides a scalable approach for translating advanced AI capabilities into responsible and sustainable built heritage conservation practice.*

Keywords: *artificial intelligence, cultural heritage conservation, human-in-the-loop, twin transition, sustainable heritage*

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HERITAGE AS A STRATEGIC TOURISM RESOURCE: GEOPOLITICAL TENSIONS, CRISIS AND THE RECONFIGURATION OF CULTURAL DESTINATIONS

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Abstract
***Objective**: Cultural heritage represents an important strategic resource for tourism development, contributing to the identity, attractiveness and competitiveness of destinations. In Romania, the capitalization of heritage takes place in an increasingly complex context shaped by the COVID-19 pandemic, geopolitical tensions, economic uncertainty and changing patterns of tourist mobility. This study examines how these transformations have influenced the behaviour and preferences of Romanian and international tourists and explores the role of cultural heritage in strengthening destination resilience.*
***Method**: The research adopts a quantitative, comparative and longitudinal approach covering the 2019-2026 period. It relies on secondary statistical data from the Romanian National Institute of Statistics (INS), Eurostat, UNESCO and relevant tourism reports. Tourist arrivals, overnight stays, country of residence, average length of stay and the geographical distribution of tourism demand are analysed through descriptive statistics, comparative indicators, growth rates and pre-pandemic/post-pandemic comparisons. Particular attention is given to major cultural tourism destinations and urban centres, including Bucharest, Brașov, Sibiu and Sighișoara.*
***Results**: The **findings** indicate that the pandemic significantly altered tourism mobility, temporarily strengthening domestic tourism and increasing the importance of accessibility, perceived safety and shorter-distance travel. With the recovery of international mobility, foreign tourist demand progressively increased, while Romanian tourists continued to represent the majority of tourism demand. In 2025, Bucharest, Constanța and Brașov recorded the highest numbers of tourist arrivals, while available data for 2026 indicate the persistence of a strong concentration of tourism flows in major urban and cultural centres. The results also suggest an increasing relationship between cultural tourism, short stays and multi-destination travel.*
*The **originality** of the study lies in integrating quantitative tourism indicators with a heritage-capitalization and geopolitical perspective. It proposes a stronger role for public policy in heritage conservation, digitalisation, accessibility, sustainable visitor management, infrastructure development and international promotion, positioning cultural heritage as a strategic resource for resilient and sustainable tourism development in Romania.*

***Keywords**: Cultural heritage, heritage tourism, tourism resilience, geopolitical uncertainty*
***JEL classification**: Z10, Z30, Z31, Z32*

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INVESTMENT ACTIVITY AND INCREASED EXPORTS IN THE REPUBLIC OF MOLDOVA

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Abstract
The economic models of most countries of the world indicate that foreign direct investment (FDI) plays a decisive role in economic development, by enhancing the international competitiveness of national economies. FDI is a fundamental aspect of economic growth, through which a firm or an individual from one country invests in assets and businesses located in another country. These investments involve not only capital transfers, but also knowledge, technology, management, contributing to the economic development of host states and their integration into the global economy. The article analyzes the current situation in this field, in particular the main aspects of creating a favorable climate for attracting foreign direct investments in the basic sectors of the national economy in order to increase the country's export potential. Some proposals are formulated on increasing the competitiveness of the national economy of the Republic of Moldova at international level.

Keywords: *investment policy, investment climate, import, export, foreign trade, efficiency*

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RESEARCH – INNOVATION AND THEIR ROLE IN ECONOMIC DEVELOPMENT

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Abstract
The paper studies the main categories of scientific research and innovation; the link of research with other fields; an analysis of the real situation in the given field is made; there are highlighted a series of measures that have led to the improvement of the organizational framework and of the relations of the research-innovation activity, the efficiency of the scientific research results, etc.
The cardinal acceleration of technical-scientific progress (TSP) is a problem of major importance. Only on its basis can the further launch of the economy be ensured, its efficiency and quality of production can be raised, and the needs of the population can be better ensured. The PTS has a positive effect on all elements of production. As confirmed by the calculations of specialists in the field, about 3/4 of the increase in labor productivity is an effect of the introduction of scientific and technical achievements. The technical progress has determined the substantial reduction of costs for material products, people and information, allowing the approximation of economic resources to the sales markets and the creation of information networks between companies located in different geographical areas, thus ensuring a centralized coordination and control of international activities. On the other hand, the increase in R&D costs has had an important impact on the global innovation process, leading to a wide dissemination of its results.

Keywords*: research, innovation, innovation potential, evaluation of research and innovation projects, cost reduction and increasing their efficiency, competitiveness of products and services, etc.*

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DECISION INTELLIGENCE (DI) AS A NEW STAGE IN THE DEVELOPMENT OF BUSINESS ANALYTICS

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Abstract

Objective: *Business analytics has become an increasingly important part of modern business management as organizations rely more heavily on data when making strategic and operational decisions. For many years, traditional Business Intelligence (BI) systems were mainly focused on collecting, processing, and presenting data through reports and dashboards. Although these systems provide valuable information, a significant challenge remains between analytical findings and their transformation into actual business decisions. This challenge is often described as the "insight-to-action gap." In many cases, analytical systems can show what has happened and identify important patterns, but they do not provide sufficient support for determining what actions should be taken next. In response to this limitation, Decision Intelligence (DI) has emerged as a new stage in the development of business analytics. DI does not replace traditional Business Intelligence; instead, it expands its capabilities by connecting data analysis with artificial intelligence, decision-making theory, modeling, and practical business actions. The objective of this study is to examine Decision Intelligence as an emerging direction in business analytics and to explore its role in transforming analytical insights into more informed and optimized managerial decisions.*

Method: *The study is based on a literature review and a comparative analysis of traditional approaches to Business Intelligence and more recent developments in business analytics and Decision Intelligence. The research examines academic literature related to BI systems, artificial intelligence, causal reasoning, analytics democratization, predictive modeling, and scenario analysis. Special attention is given to the changing role of analytical systems in the decision-making process. The study compares the traditional function of BI as a tool for information delivery and reporting with the more advanced role of DI, which aims to support managers throughout the decision-making process. The analysis also considers the importance of "what-if" scenarios and causal reasoning in understanding possible future outcomes and evaluating alternative business decisions.*

Results: *The analysis shows that business analytics is undergoing an important transformation. Traditional BI systems are gradually moving beyond their original role as reporting and information tools and are becoming more closely connected to the decision-making process. Decision Intelligence represents an important step in this transformation because it focuses not only on identifying and analyzing problems but also on supporting the selection of appropriate actions. Modern analytical systems can help managers understand not only what happened but also why it happened and what may happen if different decisions are made. In this context, causal reasoning is particularly important because it allows decision-makers to examine cause-and-effect relationships rather than relying only on historical patterns and correlations. The growing integration of artificial intelligence into business analytics also makes it possible to identify data errors automatically and detect patterns that may not be easily recognized by humans due to the large volume and complexity of available information.*

Another important result of the analysis concerns the democratization of analytics. Modern analytical tools increasingly allow non-technical managers to use advanced analytical and predictive capabilities without requiring extensive technical knowledge. This can reduce bureaucratic barriers, improve the speed of decision-making, and make analytical capabilities more accessible across organizations. Furthermore, scenario modeling and "what-if" analysis provide managers with opportunities to examine different possible outcomes before making important decisions. These capabilities are especially valuable in areas such as financial planning, risk management, and supply chain management, where business conditions can change rapidly.

The findings suggest that the integration of Decision Intelligence can support the transition from reactive management to a more proactive approach. Instead of responding only after problems occur, organizations can use analytical and AI-based tools to identify possible risks, evaluate alternative scenarios, and prepare for future changes. This approach can improve both the quality and speed of managerial decisions and contribute to long-term organizational resilience.

Originality: *The originality of this study lies in considering Decision Intelligence not as a separate technology that replaces Business Intelligence, but as the next stage in its development. The study emphasizes the connection between analytical insights and practical managerial actions and focuses on the importance of closing the gap between information and decision-making. By bringing together Business Intelligence, artificial intelligence, causal reasoning, analytics democratization, and scenario modeling, the study presents Decision Intelligence as an approach that can strengthen the practical value of business analytics. The article also highlights the changing role of analytical systems -from tools that primarily describe business situations to more active systems that can support managers in evaluating alternatives and making better-informed decisions. Therefore, the study contributes to the discussion about the future development of business analytics and the growing importance of intelligent decision-support systems in modern organizations.*

Keywords: *decision intelligence, business intelligence, business analytics, artificial intelligence, decision-making, causal reasoning, predictive analytics, scenario analysis*

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MITIGATING THE ENVIRONMENTAL FOOTPRINT OF NEXT-GEN AI DATA CENTERS

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Abstract
The rapid expansion of Artificial Intelligence (AI) computational capabilities requires a massive growth in data center infrastructure, presenting a critical tension between digital innovation and environmental sustainability. ***Objective****: This study aims to analyze how green finance mechanisms can be aligned with AI infrastructure development to support the European Union's Twin Transition (Green and Digital) goals while mitigating the environmental footprint of next-generation data centers.*
Method*: The study employs an analytical framework to evaluate the integration of sustainable finance instruments, specifically Green Bonds, Green Loans, and Transition Bonds into AI infrastructure financing. It assesses debt issuance structures incorporating environmental performance indicators, such as a minimum threshold of 90% renewable energy sourcing and water-efficiency metrics (e.g., closed-loop cooling systems, air cooling, and non-potable water usage). Additionally, the methodology evaluates the role of EU Taxonomy compliance in influencing capital costs for operators implementing clean energy, waste-heat recovery, and low-emission backup power technologies.*
Results*: The findings demonstrate that incorporating strict environmental criteria into debt instruments enables operators to lower their cost of capital while successfully decoupling AI computational growth from resource depletion and carbon emissions. Furthermore, the analysis indicates that compliance with EU Taxonomy standards reduces regulatory exposure, enhances investor appeal, and accelerates the adoption of energy-efficient data center technologies.*
Originality*: This study contributes to the literature by establishing a practical, taxonomy-aligned framework that bridges sustainable finance mechanisms with high-density computing infrastructure, offering investors, financial institutions and policymakers actionable strategies to finance digital transformation without compromising long-term climate targets.*

Keywords: *green finance, artificial intelligence, data centers, sustainability*
JEL classification*: Q56, O33, G12*

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SUSTAINABLE DEVELOPMENT – A LANDMARK IN LOCAL HERITAGE PROMOTION

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Abstract
This paper observes how sustainable development is integrated in the cultural sector management, paying special emphasis to local cultural heritage. One of the most important examples of sustainability's importance is cultural heritage, which faces the risk of progressive extinction, at least for the components where fragility might be definitive.
Objective: *The purpose of the research paper is to define key elements, explain their roles and functions, and describe the types of European policies that may be used to support the integration of sustainable development in the process of managing local cultural heritage.*
Methods: *The exploratory research consists of two steps: during the first one, the authors examine the topic of local cultural heritage in national and international literature as means of directing sustainable development. The administration and development of local cultural heritage through online portals are examined in the second part.*
Results*: This research is distinguished by its provision of unique profiles, as the digitalization of local cultural heritage represents an activity that now lacks significant systematization in the academic discourse in Europe.*
Originality*: This article contributes to the better knowledge and assessment of Europe's local cultural heritage and its integration on the sustainable development path. The authors support the idea that some aspects that can help the local cultural heritage use technology effectively may be brought to light by this research.*

Keywords*: sustainable development, local cultural heritage, European identity, national cultural heritage*

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PAPER PRESENTATIONS

DAY 2, October 29, 2026

FROM DIGITAL HERITAGE TO ECONOMIC VALUE: AI-POWERED EXPERIENCES AND GENERATION Z'S VISIT INTENTION IN BANGLADESH – A STIMULUS–ORGANISM–RESPONSE PERSPECTIVE

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Abstract
Objective: *A recurring issue for cultural heritage sites in developing economies is converting the historical and cultural value into sustainable economic value, especially for digitally native younger generations who are looking at heritage through a different lens, and in a different medium, than older generations. Artificial intelligence has now provided the tools for heritage capitalization, such as a reconstructed image of a ruined or eroded site that can be created ahead of, or in lieu of, physical visits, and be seen by people who might not otherwise visit a specific site. However, this digital innovation is a double-sided sword: AI-driven experiences can enhance interaction with heritage, but their features may influence engagement in different and potentially contradictory ways, in terms of realism, historical accuracy and immersiveness. An elaborately rendered AI recreation, say, might not be engaging if viewers aren't convinced of its historical accuracy. Empirical studies on the role of AI in heritage engagement within the context of Bangladesh are limited, and the tension is not fully explored in this context as the country's young generation, known as Generation Z, is a growing part of the potential tourism market and is exerting a growing influence on tourism demand. This study builds on the Stimulus-Organism-Response approach to investigate the effect of three dimensions of the AI-based heritage experiences experience quality, perceived authenticity and immersion on heritage engagement of Bangladeshi Gen Z (organism) and, in return, their intention to visit heritage sites (response) to test the opportunity and risk of AI for the sustainable capitalization of heritage.*
Method: *This study uses a quantitative survey design that is suitable for prediction-oriented exploratory theory extension in relatively new research fields, such as the current study, which is the Partial Least Squares Structural Equation Modeling (PLS-SEM) using SmartPLS 4 software. The definition of the "Generation Z" is based on the range of age 18-27 and the sample size of 200-250 respondents will be achieved through purposive sampling in universities and digitally active groups of young adults in Bangladesh, which is the minimum sample size recommended for the model's complexity, ensuring sufficient statistical power for the estimation of paths. The respondents will first watch a short visual reconstruction of a heritage site created by AI, and then answer a structured questionnaire designed from validated multi-item scales from the literature of the tourism, marketing and technology-adoption fields, adapted to the AI-heritage field. For the behavioral and economic dimension suggested by the objective of the study, the model is created to include three independent variables (AI Experience*

Quality, Perceived Authenticity, and Immersion) and a mediating construct, Heritage Engagement, which is expected to predict Visit Intention (defined as a composite construct of behavioral intention to visit and willingness to pay). Assessment of the structural model will be based on the guidelines established by PLS-SEM (outer loadings, composite reliability, average variance extracted, heterotrait-monotrait ratio, variance inflation factors, R-squared, f-squared effect sizes and bootstrapped path-coefficient significance testing), and the mediating role of Heritage Engagement (H5) will be tested formally using bootstrapping.

Results: *Based on the Stimulus-Organism-Response model, the three dimensions of AI Experience Quality, Perceived Authenticity, and Immersion are expected to have significant positive impacts on Heritage Engagement (H1-H3), and they are expected to have separate (distinctive) effects that are not one and the same. Heritage Engagement, in turn, is further expected to significantly and positively predict Visit Intention (H4), which in turn will be responsible for the tangible, measurable behavior and economic impact of AI-driven digital innovation on heritage sites. The effect of the three antecedents on Heritage Engagement is expected to be strongest for Perceived Authenticity, which suggests that technically advanced AI-based reconstructions may fail to engage viewers who doubt their historical accuracy, which is the double-edged tension this paper aims to investigate. Heritage Engagement is also hypothesized (H5) to be a significant mediator between all three antecedents and Visit Intention, indicating that the economic benefits of AI-enabled heritage experiences stem from engagement, not technology directly.*

Originality: *This study advances the emerging literature on AI-driven heritage capitalization in three respects. First, it breaks down the AI-powered heritage experience into three conceptually distinct dimensions as opposed to collapsing AI adoption into one undifferentiated construct, thus allowing for more precise identification of which experiential dimensions are associated with engagement, and which are not. Second, it uses the Stimulus-Organism-Response framework commonly used in research on retail and digital-experience applications that have not been widely employed in investigations of heritage-technology applications. Third, it has the advantage of focusing on the under-researched population and context of Generation Z in Bangladesh, and heritage tourism literature in that country either provides qualitative evidence or evidence from developed-economy contexts that are very different from Bangladesh in terms of both heritage-sector maturity and digital infrastructures. The proposed model offers an evidence-based foundation for heritage capitalization strategies developed by heritage authorities, tourism boards and heritage-technology developers, who must balance technological sophistication with historical authenticity and pursue both.*

Keywords: *artificial intelligence, heritage capitalization, generation Z, willingness to pay, visit intention, PLS-SEM, Bangladesh*

Funding: *This study did not receive any grants or external funding from any third parties.*

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THE GREEN COST OF GOING DIGITAL: CARBON BREAK-EVEN THRESHOLDS FOR DIGITAL HERITAGE TOURISM

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Abstract
Objective: *The increasing use of digital technologies to preserve, interpret, and disseminate cultural heritage implies a tacit assumption that, by allowing virtual access to heritage sites, the impact of physical tourism on the environment can be reduced. Digital heritage is, nevertheless, not without impact: computing resources, network connections, terminal equipment, and hardware involved in immersive experiences all require energy consumption, whereas virtual access might not always substitute physical visitation, producing so-called "rebound" effects. Hence, this paper aims to answer the conditional question of how many visits to digital heritage will need to displace otherwise taking place physical visits in order for digital access to produce any net reduction in greenhouse gas emissions. The aim is to develop an open and replicable carbon break-even model, which will determine the conditions under which digital heritage becomes a more environmentally friendly alternative to physical visitation.*
Method: *The study makes use of a consequential, scenario-driven, carbon-accounting model as opposed to a life-cycle analysis. The functional unit is one completed digital heritage experience. The main comparison considers operational carbon emissions associated with data centre processing, network communications, and use of the user's device, while one-off emissions associated with the production of the content and emissions from dedicated hardware are spread out over the expected total number of completed sessions. These digital carbon emissions are compared with round-trip emissions from the physical visit of the same visitor. The operations at the site, accommodation, food, and visitor's spending are not included in the core boundary, since it is not possible to determine the marginal carbon reduction of their absence; other sensitivity cases have been considered where there is evidence for that. Based on published digital use and emissions per passenger-kilometer figures, the carbon break-even substitution threshold is calculated. Deterministic low-to-high scenarios and one-way sensitivity analyses vary session emissions, travel modes and distances, carbon intensity of electricity, number of attendees, session length, and useful life. Monte Carlo simulations are not performed because defensible probability distributions of some critical parameters cannot be found.*
Results: *Initial computations reveal that the carbon-neutralizing threshold highly depends on the carbon intensity of the physical journey as well as the digital delivery model. According to the standard carbon footprint from a streamed session of 0.036–0.140 kg CO2e, a 50 passenger-km return train ride amounts to 2.22 kg CO2e, resulting in a threshold of approximately 1.6–6.3%. A comparable 50 passenger-km journey by bus results in approximately 6.52 kg CO2e, meaning that the threshold reduces to 0.6–2.1%. In the case of a 1,000 passenger-km domestic flight journey, taking into account aviation radiative-forcing and fuel-supply effects, the threshold is approximately 0.01*

- 0.05%. These computations illustrate that digital access can neutralize carbon emissions with small substitution rates of visitors when physical travel is carbon-intensive, but not necessarily so in case of low carbon emissions and/or high carbon emissions from digital deliveries and/or induced trips due to the online experience. Thus, the model considers behavioral substitution as a testable threshold effect and not as a benefit. The analysis will finally reveal the scenario-dependent thresholds, audience-size thresholds for amortizing fixed emissions, and switching values for the relevant carbon variables.

Originality: *This paper brings to the research on digital sustainability of heritage sites a visitor-substitution threshold which transcends the dichotomous position where the act of digitizing is said to be either environmentally friendly or resource-intensive. The approach not only dispenses with the presentation of the carbon footprint of the singular concept of "digital heritage," but it also links emissions from digital distribution to the actual travel being substituted and considers behavioral substitution as a prerequisite for environmental gains. Additionally, it distinguishes between quantifiable operational costs from fixed and embodied costs that remain uncertain, thus making it possible for heritage organizations to adapt the model with their own data about audience, production, and origin of visitors.*

Keywords: *digital heritage; carbon accounting; virtual tourism; visitor substitution; break-even analysis*
Funding: *The study did not receive any grants or external funding from any third parties.*

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DIGITAL INNOVATION IN CULTURAL HERITAGE CAPITALIZATION: DESIGN AND DEVELOPMENT OF AN IMMERSIVE VIRTUAL REALITY ENVIRONMENT FOR THE BERAT ETHNOGRAPHIC MUSEUM

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Abstract
Virtual Reality (VR) has emerged as a promising technology for the digital preservation, interpretation, and dissemination of cultural heritage, enabling visitors to engage with historical environments and artefacts through immersive and interactive experiences. This paper presents the design and development of an immersive VR environment for the interpretation of the cultural heritage of the Berat Ethnographic Museum in Albania. The study adopts a design-oriented development approach, focusing on the integration of immersive navigation, interactive artefact exploration, contextual information delivery, and user accessibility within a virtual museum environment.
The application was developed in Unity using the Meta XR software ecosystem, with particular emphasis on interaction design and the reduction of potential motion discomfort. A teleportation-based navigation mechanism was implemented to provide controlled movement within the virtual environment, while interactive artefacts were designed to support direct manipulation, contextual visualization, and the presentation of multimedia information. The interaction architecture distinguishes between artefacts intended for active exploration and those presented primarily through contextual information interfaces. This approach aims to establish a balance between immersion, usability, and the preservation of the interpretative role of museum content.
The developed environment demonstrates the applicability of immersive VR as a complementary mechanism for cultural heritage interpretation, particularly in contexts where physical access, conventional exhibition formats, or limited digital resources may constrain visitor engagement. The study contributes a practical design framework for developing interactive virtual museum environments that combine immersive visualization, accessible navigation, and artefact-centred interaction. The findings provide a basis for further empirical evaluation of usability, presence, engagement, and technology acceptance in VR-based cultural heritage experiences, supporting the design and development of cultural heritage applications.

Keywords: *virtual reality; cultural heritage; immersive technologies; user interaction; virtual museum.*

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ARTIFICIAL INTELLIGENCE IMPLEMENTATION IN ANTI-MONEY LAUNDERING SYSTEMS: AN ASSESSMENT OF CHALLENGES AND FUTURE PROSPECTS

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Abstract
The rapid digitalization of financial services, expansion of cross-border transactions, and increasing sophistication of financial crime have significantly challenged the effectiveness of traditional Anti-Money Laundering (AML) mechanisms. Conventional AML systems used by banks are primarily based on predetermined rules, thresholds, and manually configured scenarios which often generate excessive false-positive alerts and struggle to detect evolving money laundering typologies. At the same time, modern laundering schemes increasingly exploit digital payment channels, shell companies, beneficial ownership opacity, trade-based money laundering techniques, synthetic identities, cryptocurrencies, and complex transaction networks that remain difficult to identify through static monitoring frameworks. As a result, financial institutions face growing regulatory pressure to enhance AML effectiveness while maintaining compliance with international standards and minimizing operational inefficiencies. In this context, Artificial Intelligence (AI) has emerged as a strategic technological solution capable of transforming transaction monitoring, customer risk assessment, suspicious activity detection, and financial crime prevention through adaptive and data-driven analytical approaches.
The purpose of this study *is to analyze and evaluate the potential of Artificial Intelligence to improve the effectiveness of Anti-Money Laundering systems in the banking sector, to identify the technical, ethical, regulatory, and organizational challenges associated with AI implementation, and to assess future development prospects for AI-driven AML frameworks. Particular attention is given to the banking sector of the Republic of Moldova, a jurisdiction that is simultaneously modernizing its AML framework, implementing GDPR-aligned data protection regulations, and aligning with the European Union legislative package on AML and Artificial Intelligence.*
The research methodology *adopts a qualitative and exploratory approach based on the analysis of academic literature, international regulatory frameworks, supervisory guidance, industry reports, and contemporary banking practices. The study incorporates recommendations issued by the Financial Action Task Force (FATF), recent European Union AML reforms, and regulatory initiatives concerning Artificial Intelligence governance. Comparative analysis is employed to assess the performance differences between traditional rule-based AML systems and AI-enhanced compliance frameworks. Furthermore, examples of international banking institutions that have implemented AI-enabled AML technologies are examined to identify implementation trends, operational outcomes, and emerging best practices.*
The findings *indicate that Artificial Intelligence can substantially increase the effectiveness of AML systems. Machine learning algorithms, graph analytics, natural language processing, anomaly detection models, and generative AI tools provide superior capabilities compared to traditional rule-based monitoring systems. International evidence analyzed in the study shows that AI-supported AML frameworks can reduce false-positive alerts by 40–70%, improve investigation efficiency by up to 70%, and identify two to four times more confirmed suspicious activities. Furthermore, graph analytical techniques facilitate the detection of complex money*

laundering structures involving shell companies, concealed beneficial ownership arrangements, and hidden transaction networks that remain difficult to identify using conventional monitoring approaches.
The research highlights several ***practical implications*** *for financial institutions and regulators. Banks implementing AI-driven AML solutions should prioritize data governance, model transparency, risk management frameworks, and employee training. AI should complement rather than replace professional judgment, ensuring that critical compliance decisions remain subject to human review. Regulators should provide clearer guidance regarding acceptable AI applications, explainability standards, and governance requirements to facilitate innovation while maintaining financial stability and consumer protection.*
The originality *of this study lies in its integrated assessment of Artificial Intelligence implementation within AML systems through the combined perspectives of regulatory compliance, technological innovation, financial crime prevention, and strategic transformation. Unlike studies focused exclusively on machine learning performance, this research develops a comprehensive framework that links AI adoption to sectoral realities, institutional readiness, governance requirements, and future regulatory developments. Furthermore, it proposes a structured roadmap for the modernization of AML systems aligned with European Union standards and the ongoing transformation of the Moldovan financial sector.*
Keywords: *artificial intelligence; anti-money laundering; machine learning; financial crime prevention; banking sector; compliance technologies; generative AI; financial regulation*

Funding: *The research was developed within the framework of Subprogram 030101 „Strengthening the resilience, competitiveness, and sustainability of the economy of the Republic of Moldova in the context of the accession process to the European Union", institutional funding.*

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FROM PIXELS TO PLACES: DOES DIGITAL HERITAGE VISIBILITY CREATE ECONOMIC VALUE?

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Abstract
Objective: *The digitization process has changed the way that cultural heritage is discovered, interpreted, and experienced; however, increased visibility online does not always mean increased physical visits. Increased visibility online could potentially lower search costs and generate more interest in destinations, but it may also be the result of a previous visit, or a reaction to media events, or just fulfill the interests of people without necessitating a trip. This research will seek to discover whether increased visibility in digital spaces about particular sites has been associated with changes in tourism demand or economic value, and to identify whether any relationship is contemporaneous or appears with a measurable lag.*
Method: *This study utilizes a site-month panel of selected United States National Park Service cultural-heritage units due to the agency's availability of consistent monthly data on visitation numbers which can be matched in a transparent manner with digital-trace public data. The confirmatory period spans from July 2016 until December 2019 in order to avoid any potential bias resulting from the shock of the COVID-19 pandemic period; post-pandemic observations are treated separately rather than pooled into the main analysis. This period also allows enough variation per month for the inclusion of seasonal controls for each individual site. The main measure of digital visibility is the number of human pageviews per month of each individual site's English-language Wikipedia article, calculated as ln(1 + pageviews). The primary outcome is monthly visits to each unit as defined by the National Park Service, calculated as ln(1 + visits). The fixed-effects model includes the effects of each site per calendar month in order to account for constant site features and seasonality, along with year-month effects. The contemporaneous specification, one-month lagged model, and distributed lag models are compared, including robustness checks for extremes in pageviews, count procedure modifications, and device specific data. The annual estimates of spending by visitors using the NPS gateway regions are only a second-level interpretation of economic relevance since they were generated using partial visitation data.*
Results: *The initial matching sample includes 23 cultural places and generates 934 observations for the contemporaneous site-months and 911 for the one-month lag specification. For the contemporaneous fixed effects coefficient on the log Wikipedia page views, we obtain 0.111 (clustered standard error = 0.189; p-value = 0.558), whereas for the one-month lag we have 0.121 (standard error = 0.179; p-value = 0.497). Both coefficients are positive in sign but statistically imprecise and not distinguishable from zero at conventional levels. This suggests that there is no reliable support from this pilot sample for an association between greater Wikipedia visibility and higher physical visits during the sample period, and, indeed, nothing to suggest either zero or a negative effect. This result can hence be seen to be indicative of ambiguity rather than any definitive sign for or against the power of digital heritage as a tourism pull factor. The final analysis will contain the reporting of confidence intervals and distributed lags and an evaluation of the variation in the relationship according to the characteristics of sites and their initial popularity levels.*
Originality: *This study examines the relationship between a digitally-based, open-ended, and site-specific attention indicator with heritage visitation data for the month. The novelty of the research does not lie in its*

assumption of the direct economic benefit brought about by digital visibility; on the contrary, the study investigates whether digital visibility translates to the physical presence of tourists in a falsifiable and replicable manner through the use of the right timing and control of fixed effects. By considering complementarity, substitution, and reverse causality as alternative hypotheses to the positive impact, the study creates an experimental design to determine the economic relevance of digital heritage visibility.

Keywords: *digital heritage; Wikipedia pageviews; heritage visitation; tourism economics; panel data*
Funding: *The study did not receive any grants or external funding from any third parties.*

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WALKING OVER THE DICTATOR: CIRCULARITY, FUTURITY AND THE ECONOMICS OF MEMORY DISPLACEMENT IN THE PYRAMID OF TIRANA

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Abstract
The Pyramid of Tirana, inaugurated in 1988 as the museum-mausoleum of Enver Hoxha, reopened in 2023 as a technology education and innovation hub after an adaptive reuse designed by MVRDV and financed through a public-private partnership between the Albanian-American Development Foundation and the Municipality of Tirana. The intervention is widely presented as a model of sustainable heritage capitalisation. The concrete structure was retained on circular-economy grounds, and roughly 11,800 square metres now combine free after-school training in programming, robotics and 3D modelling for adolescents with leasable space for start-ups, hospitality and services. This paper examines the twin-transition reuse of dissonant heritage as an economic and a mnemonic operation at once. It argues that the combined green and digital rationales produce a memory regime that the paper terms "resignification without interpretation". Circular reuse conserves the building's substance while permitting the replacement of its meaning, and the digital-skills programme substitutes a future orientation for a reckoning with the past, so that futurity functions as a form of amnesty. Digital innovation is thus double-edged: it generates measurable educational and economic value while displacing the interpretive function heritage is expected to perform. The analysis draws on four strands of evidence. The first is a documentary and discourse analysis of the decision record from the 2010 demolition proposal to the 2023 inauguration, coded for temporal orientation and for memory versus resource vocabularies. The second is an assessment of the capitalisation model, covering the financing arrangement, the allocation of space between educational, commercial and cultural uses, and the gap between reported and actual beneficiary figures. The third is a structured site protocol recording the presence or absence of interpretive elements. The fourth is a pilot replication of the 2015 Tirana survey on public perception of communist heritage, which supplies a pre-transformation baseline. The findings inform heritage capitalisation across Southeast Europe, where twin-transition vocabularies increasingly govern the reuse of twentieth-century dissonant heritage.

Keywords: *dissonant heritage; adaptive reuse; twin transition; heritage capitalisation; public-private partnership; communist memory; Albania*
JEL classification: *Z10, Z18, O35, H43*

ROMANIAN ACADEMY
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DIGITAL TRANSFORMATION OF TRADITIONAL BANKS TOWARD CASHLESS TRANSACTIONS: NEOBANKING INITIATIVES AS ENABLERS OF THE GREEN–DIGITAL TWIN TRANSITION TOWARD SDGS 8, 9 AND 12 IN BANGLADESH

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Abstract
Objective: *Forging ahead from ordinary banking services to cashless financial services, Bangladesh has made a crucial transformation resonating with the government's transparent policy of digitization and elevation of Fin-tech development. The intensity of this shift can be quantified from the transactions made by using Bangladeshi Mobile Financial Service (MFS) platforms like bKash, Nagad, and Rocket. More than 239 million accounts through this MFS integration, accumulated a sum amount of Tk 1.72 trillion monthly transactions in FY 2025–26. There is also enormous economic potential in digitization: if the financial system fully digitized, the GDP of Bangladesh could be expanded by almost 1.7%, which is equivalent to more than $6.2 billion per year. Digital platforms also saw a steady rise, comprising 32.8% of the total transaction value, up from 28% the year before, as revealed by the data on the payment system of Bangladesh Bank. This change also carries direct resource implications as the Government of Bangladesh's expenditure on printing of currency is around Tk 20,000-22,000 crore per year. In line with this trend, the national vision foresees cashless transactions to reach 75% by July 2027 and 70% by July 2030, before finally becoming entirely cashless by 2031. However, there are significant hurdles to clear such as more than 90% of people are still settling their ecommerce transactions with cash-on-delivery, 47% of Bangladeshi consumers say they feel comfortable with digital payments, and over 50% of the population does not have access to a bank account. In the context of this growing but still immature digital-financial world, the main objective of this study is to explore the potential of neobanking projects by traditional banks as a pathway towards a green-digital twin transition in the context of SDGs 8, 9 and 12. Specifically, the research aims to explore the impact of neobanking-led digital transformation on the efficiency of cashless transactions, financial-system innovation, sustainable economic activity and technological infrastructure, as well as the potential for lessening the resource intensity of traditional cash-based banking, highlighting that digitization does not automatically bring about environmental sustainability. Transition is therefore conceptualized as a green–digital twin, in the context of Bangladesh's pursuit of decent work and economic growth (SDG 8), industry, innovation and infrastructure (SDG 9), and responsible consumption and production (SDG 12) in the context of its rapid digital banking transformation.*
Method: *The research design for the study is qualitative exploratory research design, conducted through semi-structured expert interviews with 50 banking experts with a rich experience, working in both traditional brick and mortar banking and the changing landscape of shifting towards neobanking and cashless financial services in Bangladesh. The interview data will be systematically coded and analyzed using NVivo software and thematic analysis for uncovering patterns and themes related to the cashless transformation and its enabler of neobanking contributing to SDGs 8, 9 and 12.*

Results: *Thematic analysis of the interviews with bankers suggests digital banking, digital account services, mobile banking, internet banking, e-KYC, fund transfers, cards, Bangla QR, MFS interoperability, APIs, automation, and data analytics to be driving the gradual transition of Bangladesh's branch-based banking to become digital-first and increasingly cashless. There's been significant change in payments, fund transfers, customer service, and opening accounts—and digital records allow for better traceability, reconciliation, risk management, and financial visibility. Digitization also decreases paper, physical paperwork, storage, courier transportation, and visits to branches. In addition to operational efficiency, digital platforms and transaction data can support green and circular financing, such as for renewable energy, energy-efficient equipment and systems, recycling, waste management and cleaner production, as well as sustainable supply chains. Neobanking, therefore, links the Digital and Green transitions, favoring financial accessibility, digital infrastructure, resources use and responsible production, all contributing to SDGs 8, 9 and 12. Legacy systems, cybersecurity concerns, interoperability and data-quality challenges, and the lack of digital skills and organizational buy-in and reliance on cash represent key barriers.*

Originality: *This study presents a green–digital twin perspective to shed light on the idea of brick-and-mortar banks being transformed from their cash- and branch-based operations to a cashless banking that can be enabled by neobanking. Most of the existing studies on neobanking have looked into adoption, customer experience, financial inclusion or technological innovation, and green banking studies have mainly highlighted the concept of green finance, CSR and environmental practices. One new dimension that has yet to be explored is the interactions between these two pathways of transformation in traditional banks already in the process of becoming digitally enabled and cashless banks. The study aims to close this gap by establishing an integrated framework for neobanking initiatives and cashless transaction transformation strives to achieve the SDGs interdependent goals of SDG 8, 9 and 12. The study conceptualizes the convergence as a green–digital twin transition, providing a novel institutional perspective to sustainable banking transformation in an emerging economy.*

Keywords*: cashless transactions, neo-banking, green–digital twin transition, SDG 8, SDG 9, SDG 12*
Funding: *This work was not supported by any University/Research Institute.*

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ARTIFICIAL INTELLIGENCE AND THE CHANGING BUSINESS MODEL: MAPPING AI ADOPTION PATTERNS AND THE SME GAP IN EUROPE

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Abstract
Objective: *Artificial Intelligence (AI) is evolving from a technological tool into a central component of organisations across the European Union. In the context of the current digital transition, AI integration is influencing how enterprises organise operations, interact with customers, develop products and services, and pursue innovation. However, this transition is not equal, with differences in the power to adopt and use AI between large enterprises and smaller firms may contribute to an emerging digital capability gap, facing an important challenge to sustainable and inclusive economic development. Aligned with the theme of new trends in business model development, this paper examines the distribution of AI across specific business functions and provides valuable empirical evidence of where and how business models are being transformed.*
Method: *Utilising publicly available 2025 Eurostat enterprise data (isoc_eb_ai and isoc_eb_ain2), the study analyses AI adoption according to its business purposes, including marketing, sales, administration and management, finance, production, logistics, ICT security, and R&D. The methodology showcases a comparative descriptive statistics and data visualisation techniques, including sector matrices, heatmaps, and enterprise-size gap analysis. The research is structured around three analytical dimensions.*
Results: *The first one identifies AI adoption profiles across economic sectors, illustrating how industries differ in their use of AI for client, operational and administrative activities while the second one looks into the adoption differences between small, medium and large enterprises, identifying the specific business functions in which this digital divide is most pronounced. Finally, the study evaluates the principal barriers reported by enterprises that considered but did not implement AI, including lack of relevant expertise, legal or data protection concerns, data infrastructure and quality, technological matching or implementation and usage costs. The findings provide an empirical overview of emerging patterns of AI-driven business transformation in Europe. The results further suggest that, without clear measures to reduce adoption differences and facilitate access to relevant skills and technological abilities, the current uneven adoption of AI may persist and create operational advantages among larger enterprises and contribute to changing competitive dynamics within the European business ecosystem.*
Originality: *Rather than treating AI as a single technological upgrade, the study examines its functional applications to map emerging patterns of AI integration across European enterprises. By highlighting the relationship between enterprise size, AI adoption patterns, and organisational capabilities the study contributes to the understanding of digital inequality and current business model adaptations.*

Keywords: *artificial intelligence; business model innovation; AI adoption; digital transformation; European enterprises; SMEs; enterprise size*

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AFRICAN INTANGIBLE AND TANGIBLE HERITAGE IN THE DIGITAL AGE: EXPLORING THE RESILIENCE OF INDIGENOUS BELIEFS AND PRACTICES

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Abstract
Objective: *Heritages are priceless possessions categorised into tangible and intangible elements upon which the identity of a community is built. The tangible heritages include those cultural made objects and natural features used by man while the intangible are the ideas, philosophies and traditions of man. Inherent in these unique heritages are indigenous belief and practices that guide and guard human life and relationship. These heritages are under the custody of traditional institutions saddled with the responsibility of preserving indigenous beliefs and practices. However, with digitalisation came revolutionisation of global activities leading to the alteration of cultural beliefs and practices in many regions. Consequently, the continuity of these heritages is negotiated in the digital era. The threatened continuity of heritages is a global concern as UNESCO is constantly seeking measures to adopt towards safeguarding these unique cultural traits.*
Method: *Thus, employing qualitative methodology this study investigates some elements of indigenous beliefs and practices associated with traditional healers and title society. The population of the study comprises leaders of the selected cultural institutions in the study area. These informants were selected with the aid of purposive, snowball and convenient sampling technique to ensure that the informants who were accessible were also relevant to the study. The data was elicited using an interview and analysed thematically based on the themes generated from the study.*
Results: *The findings of the study revealed that the resilience of indigenous beliefs and practices is significantly dependent on the custodians of these traditions. The study also found out that these custodians are gradually relinquishing their roles on one hand and on the other incorporating digital elements into cultural practices. Digitalisation indirectly makes cultural products susceptible to commodification and commercialisation. The study concluded that the continuous exposure and incorporation of digital attributes will modify the authenticity of indigenous beliefs and practices.*
Originality: *Therefore, the study anchors on the creation of balance between cultural practices and the inclusion of digital elements. There should be a limit to which these practices are exposed to digital elements so as to retain their originality.*

Keywords*: indigenous beliefs and practices, tangible heritage, intangible heritage, digitalisation, digital age*

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GEOECONOMICS – RISKS AND THREATS IN AN INTERDEPENDENT WORLD

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Abstract
The global economy is at a critical juncture, shaped by a confluence of economic, geopolitical, and technological challenges; growth is projected at a modest rate of 2.5%, with the United States and China—the two major economies—facing recession. This slowdown underscores a broader trend of economic fragmentation, as international trade increasingly becomes a battleground for geopolitical competition. The year 2026 is marked by heightened risks stemming from regional conflicts—particularly in the Middle East—which threaten to disrupt global commodity markets and supply chains, thereby exacerbating inflationary pressures. Central banks worldwide are expected to respond by cutting key interest rates to stimulate growth, yet the effectiveness of such measures remains uncertain amidst persistent geopolitical tensions. Furthermore, the rise of cybercrime as a global threat has reached unprecedented levels and is now considered the most significant form of economic crime. This alarming development highlights the vulnerabilities of interconnected digital systems and the urgent need for enhanced cybersecurity measures.

Keywords: *geoeconomics, cybersecurity, economic fragmentation, economic interdependence*

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FINANCING JAMDANI SUPPLY CHAINS SUSTAINABLY THROUGH PUBLIC-PRIVATE PARTNERSHIPS: A MODEL FOR THE COMMERCIALIZATION OF HERITAGE CRAFTS IN BANGLADESH

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Abstract
Objective: *The Jamdani weaving is an Intangible Cultural Heritage, recognized by UNESCO. The current state of affairs, however, is a little disquieting. Trade within this supply chain is constrained by limited operating finances, volatile prices of raw material and as usual, excessive involvement of middlemen. Besides, no sustainable measures are being implemented. Almost all of the literature related to Jamdani discusses only the historical background and the beauty of this heritage. But one should admit the absence of discussion about the financial side of the characteristics of Jamdani. It is obvious that the financial structure must be improved in order to maintain this craft and its weavers, otherwise they cannot survive. Therefore, a new approach is required. This research attempts to find a way to finance the supply chain using the mechanism of Public-Private Partnership. It is about combining the heritage and financing for the sustainable development of these craftspeople.*
Method: *The study uses a mixed method of approach that involves both secondary data analysis and fieldwork involving primary quantitative and qualitative data analysis within the Doulotpur Jamdani Palli of Narsingdi district. In order to examine economic inclusion, institutional support, training, and significant demographic factors, quantitative data from 207 handloom weavers, assistance weaving craftsmen, and micro-enterprises are analyzed. Constraints in financing, material, and supply chain are examined through thematic analysis of qualitative data collected through semi-structured interviews and observations. The proposed PPP model is designed on the basis of supply chain flow and value distribution analysis, which also considers value distribution within key stakeholders.*
Results: *Financial inclusion has a direct relationship with weavers' salaries, based on initial findings from 207 respondents. Organized training not only helps to improve the quality of products produced, but it also has an effect on the financial performance and market competitiveness of the artisans. In addition, access to financial institutions is positively related to improved living standards and economic stability. However, gender has no statistically significant relation with income levels. Based on qualitative evidence, it is difficult to obtain finances, find raw materials, manage supply chains, and value artisan labor. This evidence is a clear indication of why a PPP model is appropriate to help preserve the culture of Jamdani while ensuring stability of incomes for the weavers.*
Originality: *This study contributes to the field of heritage economics and strategic business management in that it moves away from the conventional approach to culture preservation towards the study of the supply chain and the economic conditions that underpin living heritage. This study links together the elements of public policy, private sector engagement, and craft industry sustainability through the employment of quantitative data collected from 207 respondents, qualitative fieldwork, and the methodology of value distribution analysis. The main contribution of this study lies in the development of an evidence-based PPP business model for the conditions of developing countries and the realities of their supply chain and financing of the traditional heritage craft value chains.*
Practical implications: *The findings would help in providing a guide for various government bodies like BSCIC and Ministry of Cultural Affairs, impact investors, corporate buyers, and non-government organizations involved in the development of cottage industries. The recommended process will serve as a guide for setting up credible*

public private projects on heritage, improve artisans' capability of getting justified financial rewards, and ensure the social and economic sustainability of Jamdani weaving communities in Bangladesh.

***Keywords**: Jamdani weaving, heritage economy, public-private partnership (PPP), supply chain finance, financial inclusion, artisan livelihoods, value sharing, sustainable heritage development*
***Funding:** The study did not receive any grants or external funding from any third party.*

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CULTURAL HERITAGE – THE GEOPOLITICS OF CULTURAL PATTERNS. FROM THE COMPETITION OF MODELS TO A WORLD ORDER WITHOUT CULTURAL MODELS

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Abstract
***Objective**: By linking the science of power over geography – geopolitics - with Noician hermeneutics, this approach aims to identify a more robust heuristic instrument for understanding an unstable world. Further on, we converge with Georgescu-Roegen's theory of entropy. The convergence between Constantin Noica and Nicholas Georgescu-Roegen lies at the intersection of spiritual and material degradation. Noica's modern cultural model conceptualizes a dynamic global order sustained by the creative tension of the 'One-and-the-Many'. However, as the contemporary world transitions toward an order stripped of these cultural paradigms, it mirrors the physical degradation outlined in Georgescu-Roegen's Law of Entropy. When global structures substitute spiritual creation with blind, technocratic pragmatism, they trigger a process of structural autoconsumption. Geopolitically, this represents the ultimate entropic state: a highly complex, homogenized world system that expends vast amounts of low entropy simply to sustain its own collapsing apparatus, ultimately operating in a state of civilizational and energetic deficit. Besides, we will argue over the importance of culture, of a geopolitical competent society, as pillars of societal security.*
***Method**: heuristics and regional ontology*
***Results**: establishing an interdisciplinary conceptual framework for understanding unstable and global entropic environments.*
***Originality**: fair (ideas are rarely original, perhaps some of the above conjectures are).*

***Keywords**: culture, sociology, geopolitics, entropy, cultural models, cultural patterns*

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BETWEEN THE MACHINE AND THE HAND: DIGITAL INNOVATION, HUMAN LABOUR, AND THE SUSTAINABLE CAPITALISATION OF RAJSHAHI SILK HERITAGE

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Abstract
Objective: *Rajshahi Silk is one of the living heritages of Bangladesh. It links craftsmanship, rural livelihoods, local identity and economic activity. Rajshahi Silk has Geographical Indication (GI) status, so its value lies not only in the fabric but also in the knowledge, skills and methods that flow through its production chain. The sector faces pressure. Domestic silk output is falling. More yarn is being imported. Artisanal workers are ageing. Traditional skills are not being passed on well. Technology is changing how the work is done. In this situation, this study explores how digital innovation, including artificial intelligence (AI) tools, can help preserve and grow the economic value of Rajshahi Silk without eroding the knowledge and artisanal skills that give it heritage worth.*
Method: *This is a qualitative, desk-based study. It uses government and institutional reports, Geographical Indication documentation, materials from the Bangladesh Sericulture Development Board, industry and media coverage, and academic literature about sericulture, heritage industries, artisanal labour, technological change and sustainable development. The paper follows the stages of the Rajshahi silk value chain - sericulture, cocoon production, yarn production, weaving, dyeing, printing and finishing - to see where human skill and technology actually meet. A heritage-capitalisation approach is used to compare the benefits of mechanization and digitalization with the cultural risks they bring.*
Results: *Technological modernization can be both helpful and harmful for Rajshahi Silk. On one side, mechanization and digital tools can increase productivity, reduce production limits, support design development, open up market access, improve product traceability and make heritage products more competitive in the market. On the other hand, if labour is simply replaced by technology, it can speed up the loss of tacit knowledge, traditional craftsmanship, intergenerational learning and the sense of authenticity that buyers connect with the product. The study shows that the real problem is not choosing between hand production and technological modernization; it is about creating a production system where technology strengthens human ability rather than replacing it. Digital documentation can record production knowledge before it is lost. Digital training platforms can help pass skills to artisans. AI-assisted design can expand possibilities while keeping human authorship. Digital traceability and authentication can build customer confidence in GI-linked products. Together, these tools can turn heritage preservation into a driver of productivity, employment, market differentiation and sustainable local development.*
Originality: *This study adds something new by linking the labour side of Rajshahi Silk to the growing discussion on digital innovation and heritage capitalisation. Rather than seeing technological change just as a way to increase productivity or replace workers, the paper sees innovation as a way to protect cultural knowledge and create economic value at the same time. It takes a human-centred view of innovation, where artisans are not seen as obstacles to modernization but as people who hold heritage capital. Based on this view, the study suggests a policy direction that includes youth-focused skills development, formal recognition of artisan contributions, digital preservation of traditional knowledge, GI-linked authenticity methods, responsible use of AI and digital design technologies, and better coordination across the silk value chain. The findings suggest that the sustainable future*

of Rajshahi Silk depends on finding a balance between machine efficiency and human craftsmanship, letting digital transformation support rather than weaken the cultural and economic base of the heritage industry.

Keywords: *Rajshahi Silk, cultural heritage, heritage capitalisation, digital innovation, artificial intelligence, artisanal labour, sericulture, Geographical Indication, sustainable development, Bangladesh*

ROMANIAN ACADEMY
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PUBLIC–PRIVATE PARTNERSHIPS IN ALBANIA'S TOURISM SECTOR: A BUSINESS MODEL FOR SUSTAINABLE DESTINATION DEVELOPMENT

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Abstract
Tourism has become an important contributor to Albania's economic development, while the rapid expansion of visitor flows and tourism investment has increased pressure on infrastructure, natural resources, local communities, and destination management. These developments highlight the need for governance and business models capable of combining economic growth with long-term environmental and social value. This study examines public–private partnerships (PPPs) as a potential business model for supporting sustainable destination development in Albania.
The paper explores how cooperation between public institutions and private actors can contribute to tourism infrastructure, service innovation, investment mobilisation, and more effective destination management while balancing commercial objectives with broader public interests. Particular attention is given to value creation, stakeholder participation, risk sharing, and the integration of sustainability principles into PPP arrangements. Rather than considering PPPs solely as mechanisms for financing infrastructure, the study approaches them as collaborative business models through which public and private actors can combine resources, capabilities, and responsibilities to generate shared value.
Methodologically, the research adopts a qualitative and exploratory approach based on the analysis of policy documents, institutional reports, relevant literature, and selected examples from the Albanian tourism sector. The study identifies opportunities and constraints affecting the application of sustainable PPP models, including institutional capacity, coordination, transparency, environmental considerations, and community involvement. The paper aims to contribute to the discussion on emerging business models in tourism by proposing a conceptual framework for evaluating how PPPs can support more sustainable and competitive destinations in Albania.

Keywords: *public–private partnerships; sustainable tourism; business models; destination development; shared value; Albania.*

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AI-DRIVEN POLITICAL FINANCE MONITORING: A COMPARATIVE ANALYSIS OF ELECTORAL PERFORMANCE AND FINANCIAL TRANSPARENCY IN THE REPUBLIC OF MOLDOVA

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Abstract

Objective: *In the contemporary socio-political landscape, the integrity of electoral processes and political party financing represents a fundamental prerequisite for sustainable governance and institutional trust. In the Republic of Moldova, a democracy undergoing European integration while facing severe hybrid threats, the relationship between campaign funding, financial transparency, and electoral success remains complex and opaque. Traditional auditing mechanisms face structural limitations when identifying undisclosed funds (dark money), micro-targeted digital advertising, and foreign financial interference. Within this context, the study addresses the double-edged impact of digital innovation by evaluating how Artificial Intelligence (AI) can transform political finance monitoring. The primary objective of this research is to analyze the correlation between party funding and electoral performance in the Republic of Moldova, while testing the effectiveness of AI-driven analytical tools in detecting financial anomalies, untracked digital campaign spending, and reporting discrepancies.*

Method: *The paper employs a mixed-methods research design combining quantitative econometric modeling with computational data analysis. First, an econometric regression model is applied to historical electoral datasets (covering national and local election cycles from 2020 to 2025 in the Republic of Moldova) to measure the elasticity between declared campaign expenditures and final vote shares. Second, a pilot model utilizing machine learning algorithms (specifically anomaly detection and Natural Language Processing) is deployed to analyze official financial reports submitted to the Central Electoral Commission alongside third-party digital data sources, including social media ad libraries and public banking declarations. This dual methodology allows for a comparative analysis between traditional regulatory auditing practices and automated, AI-driven oversight.*

Results: *The empirical findings demonstrate a strong, positive correlation between campaign expenditure and electoral performance, while highlighting a declining marginal return on traditional offline spending compared to digital campaign investments. The AI-driven anomaly detection model successfully identified significant discrepancies that bypassed standard audit procedures, particularly regarding indirect funding, undisclosed digital consulting fees, and coordinated micro-donation schemes. Furthermore, the results reveal a systemic asymmetry: while regulatory bodies can leverage AI to dramatically shorten audit response times and enhance transparency, political actors simultaneously utilize automated digital tools and cross-border financial channels to evade monitoring. Ultimately, the study proves that integrating automated AI detection tools into political finance oversight significantly increases reporting transparency and establishes a higher standard of institutional accountability.*

Originality: *The originality of this study lies in its pioneering application of machine learning models to the specific framework of political party finance in the Republic of Moldova – a high-risk electoral environment marked by hybrid influence. While existing literature predominantly focuses on qualitative analyses of electoral law or basic statistical correlations, this paper introduces an innovative, data-driven framework that bridges data science with political economy and Smart Governance. By conceptualizing financial transparency as an essential component of sustainable democratic infrastructure, the research delivers an original methodological blueprint for automated electoral auditing that can be scaled across developing democracies in Eastern Europe.*

Keywords: *artificial intelligence, political party financing, electoral performance, financial transparency, Republic of Moldova, smart governance, electoral integrity, machine learning audit.*
JEL Classification: *D72, K42, O33, M42, P16.*

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ANTI-GENDER BACKLASH AND THE HERITAGE SECTOR: A STUDY ON THE INSTABILITY OF PUBLIC-PRIVATE RELATIONS AND THE INFLUENCE OF POLITICALLY BACKED RHETORIC

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Abstract

***Objective**: This study assesses the impact of politically driven rhetoric in a sector so sensitive to government changes. The anti-gender movement, embodied in the anti-DEI in organisations, weaponizes merit to argue for the legitimacy of one gender over the other. Research has long argued that claiming promotion on "merit" in organisations is impossible, as the objective idea of a perfect manager is inherently male-coded. The (involuntary) lack of women in the process of creating both the organizational culture and its rulebook has created a massive data bias that not only affects the experiences of women in organizations but, as it is argued here, is used to keep distancing them from the possibility of achieving a footing that would allow them to create future arguments for their legitimacy. The gender proportion in the heritage sector has steadily shifted toward more women in the workforce. However, this majority is rarely reflected in leadership positions. The historical pipeline issue is, as argued here, further enforced by the impact of anti-gender backlash on the heritage sector, which translates into a meritocracy discourse based on a false neutrality frame built on decades of exclusion. The research question is: What effect does this narrative have on a sector already intensely shaped by political relations when governance supports it? Thus, this study assesses what happens to a trend when it moves from discursive to coercive. Also, by assessing the impact of political discourse in the heritage sector, one can better understand the instability of public-private relations and how it endangers the future of inclusive cultural development.*

***Method**: To assess the impact based on the degree of dependency, this study uses the USA and its recent anti-DEI federal requirements in the heritage sector as a revelatory case. This analysis aims to assess a generalisable mechanism that can serve as a cautionary example for evaluating the heritage sector. The variability needed to understand the degree of political impact is derived from the positioning of different North American institutions on a dependency axis. This qualitative approach is better suited because the study focuses on the propagation of a mechanism and requires analytical clarity rather than quantitative generalisation. Therefore, the revelatory approach is used here, rather than a cross-national comparative approach, because this type of analysis allows a better understanding of the internal mechanism that lets a supposedly stable relation collapse under political pressure.*

***Results**: The study on three North American organizations with different levels of dependency (100%, 62%, 0%) revealed the impact one executive order can have on the heritage sector. Although both companies fully and partially funded by the state showed strong interest in investing in DEI initiatives before the EO, their compliance was almost immediate. The private company not only did not respond to the state's "encouragement" to renounce DEI, but continued to heavily invest in these initiatives that still furthered women's advancement in the sector. The impact this compliance had on women was evident. Both companies that benefited from public funding renounced all initiatives that helped women achieve an equal footing. Moreover, the EO caused an observable witch hunt at the executive level, where political influence pushed one woman from her position and targeted another in the partly funded company. These results reveal the impact political influence has on the heritage sector and, above all, how effectively the backlash discourse can be weaponised against women in a workplace so deeply dependent on political ideology.*

***Originality**: While the study of false meritocracy and anti-gender backlash is gaining traction in different sectors, the cultural heritage area, currently affected by skewed leadership opportunities, is rarely discussed. Thus, the study argues two points of novelty. First, the current direction treats DEI backlash and the meritocracy narrative*

as mere cultural narratives, while, in reality, the argument has been weaponized and politicised. This particularly affects the heritage sector, as it is shaped by complex public-private relations and dependence on political discourse. Second, it highlights the susceptibility of this branch to accept and propagate further gender inequality due to the inability to act independently of the governance narrative.

***Keywords**: backlash, heritage, gendered leadership, inclusion, politics, anti-DEI, public-private relations, public institutions, institutional dependency*

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BRAND EQUITY AS A STRATEGIC ASSET IN PUBLIC-PRIVATE PARTNERSHIPS FOR CULTURAL HERITAGE CAPITALIZATION: A QUALITATIVE EXPLORATION

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Abstract
Objective: *Cultural heritage is now widely recognized as a strategic resource that can drive sustainable development through tourism, creative industries, community identity, and long-term economic value creation. Public-Private Partnerships (PPPs) are becoming a popular approach to leverage heritage assets under the pressure of limited government conservation and management budgets (Osei-Kyei & Chan, 2015; Abdou, 2021). The theoretical and contextual connections between brand equity as a strategic and valuable resource for the firm (Barney, 1991) and the strategic role of heritage in these partnerships, however, are less understood, particularly in various institutional settings. Previous research has primarily focused on the financial and operational issues of heritage PPPs but has paid less attention to the process of creating brand equity, sharing it, and managing it as a strategic partnership asset. For that purpose, the present research is trying to investigate the application of the brand equity framework of Aaker (1991) in the strategic exploitation of cultural heritage in PPPs. Specifically, the study explores the following aspects of destination positioning, stakeholder value creation, visitor engagement, heritage authenticity, and sustainable revenue generation in developed and developing economies, in relation to brand equity.*
Method: *The theoretical basis of the study is a qualitative multiple case study method (Eisenhardt, 1989). The data used in the study are secondary data sources such as government websites, government policy documents and agreements, heritage management reports, annual reports, magazines, newspapers, industry publications and academic papers. Two comparative case studies were chosen, one in a developed economy and one in an emerging or developing economic context, to capture the institutional differences, governance arrangements, partnership maturity and priorities for heritage conservation. This comparative design enables analysis of the process of building, managing, and transferring brand equity between public authorities and private partners in their socio-economic and policy contexts, respectively. The approach used for analyzing the capitalization of cultural heritage in PPPs is the brand equity approach, based on the concept of destination brand equity models found in the tourism literature (Konečnik & Gartner, 2007; Boo et al., 2009). The key conceptual themes identified for this purpose were brand awareness, brand image, heritage authenticity, perceived value, visitor loyalty, and partnership governance. This enables the study to go beyond the financial explanation and provide a more comprehensive understanding of the role of brand equity in sustainable heritage capitalization.*
Results: *The study offers some recommendations for strengthening heritage PPPs with brand equity. Brand equity can help to achieve these objectives by enhancing the long-term profitability of heritage assets, attracting private investment, increasing the awareness of visitors to the destination, diversifying revenue, and increasing visitor*

loyalty. Additionally, the role of intangible cultural heritage (ICH) in building brands (Zhang et al., 2024) and the financial viability of ICH-based PPPs (Torrieri et al., 2025) substantiate the potential of elements of brand equity, including heritage-related storytelling, authentic visitor experience, co-branding, and shared governance over the brand between partners to support the sustainable capitalization of cultural heritage. The cross-case comparison indicates that the effect of brand-led heritage PPPs is very different in the emerging and developed economies. Comprehensively, in most cases, developed economies are more prepared to develop and promote their brands, both institutionally and regulatorily, as well as in terms of marketing capabilities and investment resources. However, other issues are specific to developing economies and are particularly difficult in the context of building brand equity through public-private partnerships; for example, weak legal and contractual frameworks, poor project management, ineffective systems of brand ownership, limited marketing capacity, and the risk of commercialization of heritage assets.

Originality: *This study has contributed much to cultural heritage management and PPPs, focusing on the concept of brand equity as a strategic asset that could be leveraged in cultural heritage in various economic situations. It is based on previous research and demonstrates the applicability of the concept of brand equity as an enabling concept for the public conservation goal and the private commercial goal in PPPs. Overall, the study makes important contributions regarding the impact of governance quality and institutional capacity and partnership design on the effectiveness of brand-based heritage capitalization. The findings have both practical and academic value for all stakeholders who are concerned with developing policies that will support sustainable heritage-based development and meaningful partnerships, such as development practitioners, private investors, heritage practitioners and policymakers.*

Keywords: *brand equity, strategic assets, public-private partnership, cultural heritage, heritage capitalization, emerging economy*

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ASPECTS REGARDING SOCIAL IMPACT OF DIGITAL, ENVIRONMENTAL TRANSITION, IN BUSINESS ENVIRONMENT

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Abstract
The business environment makes efforts to address possible social consequences, which may arise in different industrial branches, as a consequence of the digital, environmental transition which it aims to adapt to. A business environment that manages to adapt to changes from the external environment, remains resilient to shocks caused by crises, represents a support for the economic evolution of the country in which it develops. The social environment also plays a role in the evolution of the business environment, influencing its development, the profitability of companies.
Environmental initiatives have different effects on social equity. For high-income residents, the effects can be beneficial, but at the same time, they can require too high costs for low-income residents. For this reason, they need to be carefully managed. The social impact of the environmental transition can be seen in the capacity of environmental policies to influence economic growth and, implicitly, social life: creating new jobs for qualified workers in the field of renewable energy, creating an attractive framework for the development of the business environment, by attracting enterprises that use non-polluting technologies, reducing costs for enterprises and residents, by using infrastructure with low energy consumption.
Objective*: The paper aims to highlight the social impact created by the digital, environmental transition on business environment and citizens and initiatives at the European level, to combat the risks of the environmental and digital transitions.*
Method*: documentation from the speciality literature, selection of ideas and their interpretation in the author's own view.*
Outcomes*: highlighting the social impact of the environmental and digital transition on the business environment and citizens, as well as the actions developed at the European level to tackle the social consequences that may arise.*
Originality: *The originality of the work comes from the way the subject on this topic was conceived, through the study and interpretation in the author`s own view, of the research of various authors in the field.*

Keywords*: business environment, digital transition, environmental transition, social impact, European level initiatives.*

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HOUSEHOLD DEBT IN ROMANIA: DETERMINANTS, CHARACTERISTICS AND IMPLICATIONS FOR FINANCIAL DEVELOPMENT

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Abstract
As an important part of our modern-day economy, household debt influences what we spend, save and invest, how many people can access financing, and the rate of overall economic growth. Even though getting a mortgage can greatly improve things for families and encourages more spending and, in turn, supports the overall economy, being too heavily indebted may create risks for both the borrower and the overall financial system. Given this situation, policymakers, financial institutions and academics have a growing need to understand which factors impact how families choose to borrow money to make appropriate policies, decisions or carry out research related to household borrowing. In the case of Romania, it presents an interesting case study as it exhibits a low level of household indebtedness compared to the EU average, along with a significant evolution in the way that financial markets, loan accessibility, and online banking are developing in Romania. This paper examines the factors influencing, characteristics of and consequences related to household debt in Romania, especially its connection with the financial sector's development. The research uses data from five institutions, that is, the National Bank of Romania (NBR), the European Central Bank (ECB), Eurostat, International Monetary Fund (IMF), OECD and the World Bank. The methodology of the study consists of a descriptive and analytical approach to examine the correlation between different macroeconomic and institutional factors of household indebtedness, which consist of disposable income, interest rate, housing market, financial inclusion and access to banking services. It is observed from the analysis that the growth of income, changes in the property market, and changes in the credit market are the main factors that influenced the level of household debt in Romania. The access to financial products and greater involvement in the banking system have led to an increase in household loans, specifically mortgages. At the same time, interest rate and inflation changes still affect the demand for credit and the ability to repay loans. While Romania is still one of the countries with the lowest household debt in the EU, it is important to consider the growth in household borrowing in context of the development of the financial sector and economic ability to withstand crises. In addition, the document describes the key features of Romanian mortgage borrowers, which have become increasingly important because of the increasing demand for homes among the population, as well as by the current state of the housing market. The use of consumer credit to finance household spending remains another important feature of the mortgage borrowing system. There are noticeable differences in the behaviour of individuals belonging to different income groups regarding mortgage loans and between people who live in cities and those who live in the countryside. Moreover, the degree of vulnerability of households depends on three factors, which are the amount of debt on loans and its re-pricing risk due to change of interest rate and inflation and risk of losing income. The major contribution of this research is the examination of the relationship among household debt and financial development. The results imply that moderate levels of household debt can assist financial deepening through increased awareness and utilization of banking products as well as

enhancement of financial inclusion and formal participation in financial markets. On the other hand, sustainable financial development necessitates cautious lending practices by banks and proper regulation to avoid large accumulation of risks in the financial sector. The study also examines how digitalization influences the way that households borrow money. The emergence of new digital financial products, banks using automated systems to evaluate the creditworthiness of borrowers, and the use of data by financial companies to offer products to consumers has significantly changed the way consumers access credit, as well as their ability to make decisions about their finances. This has created an opportunity for more people to access the credit they need, while also highlighting the need to have the right knowledge and be protected. The research concludes that, while household debt is not yet a huge concern for the Romanian economy based on EU standards, it is still an important element that affects a country's economy and the long-term stability of households.

***Keywords**: household debt, Romania, financial development, financial stability, financial inclusion, mortgage lending, digital finance, banking sector*

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DIGITAL TRANSFORMATION OF FINANCIAL AUDITING THROUGH NUMBER-THEORETIC METHODS: DIRICHLET SERIES, THE RIEMANN ZETA FUNCTION AND ACCOUNTING ANOMALY DETECTION

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Abstract
The accelerating digital transformation of accounting and auditing has generated increasingly large and complex financial transaction systems, creating new requirements for reliable, transparent and computationally efficient anomaly-detection mechanisms. This paper proposes an innovative interdisciplinary framework that connects analytic number theory with digital financial auditing and accounting information security. The approach employs mathematical structures associated with the Dirichlet series and the Riemann zeta function, together with Euler products, the Möbius function and the Prime Number Theorem, to construct a measurable representation of accounting ledgers. The proposed Ledger Dirichlet Series captures the arithmetic structure of transaction amounts and provides the foundation for identifying deviations from expected transaction patterns. Five complementary discrepancy channels - energy, prime-power divisibility, Möbius behaviour, spectral flatness and inter-arrival arithmetic - are integrated into a calibrated anomaly-detection index. The empirical evaluation is conducted on 500,000 synthetic transactions generated within the structure of the Romanian chart of accounts. The proposed framework is compared with established anomaly-detection approaches, including Benford's Law, robust median absolute deviation screening, CUSUM, Isolation Forest and Local Outlier Factor. The results indicate that the proposed index responds systematically to increasing contamination levels and provides particularly distinctive detection capabilities when anomalous transactions exhibit non-decimal multiplicative structures. Beyond its mathematical contribution, the study illustrates how advanced quantitative methods can support the digital transformation of accounting and auditing. By combining mathematical modelling with automated financial-data analysis, the proposed framework contributes to the development of innovative digital instruments capable of strengthening financial transparency, information reliability and the security of digital accounting systems. The research therefore provides an interdisciplinary perspective on the role of mathematical innovation in the broader digital transition of economic and financial activities.

Keywords*: digital transformation; financial auditing; Dirichlet series; Riemann zeta function; anomaly detection; accounting information systems; forensic accounting; financial information security.*
JEL: *M41, M42, C63, C12, C46.*

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TAYLOR SERIES AS A MATHEMATICAL INSTRUMENT FOR MODELING ACCOUNTING PROCESSES AND FINANCIAL DECISION-MAKING

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Abstract
Objective: *The accelerated digitalization of the accounting profession - through enterprise resource planning (ERP) systems, robotic process automation (RPA) and artificial intelligence - has transformed accounting from a predominantly descriptive discipline into a predictive and analytical one, in which the quality of numerical approximations directly determines the quality of managerial decisions. In this new context, the accountant is no longer merely a recorder of the past but a provider of estimates about the future - revenue and expense forecasts, cash-flow projections, impairment tests and the sensitivity analyses required explicitly by international financial reporting standards - and all such estimates locally approximate economic functions that are unknown or too complex to be evaluated exactly. Nevertheless, one of the most powerful instruments of mathematical analysis, the Taylor series expansion, remains almost entirely absent from applied accounting literature, even though it implicitly underlies numerous current practices: straight-line depreciation, sensitivity analysis, the modified duration and convexity used in the valuation of financial instruments, and the delta method in risk management. The paradox from which the study departs is that professionals already employ instruments derived from Taylor expansions without controlling their error, without knowing when a first-order approximation suffices and when nonlinearity demands a higher order. This article therefore aims to demonstrate - theoretically, applicatively and computationally - that Taylor series can operate as an operational, and not merely theoretical, instrument for the approximation, forecasting and optimization of economic and financial magnitudes. The relevance is heightened in the context of emerging European economies, including Romania, where the digitalization of the profession is advancing rapidly under electronic-reporting obligations (e-invoicing, SAF-T reporting), the adoption of ERP systems and a shortage of qualified staff that makes automation a necessity rather than an option.*
Method: *Methodologically, the research combines formal mathematical demonstration (Taylor's formula with the Lagrange remainder, and the multivariate expansion using the gradient and the Hessian), applied modeling across eight classes of accounting problems (revenue and expense forecasting, cash flows, asset valuation and depreciation, sensitivity analysis, financial risk, error propagation in auditing, and integration into digital accounting), and a computational case study on synthetic data, with a complete implementation in Python and*

statistical validation (RMSE, MAE, MAPE, Pearson and Spearman correlations, bootstrap confidence intervals and ANOVA). The synthetic data are transparently generated through a reproducible algorithm (fixed random seed 42) and are used exclusively to illustrate the methodology.
Results: *The findings show that forecasts based on first- and second-order Taylor truncations significantly reduce the mean absolute percentage error relative to naive methods and, for nonlinear series, relative to linear regression (ANOVA: $F = 6.89$; $p < 0.001$). Beyond accuracy, the Taylor coefficients themselves correspond to economically meaningful quantities - marginal revenue, marginal cost, sensitivity and convexity - while the approximation error is analytically bounded rather than merely estimated empirically, which secures both the interpretability and the auditability required in a professional accounting context.*
Originality: *The principal contribution is the proposal of the original TAAM model (Taylor Accounting Approximation Model), a four-level architecture - integrable into ERP and RPA environments - that transforms the Taylor expansion into a forecasting, sensitivity and audit service with controlled error. The originality of the study lies in systematizing, for the first time within a unitary framework, the applications of Taylor series in accounting and in operationalizing them for the digital accounting ecosystem, offering a rare combination of arithmetic simplicity, economic interpretability and analytically bounded error among the quantitative methods available to the profession.*

Keywords: *Taylor series; accounting; financial modeling; forecasting; mathematical economics; artificial intelligence; digital accounting; financial analysis; optimization; approximation theory.*
JEL Classification: *C02, C53, C63, M41.*
Funding: *This research received no external funding.*

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THE ABEL TRANSFORM AS A MATHEMATICAL MODEL FOR RECONSTRUCTING HIDDEN ECONOMIC INFORMATION IN COMPLEX FINANCIAL SYSTEMS

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Abstract
Objective: *Modern accounting rests on a rarely stated assumption: that financial statements describe, to a reasonable approximation, the economic reality of the entity. This paper starts from the opposite observation, which we argue is more faithful to the nature of accounting information: the balance sheet, the profit and loss account and the derived indicators are not transparent windows but aggregated projections, produced by an integration operation that compresses a multidimensional reality - processes, decisions, risks, behaviours - into a small number of scalar aggregates and that inevitably loses information. The objective of the study is to build an original mathematical framework - the Accounting Abel Reconstruction Theory (AART) - in which the internal economic value of the organization is treated as an unknown radial function f(r), and the reported aggregates as its observable projection F(y), in the sense of the Abel transform from the physics of cylindrically symmetric systems. Under this interpretation, reconstructing the internal reality from the observed reports becomes an ill-posed inverse problem, while auditing, forensic accounting and artificial intelligence are reframed as approximations of the regularized inverse Abel transform, aiming to recover the hidden economic information from noisy projections.*
Method: *The study rigorously develops the direct and inverse Abel transform, with geometric interpretation, analyses the ill-posed character of the inversion and the condition number of the discretized operator, and applies Tikhonov regularization with parameter selection through the L-curve method. On this basis it formulates the AART theory axiomatically, through four postulates, builds the formal mathematics–accounting correspondence, formalizes the internal radial coordinate and the accounting projection operator, and proposes a family of reconstruction algorithms (Inverse Abel Accounting, Inverse Accounting Projection, Economic Tomography, Hidden Accounting Dynamics). The framework is extended by integration with fractal analysis and phase-space reconstruction through Takens' theorem, yielding a unified Fractal–Takens–Abel framework. The model is illustrated through a complete case study (the synthetic entity Omega) and validated numerically through Monte Carlo simulations on exclusively synthetic data, declared as such and generated with a fixed random seed for reproducibility.*
Results: *The simulations confirm that the naive reconstruction of internal economic information is intrinsically unstable, with an error of about 35% at a noise level of only 2% and a large condition number of the operator, which demonstrates numerically the ill-posed nature of the problem. The regularized reconstruction reduces the error to about 6% and recovers a synthetically introduced hidden layer, with a recovery rate of roughly 1.03, the optimal regularization parameter being identified through the corner of the L-curve. The study proposes eight new indicators (API, AVI, HVI, ARE, ETC, IAC, AAE, APD) for quantifying the degree of aggregation, the volume of hidden information and the stability of the reconstruction, and formulates the Fractal–Takens–Abel Accounting Framework, in which Takens' theorem reconstructs the system's dynamics along the time axis, while the inverse*

Abel transform reconstructs the internal structure along the layer axis. The results thus provide an exact mathematical expression of the methodological scepticism of auditing, through the regularization parameter λ.
Originality: *The paper is not a review, but the construction of a new theory, with definitions, formal correspondences, algorithms, indicators and its own numerical validation. The contribution is conceptual and methodological: reframing accounting transparency as a tomographic reconstruction problem and importing into accounting theory the apparatus of regularized inversion from applied mathematics and signal processing. The AART theory, the mathematics–accounting correspondence, the eight indicators, the family of reconstruction algorithms and the unified Fractal–Takens–Abel framework are original proposals of the authors, explicitly stated as such, while the established mathematical apparatus (the Abel transform, Tikhonov regularization, the L-curve and Takens' theorem) is cited accordingly. The paper honestly discusses the assumptions, limits and falsifiability conditions of the model and opens an original research agenda for digital accounting, auditing and financial analysis, including the empirical calibration of the radial coordinate, validation on documented fraud cases and integration with artificial intelligence architectures that report uncertainty.*

Keywords: *Abel transform, inverse problem, tomographic reconstruction, Tikhonov regularization, hidden accounting information, auditing, fraud detection, artificial intelligence*
JEL Classification: *M41, M42, C02, C63, C45*

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PRESERVATION OR DISPOSSESSION? WIKIDATA AND THE COLONIALITY OF HERITAGE DATA INFRASTRUCTURES

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Abstract

Objective. *What does it mean to preserve cultural heritage when preservation comes to depend on data infrastructures that memory institutions neither own nor govern? Facing chronic underfunding, museums, archives and cultural collectives, particularly in the Global South, have been adopting Wikidata, the collaborative knowledge graph of the Wikimedia ecosystem, as a de facto layer of preservation. It offers persistent identifiers, semantic interoperability and a marginal cost close to zero. This adoption is economically rational in the short term, since it transfers to a shared infrastructure the fixed costs that an individual institution cannot internalize. The objective of this paper is to demonstrate that such rationality simultaneously produces a structural asymmetry of capitalization. The costs of producing and maintaining heritage data are borne by volunteer labor and by underfunded institutions, while the economic value generated downstream is captured by reusers with concentrated resources. The paper therefore treats Wikidata not as a tool for visibility but as an economic infrastructure whose governance determines where the value of heritage is realized.*

Method. *The study adopts a conceptual analysis of infrastructure that combines critical data studies with the decolonial theory of the archive. It examines three layers of Wikidata as instruments of economic governance. The first is the licensing regime, namely the CC0 dedication to the public domain. The second is the set of notability criteria that condition the inclusion of entities. The third comprises the channels of commercial reuse, specifically Wikimedia Enterprise, which licenses API access to Google, Amazon, Meta and Microsoft, and the Wikidata Embedding Project, launched in October 2025, which exposes the graph directly to retrieval augmented generation systems. These instruments are read in dialogue with Mbembe's critique of the instituting power of the archive, Hartman's account of the limits of archival recovery, Montenegro's demonstration that universal metadata standards render Indigenous data sovereignty unworkable, and Cushman's diagnosis of data scraping in Indigenous language collections.*

Results. *The analysis identifies three mechanisms through which an infrastructure of preservation also operates as an infrastructure of dispossession. First, the CC0 dedication that guarantees openness is legally irrevocable and removes any possibility of community governance over the data, which makes instruments such as the Traditional Knowledge Labels structurally unenforceable. The originating community holds no right of exit, and the cost of that irreversibility is not accounted for by any current methodology of impact assessment. Second, notability criteria condition inclusion on prior institutional recognition, so that historical exclusion from the archive is reinscribed as absence from the graph and, consequently, as absence from the systems derived from it. Third, the consolidation of commercial reuse channels converts visibility into extraction, since heritage deposited as a common good feeds licensing and model training chains whose revenues do not return to the institutions and communities that produced the data. The aggregate result is a specific form of infrastructural dependency in which an institution outsources the function of preservation to a system whose governance it does not control and whose licensing it cannot reverse. On the basis of this diagnosis, the paper proposes an evaluative framework organized around four axes, namely licensing governance, conditions of inclusion, traceability of reuse and right of reversal, intended to distinguish preservation from dispossession in open data projects concerned with cultural heritage.*

Originality. *The literature on Wikidata and GLAM institutions concentrates on visibility and reach as measures of success. This paper shifts the question toward governance and value capture, articulating three fields that rarely*

meet, namely digital preservation, the economics of data infrastructures and the decolonial theory of the archive. In doing so it submits the concept of heritage capitalization itself to examination, showing that the openness of data does not by itself determine where the value generated is realized.

Keywords. *digital preservation, Wikidata, data infrastructure, cultural heritage governance, value capture, coloniality, open data*

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LOCAL DEVELOPMENT AND HERITAGE IDENTITY. CASE STUDY – PĂDUREA CRAIULUI MOUNTAINS

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Abstract
Known to the Austrians as "Die Buchenland" – "The Land of Beech Forests", Bucovina de Munte is located in the North-East Development Region, within Suceava County. The total area is 1,359 km², representing 15.86% of Suceava County's total area and 3.69% of the North-East Development Region's area. The territory of the "Mountainous Bukovina" (Bucovina de Munte) micro-region is continuous and homogeneous, comprising 10 communes. The mountainous area is situated in the north-central part of Suceava County, bordering Ukraine to the north and other communes within Suceava County to the east, south, and west
According to the scientific method that served as the foundation for its creation, the paper suggests two different kinds of methods. The first strategy concentrates on theoretical and methodological elements with the goal of examining the primary facets of territorial planning from an integrated approach at the local level. Applied to the current situation in Bucovina de Munte, the second strategy is pragmatic and considers the attainment of integrated territorial coherence as well as the reduction of social and economic disparities at the component locality level. The specific objectives analyzed in the article are consistent with the trajectory of the logic of the scientific approach, as follows:
(1) presenting the main elements of the integrated territorial planning process;
(2) analyzing the economic and social profile of Bucovina de Munte;
(3) conducting a SWOT analysis for each of the evaluated areas;
(4) identifying the main objectives of the integrated development strategy and the directions of action at the level of the Bucovina de Munte microregion.
***Objective**: to highlight the importance of cultural heritage in Bucovina de Munte Region*
***Method**: review of the scientific literature, identification of specific indicators, analysis and processing of data, establishing trends and conclusions*
***Results**: the cultural heritage profile of Bucovina de Munte Region*
***Originality**: By addressing the topic of cultural heritage in an area with important specific traditions and customs, the analysis contributes to its promotion both nationally and internationally.*

***Keywords**: cultural heritage, sustainable development, local communities, tourist destination, Bucovina de Munte Region*

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DIGITAL PLATFORMS, DISINTERMEDIATION AND FINANCIAL AGENCY: INSIGHTS FROM NAKSHI KATHA ARTISANS IN BANGLADESH

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Abstract
Objective: *Nakshi Katha embroidery, as a traditional craft, is a livelihood for many rural women in Bangladesh. Artisans typically add value via local middlemen who have access to materials, buyers, and pricing and payments. New channels of social commerce, e-commerce, and mobile financial services (MFS) are now available to these producers to connect with consumers and formal finance. This study investigates the potential for and pathways to changing artisans' position in the value chain through participation in digital platforms. It is not just about technological access or mobile money and digitalisation. Rather, it explores the connections between platform engagement, financial inclusion, and income stability/economic empowerment, and the social and infrastructural conditions that affect these.*
Method: *A sequential mixed-methods design was used in this study. The qualitative phase involved semi-structured interviews with Nakshi Katha artisans from Jashore, Faridpur, and Rangpur, as well as interviews with artisans active in F-commerce and users of MFS and NGO facilitators of artisan networks. Purposive and snowball sampling ensured variation in age and experience with digital literacy and platforms. Interviews were used to identify a set of themes that were used to develop a structured questionnaire to be administered to a larger group of artisans. The topics of the survey were platform use, control over pricing and payment, transaction practices, saving behaviour, market reach, and perceived financial well-being. Descriptive and correlational statistics were used to explore the relationships between the level of digital-platform engagement and specific aspects of financial inclusion and economic agency. Qualitative data were analysed using thematic analysis.*
Results: *The results should reflect a variety of images of digital inclusion. Having access to a platform can increase market access and payment modalities, but not necessarily lead to financial empowerment. The more engaged artisans are more likely to have good visibility of transactions, direct contact with buyers, and more control over price and payment than artisans still using intermediaries for e-commerce and MFS. Digital literacy, the possession of a mobile phone, internet connection, and the ease of doing digital transactions, however, as well as restrictions on mobility and technology based on gender are likely to affect these improvements. The study expects that there will be a clear difference between platform use and financial empowerment; platform use does not necessarily result in structural independence of the intermediaries.*
Originality: *The research brings together three aspects that are typically not included in one research project: digital financial inclusion, rural artisan value chains, and cultural heritage livelihood. Traditional measures of inclusion are a user's account or a user's transaction. However, in this instance, financial inclusion may be seen as a means of empowering artisans to have greater control over markets, prices, payments, and savings. Nakshi*

Katha is a culturally specific space to observe the problem of digitalisation in terms of financial technology, reconfiguration of the value chain, and craft-heritage sustainability. It promotes an artisanship approach to the digital world, which can be used to bring financial empowerment–and what stands in the way.
***Practical Implications: The** results should help NGOs, financial-service providers, platform operators, and policymakers design digital-finance initiatives that go beyond simple onboarding. Programmes that combine digital-literacy training, safe digital-payment practices, marketing linkages, and mechanisms that strengthen artisans' control over pricing and earnings are more likely to support both household economic resilience and the continued practice of Nakshi Katha as a living heritage.*

***Keywords:** digital platforms; financial inclusion; economic agency; Nakshi Katha; artisan value chains; mobile financial services; rural women; Bangladesh*
***Funding:** The study did not receive any grants or external funding from any third party.*

ROMANIAN ACADEMY
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FROM PHYSICAL TO PHYGITAL: INNOVATION PATHWAYS IN HERITAGE-BASED CIRCULAR BUSINESS MODELS

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Abstract
Objective: *Cultural heritage helps to preserve historical memory, community identity and local economies, which is a key element of sustainable development. In the Historic Urban Landscape (HUL) perspective, heritage is considered a living system of socio-economic, environmental and cultural relationships, and not just a static resource to be preserved, as the increasing urbanization, climate change and depletion of resources make it more urgent. This attitude has led to the development of circular business models, which re-use and re-shape heritage resources without requiring additional inputs. But these models are predominantly physical life cycle based and not much is being done to take advantage of digital technology. The dual transition, which is the simultaneous process of pursuing green and digital change, creates a space for "phygital" environments where the physical, human, digital and media dimensions merge. Although the use of Heritage Digital Twins (HDT) and Heritage Building Information Modeling (HBIM) has increased, there is little knowledge on how such a phygital dimension can be integrated into circular business models to strengthen the economic value, environmental security, and social regeneration. This research traces the trajectory of the heritage asset from a physical to a hybrid phygital state and outlines a business model framework that combines the two.*
Method: *The study uses a three-part approach of the supply-side business modelling, demand-side behavioural analysis and collaborative governance, in four stages. The first stage is a literature review to develop a conceptual map of the Heritage Building Information Modeling and Heritage Digital Twins, and to understand the potential benefits that could be gained from the integration of LiDAR, photogrammetry, GIS and IoT sensors. The second stage is the transformation of the traditional Business Model Canvas (BMC) into a Circular Business Model Canvas (CBMC) specific to cultural heritage, which involves revisiting the value proposition, revenue streams and resource loops, taking into account circular-economy principles and digital services. The third stage focuses on the Stimulus-Organism-Response (SOR) approach to understanding how phygital stimuli, augmented and extended reality (AR/XR) experiences and digital stories affect visitors' cognitive assessment, cultural interpretation, sense of place, and behaviour. The fourth stage is a stakeholder analysis based on a Public-Private-People-Partnership (P4) model and Social Return on Investment (SROI) measures.*
Results: *Phygital strategies can be integrated in heritage based circular business models to create new value creation mechanisms. Digital twins and XR applications are not just value-added features, but are value propositions themselves, with revenue streams including virtual access subscriptions, digital-artefact licensing, and data-driven insights. The technologies also help to prolong the useful life of physical assets by minimizing foot traffic and allowing for early detection of maintenance problems. Behaviourally, well-designed phygital*

experiences seem to enhance place attachment, as evidenced by higher rates of visits, cultural involvement and pro-ecological behaviour. P4 partnerships are crucial in curbing digital colonialism and protecting data sovereignty, particularly in governance. The results also show that digitalization and the green transition are not additive objectives but are connected to each other, as they are already applied in the field of environment in the use of HBIM and in the use of digital twins based on IoT.

Originality: *The phygital dimension has not been formally separated out from other circular models of heritage assets in the past. This study combines three literatures that have never been connected before, namely circular adaptive reuse, digital heritage, and the twin transition, and makes them one. This study brings together three previously disconnected literatures, namely circular adaptive reuse, digital heritage and the twin transition, and makes them one, directly embedding digital twin technology into the circular economy loop. The framework is based on an enriched Circular Business Model Canvas, in combination with the SOR paradigm, specifically for the phygital heritage. It provides a tangible, practical model for heritage managers, cultural entrepreneurs and policy makers to follow, in keeping with projects like the New European Bauhaus. The study shifts the focus of heritage capitalization from a one-off conservation event to a continuous, multi-dimensional process, by using the dematerialized digital value as a financial instrument for financing, conserving and revitalizing tangible heritage.*

Keywords: *phygital heritage, circular business models, adaptive reuse, heritage digital twin, twin transition, heritage economics, public-private-people partnership*

Funding: *The study did not receive any grants or external funding from any third party.*

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RULE OF LAW AND CORRUPTION IN THE GOVERNANCE OF NATURAL RESOURCE RENTS IN ECOWAS

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Abstract
***Objective**: Institutional safeguards are central to debates on how natural resource wealth can support sustainable development while protecting the environmental assets and community interests associated with heritage. In West Africa, persistent corruption and uneven legal capacity raise questions about the governance conditions under which resource rents are generated and managed. This study examines whether the rule of law moderates the relationship between perceived public-sector corruption and total natural resource rents in 15 countries in the ECOWAS sample. It distinguishes aggregate legal quality from regulatory enforcement, government accountability, and civil justice, providing an institutional perspective relevant to discussions of sustainable resource use and heritage capitalization.*
***Method**: The study combines country-level panel data from the World Development Indicators, Worldwide Governance Indicators, Transparency International and the World Justice Project. Total natural resource rents are measured as a percentage of gross domestic product. Corruption is measured by the Corruption Perceptions Index, with higher scores indicating lower perceived corruption. Country fixed-effects models with Driscoll–Kraay standard errors account for time-invariant country characteristics and adjust inference for heteroskedasticity, serial correlation and cross-sectional dependence. The specifications incorporate population growth, government expenditure on education and health, and political stability. Baseline and aggregate rule-of-law models use 435 observations, whereas component-level models use 150 observations due to more limited data availability. Interaction terms examine conditional associations, and subperiod estimates assess the consistency of the main relationships.*
***Results**: In the baseline model, a one-point increase in the Corruption Perceptions Index is associated with a 0.0401 percentage-point reduction in the natural resource rent share of GDP, significant at the 5% level. This result links lower perceived corruption to lower resource rent intensity. The aggregate rule-of-law interaction is negative and statistically significant ($\beta = -0.0388$, $p < 0.01$), indicating that the CPI–rent association varies with legal quality in this specification. Disaggregated estimates reveal different institutional patterns: the regulatory enforcement interaction is negative ($\beta = -0.0435$, $p < 0.05$), whereas the government accountability and civil justice interactions are positive ($\beta = 0.0346$, $p < 0.05$; $\beta = 0.0167$, $p < 0.01$, respectively). These contrasting signs underline the importance of distinguishing legal functions within resource governance. The CPI coefficient remains*

negative in both reported subperiods, but the aggregate interaction changes sign and significance, indicating sensitivity to the estimation period. The estimates describe conditional associations; changes in resource rent shares do not, by themselves, demonstrate improvements in public revenue collection, conservation or community welfare.

***Originality**: The study contributes a disaggregated institutional analysis of the corruption–resource rents relationship in West Africa, showing how regulatory enforcement, accountability, and civil justice are associated with distinct patterns within a single empirical framework. It connects resource governance research to heritage capitalization through the institutional conditions surrounding the economic use and stewardship of natural assets. The policy implications concern credible regulation, accessible justice and transparent oversight alongside anti-corruption initiatives. These priorities provide a basis for discussing how resource-dependent economies can align economic activity with longer-term development and heritage objectives. The analysis also identifies a research agenda linking institutional quality and resource rents to direct measures of environmental protection, heritage preservation and community benefits, allowing future work to test the pathways suggested here.*

***Keywords**: rule of law, corruption perceptions, natural resource rents, institutional quality, ECOWAS, sustainable heritage capitalization*

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LEVERAGING KWETE CULTURAL FESTIVAL FOR SUSTAINABLE TOURISM, LOCAL ECONOMIC DEVELOPMENT AND DESTINATION COMPETITIVENESS IN LAMURDE COMMUNITY, ADAMAWA STATE, NIGERIA

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Abstract
Objective: *Cultural festivals are vital to sustaining community identity, fostering social cohesion, and stimulating local development. The Kwete Cultural Festival, celebrated annually in Lamurde, Adamawa State, embodies cultural pride and communal unity among the Bwatiye people. Despite its cultural importance, little scholarly attention has been paid to its socio-economic implications for the host community. This study therefore assesses the socio-economic impact of the Kwete Cultural Festival on the wellbeing of Lamurde, with specific objectives to: examine the economic benefits of the Kwete cultural festival on the livelihood of the Lamurde community; analyze the festivals influence on social cohesion, cultural preservation and community development in Lamurde and investigate the role of the Kwete Cultural Festival in promoting cultural heritage and local entrepreneurship.*
Method: *The study employed a mixed-methods approach, combining quantitative and qualitative techniques. Primary data were collected through structured questionnaires administered to 385 residents and interviews with festival organizers, business operators, and cultural stakeholders. Secondary data were obtained from existing literature and official reports. Descriptive statistics were used to analyze quantitative responses, while thematic analysis guided the interpretation of qualitative insights.*
Results: *Findings indicate that the Kwete Cultural Festival significantly contributes to community wellbeing by generating household income, creating seasonal employment, and attracting tourism inflows that stimulate local businesses such as hospitality, transportation, and trade. Beyond these economic benefits, the festival strengthens social networks, promotes youth participation in cultural heritage, and enhances communal pride. However, inadequate funding, infrastructural deficits, and weak policy support were identified as persistent challenges that limit its full socio-economic potential.*
Originality: *This study provides empirical evidence on the socio-economic role of the Kwete Cultural Festival, highlighting its dual significance as a tool for cultural preservation and community development. It recommends stronger stakeholder collaboration, increased government support, and sustainable management strategies to maximize its long-term impact.*

Keywords: *Kwete Cultural Festival, socio-economic impact, cultural heritage, social cohesion, Lamurde*

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FROM DATA TO DECISIONS: HUMAN–AI LOOPS FOR TRUSTWORTHY CULTURAL HERITAGE MANAGEMENT

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Abstract
Objective: *The adoption of Artificial Intelligence (AI) in Cultural Heritage management raises a question that goes beyond technological performance: how can AI-supported information be transformed into reliable evidence for managing and utilising Cultural Heritage? This paper explores the role of human–AI interaction in Cultural Heritage management, focusing on the concept of trust as a property of the overall evaluation process rather than of the AI model alone. The objective is to investigate how AI can act as an intermediate layer between heterogeneous heritage data and human decision-making, while maintaining human responsibility for interpretation, validation and contextual understanding.*
Method: *This paper develops a comparative analysis of two experimental applications of Artificial Intelligence to Cultural Heritage, carried out at different scales and for different purposes. The first case concerns the urban environment of a historical city, where a pre-existing digital documentation and management project was subsequently extended through machine-learning-based object detection. Drone images were used to identify and classify water tanks on building rooftops and to georeference the detected elements within a three-dimensional Geographic Information System. The second case explores the use of generative AI for the visual reconstruction of historical phases and for the three-dimensional simulation of missing architectural elements of a religious heritage monument. The two cases are analysed according to the relationship between data, AI-generated outputs, evidence, human validation and subsequent interpretation or decision-making.*
Results: *The comparison highlights two complementary dimensions of AI-supported heritage processes. In the urban scale case, AI enables the automation and repetition of an information-extraction process, transforming image-based observations into structured and geographically referenced data that can contribute to the monitoring and management of the historic built environment. In the architectural scale case, generative AI provides new possibilities for visualising historical hypotheses and reconstructing missing architectural elements, but the generated outputs must remain explicitly distinguished from historical evidence, illustrating the double-edged nature of AI in heritage processes. Despite their different technological functions, both cases demonstrate that AI outputs cannot be considered autonomous knowledge. Their usefulness depends on the possibility of testing, interpreting, questioning and validating them against available evidence and contextual knowledge. The analysis therefore identifies a human–AI loop in which human intervention is not limited to the final approval of an AI-generated result. Human experts contribute to defining the problem, interpreting evidence, identifying inconsistencies, challenging outputs and providing feedback that can improve subsequent iterations of the process. This interaction is particularly relevant in Cultural Heritage, where datasets are frequently incomplete,*

heterogeneous and context-dependent. From a management perspective, the resulting workflow can support the transformation of large and diverse datasets into evidence that informs monitoring, evaluation and decision-making without transferring responsibility for decisions to the AI system. These findings have economic implications: automating repetitive survey tasks at urban scale can reduce the cost and time of heritage monitoring. However, the human–AI loop shifts expert work towards validation rather than eliminating it. AI-enabled heritage initiatives call for business models that go beyond one-off technology purchases, such as service-based or public–private partnership arrangements in which technology providers and heritage institutions share the costs and responsibilities of validation. In the architectural scale case, generative reconstructions may also create value for visitor engagement and cultural tourism, provided that their hypothetical status is clearly communicated.

Originality: *The originality of the paper lies in proposing a process-oriented interpretation of trust in AI-supported Cultural Heritage management. Existing frameworks mainly address human involvement as oversight: the Ethics Guidelines for Trustworthy AI (HLEG, 2019) describe human-in-the-loop, human-on-the-loop and human-in-command approaches, and the EU AI Act (2024) requires human oversight of high-risk AI systems. In digital heritage, the London Charter (2009) and the Seville Principles (2011) state that it should be clear to users which parts of a computer-based reconstruction are evidence-based and which are hypothetical. Rather than assessing trust exclusively through the technical accuracy of an AI model, the paper considers trust as an emergent property of the complete chain connecting data, AI analysis, evidence, human validation and decision-making. This perspective interprets the concept of the human–AI loop as a framework for understanding responsible AI adoption in heritage processes. The paper argues that a trustworthy AI-assisted system is not necessarily one that produces the fewest errors, but one in which errors and uncertainties can be detected, questioned and corrected through an iterative interaction between computational capabilities and human expertise. This approach provides a conceptual basis for evaluating digital heritage initiatives not only according to their technological innovation, but also according to their capacity to support accountable, contextualised and sustainable heritage management.*

Keywords: *cultural heritage management, artificial intelligence, human–AI interaction, trustworthy AI, decision support, digital heritage, heritage information management*

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VALUING THE PAST TO BUILD THE FUTURE: HERITAGE ASSET ACCOUNTING AND URBAN COMPETITIVENESS IN THE CONTEXT OF SDG 8 AND SDG 11

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Abstract
Objective: *Heritage assets, such as historic buildings, monuments, museums and culturally important urban areas possess significant economic and social importance but are often neglected or undervalued in financial records. While heritage asset accounting has been increasingly given attention in the public sector and in the not-for-profit accounting literature, and the concept of urban competitiveness has been widely studied in urban economics and regional development studies, the theoretical and contextual connections between these two concepts are not yet fully understood, especially from a sustainability angle (Biondi et al., 2021). The valuation of heritage assets and urban competitiveness have been the subject of much study, and a few attempts have been made to study the relationship between formal recognition, valuation and disclosure of cultural heritage and the actual economic and social impact of cities (Biondi & Lapsley, 2014). In the interest of bridging this gap, the present study explores the impact of heritage asset accounting practices on urban competitiveness in the context of SDG 11 (Sustainable Cities and Communities) and SDG 8 (Decent Work and Economic Growth). It focuses specifically on the role of heritage recognition, valuation and disclosure in heritage-led urban regeneration, tourism-led employment generation and long-term urban livability within the context of cities, both developed and developing economies.*
Method: *The study adopts a multiple case study method in a qualitative approach. The sources of data include publicly available secondary sources such as financial statements of local government and government bodies, heritage conservation/ cultural asset reports, urban development and regeneration plans, publications of the heritage authorities and academic literature. Two cities, one in a developed economy and one in a developing economy, are chosen as case studies to compare the differences in institutional readiness, accounting framework, governance and urban development agendas. This comparative design helps to bring to light the interconnections between the practices of accounting for heritage and a city's economic and policy context. The main analytical framework adopted is the existing heritage accounting standards, including public sector accounting standards on heritage assets, and the existing city competitiveness indicators (Woon et al., 2019; Kitson et al., 2004). Analysis focuses on the recognition and valuation of the heritage assets and the contribution of heritage to urban renewal; cultural tourism; employment creation and better living conditions.*
Results: *The study finds that the proper recognition, valuation and disclosure of heritage assets can be a key driver to enhance urban competitiveness. Heritage asset accounting practices that are well developed are expected to facilitate better informed municipal decision making, increase access to conservation funding and facilitate heritage-based renewal projects which can contribute to sustainable cities under SDG 11, and also provide employment and economic growth related to tourism under SDG 8 (Dogruyol et al., 2018; Faouri & Sibley, 2024;*

Ottaviani et al., 2024). However, the comparison between the two cities is expected to reveal substantial disparities. The competitiveness of developed economies is likely to be higher because of more robust institutions, technical skills, and regulatory frameworks, being better able to harness their heritage assets. In developing countries, however, the issues that could hinder the potential of transforming heritage assets into a real competitive advantage would be poor valuation systems, limited institutional capacity, irregular conservation funding, and fragmented urban governance (Hernández et al., 2017).

Originality: *This study contributes to the existing literature by interconnecting the fields of accounting for heritage assets and urban competitiveness research and applying a Sustainable Development Goals (SDGs) framework, which has not been widely examined. It builds on previous research in public sector accounting and valuation of heritage and demonstrates how public sector heritage valuation and disclosure can be an important process in sustainable urban development and inclusive economic growth. The overall study is valuable and offers a comparative analysis of how the quality of governance and institutional capacity/principle of accounting affects the competitiveness outcomes of the heritage-rich cities. The findings are expected to be helpful for policy makers, urban planners, urban heritage planners and accounting standard setters who aim to connect sustainable urban development and economic growth with urban heritage management.*

Keywords: *heritage asset accounting, urban competitiveness, cultural heritage, sustainable development goals, SDG 8, SDG 11*

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NAVIGATING THE SAFETY–CONVENIENCE PARADOX IN DHAKA'S TRANSITION TOWARD E-RICKSHAW-BASED SMART URBAN MOBILITY

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Abstract
Objective: *In human decision-making, there are often conflicting considerations and what seems safer isn't necessarily what it is in daily life. When there are safety issues, but there are greater convenience or ease or immediate practical issues involved, people may agree to that. This safety–convenience tension is seen in everyday choices, including letting the computer automatically save passwords for easier access, using free and publicly available wireless networks, even though there are privacy concerns, not wearing seatbelts or helmets in short trips, using faster modes of transportation, even with higher road risks, and buying unregulated or generic medications, to get them quickly and cheaply, but without knowing exactly what is in them. These decisions reflect the fact that human activities, at times, come with complex compromises between safety and convenience. There is a similar safety-convenience conundrum in the case of battery-powered/e-rickshaws in Dhaka. The city's dense and spatially limited landscape results in significant needs for flexible short distance and last mile mobility. On average about 4.8 km/h of traffic is reported and about 76% of trips are less than two kilometres, emphasizing the value of neighbourhood level transport. Furthermore, about 43% of the passengers of the Dhaka Mass Rapid Transit system reportedly take the informal rickshaw service to get to their metro stations, showing the importance of informal rickshaw service and its link with the formal transport system. All these conditions make e-rickshaws an increasingly important part of urban transportation. This transition is further reflected in preferences of passengers. According to INNOVISION Consulting's 2026 study, approximately 82% of the passengers preferred battery-powered rickshaws over the conventional rickshaws due to faster and cheaper travel. But there are serious safety issues. About 30% of passengers said that they were involved in accidents with battery-powered rickshaws, while 18% were involved with a pedal-powered rickshaw and battery-powered rickshaws were linked to more severe injuries. This means that the e-rickshaws are not just a convenient mode of transport, but they also contribute to the safety concerns that passengers may have, adding a tangible and serious level of conflict or uncertainty to their day-to-day travel decisions. Although the potential for electric three-wheelers and passenger use in Bangladesh has been increasingly studied, very little work has focused on the qualitative, passenger-focused aspects of everyday e-rickshaw use, as it relates to safety and convenience. The gap is especially significant in Dhaka, where e-rickshaws are increasingly becoming part of short-distance and first/last-mile transportation. Hence the present study is an in-depth qualitative study of the Safety–Convenience Paradox from the passengers' perspective using qualitative in-depth interviews with the daily e-rickshaw users. It aims to gain insight into the passenger's experience and response to the interplay of safety and mobility convenience, and thus has a passenger-centred perspective on the shift towards e-rickshaw based smart urban mobility in Dhaka.*
Method: *The research uses a qualitative method, specifically in-depth interviews with around 15 passengers of e-rickshaw in Dhaka city. Passengers' perceptions on the safety–convenience paradox in use of the e-rickshaws are analysed using NVivo through thematic analysis.*

Results: *The analysis shows the passengers' experience of psychological clash between safety and convenience from riding battery powered rickshaws. This study explores day to day experiences and decision-making processes, regarding the contradiction of security versus comfort in passengers' everyday travel.*
Originality: *This study reinterprets the situation of e-rickshaw adoption in the context of Dhaka from a qualitative perspective, with passenger centered focus. The literature for informal transport in South Asian countries generally approaches the issue from a supply-side, regulatory or infrastructural perspective, with the themes of congestion, livelihoods or policy. This study proposes a different perspective and is one of the few qualitative studies that examine the possibility of a 'Safety – Convenience Paradox', the dynamics of which revolves around how commuters balance the issues of safety and convenience when using e-rickshaws in everyday life. Its novelty is conveyed by three contributions. At first, it provides a conceptual framework, the Safety–Convenience Paradox, as a lens to analyze the smart urban mobility discourse as a lived and negotiated experience, instead of simply a descriptive paradox. Secondly, it investigates the experiential dimension of this trade-off through in-depth interviews with daily passengers, which is rarely included in research from a Dhaka-centric perspective, based on usage statistics or on inquiries with drivers. Third, it places e-rickshaws in the context of smart city transformation, calling them to be an emerging part of Dhaka's first-/last-mile mobility ecosystem, and moving the scholarship of smart mobility beyond formal transport to informal, passenger-driven mobility. The study focuses on the passenger's voice, addressing a certain gap in the literature and providing an experience-based approach to understanding informal e-mobility adoption in other developing-city settings.*

Keywords*: e-rickshaw mobility, safety–convenience paradox, smart urban mobility, mobility transition, smart-city transformation, Dhaka*
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DIGITAL INNOVATION FOR SUSTAINABLE SMART CITIES: SYNERGIES AND GOVERNANCE CHALLENGES OF ARTIFICIAL INTELLIGENCE, THE INTERNET OF THINGS AND BLOCKCHAIN

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Abstract
Objective: *The increasing digitalisation of urban environments has strengthened the role of emerging technologies in the development of more efficient, resilient and sustainable cities. Artificial intelligence (AI), the Internet of Things (IoT) and blockchain provide different but complementary technological capabilities that can support data collection, analysis, automated decision-making, information security and transparency. Their combined use therefore offers opportunities that extend beyond the individual contribution of each technology. This paper examines the potential of integrating AI, IoT and blockchain within smart city ecosystems, with particular attention to urban service efficiency, sustainable resource management, data security, transparency and citizen engagement. It also considers the technological, organisational and governance-related conditions that may facilitate or hinder their integration. The study adopts the view that sustainable digital transformation depends not only on technological performance, but also on interoperability, adequate digital infrastructure, institutional capacity and appropriate mechanisms for data protection, transparency and accountability.*
Method: *The study is based on a critical review of the relevant literature and a conceptual synthesis of the relationships identified among AI, IoT and blockchain in the context of digital transformation and smart cities. The analysis considers three complementary dimensions. First, it examines the functional role of each technology within an integrated digital ecosystem. IoT supports the continuous collection and transmission of data from connected devices and urban infrastructure, AI enables the processing and interpretation of large volumes of data and supports prediction and automated decision-making, while blockchain can contribute to data integrity, traceability and secure information exchange. Second, the study analyses the added value created by combining these technologies in areas such as traffic management, energy efficiency, waste management, resource optimisation and public service delivery. Third, it examines the main factors that support or constrain technological integration, including connectivity, computing and storage capacity, interoperability, implementation costs, digital skills, cybersecurity and institutional readiness. Ethical and regulatory issues related to privacy, transparency, human oversight and accountability are also incorporated into the analysis.*
Results: *The analysis indicates that the main value of technological convergence lies in the complementary functions performed by AI, IoT and blockchain. IoT provides real-time data on urban systems and processes, AI can transform these data into information that supports prediction, optimisation and operational decision-making, while blockchain can strengthen the integrity and traceability of information shared between different actors. Within smart city environments, this interaction can support more efficient traffic management, improved energy use, better monitoring and allocation of resources, more effective waste management and greater transparency in selected public services. These applications are also associated with broader objectives related to operational efficiency, reduction of resource waste, urban resilience and more responsive forms of interaction between public authorities, digital infrastructures and citizens. At the same time, the review identifies important constraints. These include blockchain scalability, the substantial computational requirements of AI systems, the diversity of IoT devices and communication protocols, limited interoperability, cybersecurity and privacy concerns, infrastructure costs, shortages of specialised digital skills and resistance to technological change. The limited transparency of some AI-based systems and difficulties in assigning responsibility for automated decisions further underline the importance of governance mechanisms capable of supporting responsible technological integration.*

Originality: *The contribution of the paper lies in examining AI, IoT and blockchain as interdependent components of a broader smart city ecosystem rather than as separate technological solutions. By relating the potential benefits of technological convergence to the technical, organisational and governance conditions required for implementation, the study provides a balanced perspective on digital innovation. The proposed approach brings together efficiency, sustainability, interoperability, security and responsible governance within a common analytical perspective and highlights the conditions under which technological integration can contribute to sustainable urban digital transformation.*

Keywords*: artificial intelligence, Internet of Things, blockchain, smart cities, digital innovation, sustainability, interoperability, digital governance*

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SUSTAINING FINANCIAL INNOVATION THROUGH CENTRAL BANK POLICY IN PAYMENT SERVICES

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Abstract
Objective: *This paper analyses how central bank policies and institutional arrangements support financial innovation in payment services. Specifically, it explores how central banks can foster innovation while still safeguarding operational resilience and making sure payment service providers maintain adequate security standards. The goal is to identify which policies work to encourage innovation in this space.*
Method: *This article uses a comparative approach to examine the institutional frameworks adopted by different central banks in the European Union, the United States, and Singapore. It closely considers major instruments including regulatory sandboxes, innovation hubs, proportionate regulation, public-private partnerships, and supervisory technology (suptech) and evaluates how each one influences the digital payments environment. Overall, the analysis examines how effectively central banks can develop various tools to obtain a balance between fostering innovation and controlling technological, operational, and systemic risks.*
Results: *The findings show that when central banks take a proactive, adaptive role, they can support innovation more sustainably mainly by reducing regulatory uncertainty, improving coordination between regulators and industry players, and strengthening resilience and security among payment providers. Tools like regulatory sandboxes and innovation hubs prove especially useful for monitoring and supporting emerging technologies, while public-private cooperation helps identify and manage risks tied to fast-evolving payment solutions more effectively.*
Originality: *This paper contributes to the existing literature by integrating financial innovation, payment resilience, financial inclusion, and central bank policy into one unified analytical approach. Instead of studying innovation-supporting tools in isolation, it examines how these elements interact to create sustainable payment ecosystems. It also provides policy recommendations aimed at helping central banks find the appropriate balance between advancing innovation and safeguarding security and operational resilience.*

Keywords*: central banks, payment services, financial innovation, fintech innovation hub*
JEL Classification: *E58, G28, G23*

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DIGITAL TRANSFORMATION IN THE CONTEMPORARY ECONOMY: IMPLICATIONS FOR MARKETS, ORGANISATIONS AND DEVELOPMENT

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Abstract
***Objective**: Over the past two decades, digital transformation has become one of the structural changes most visibly affecting the way markets operate, organisations allocate resources, and relationships between supply and demand evolve. Its economic significance extends beyond the introduction of new technologies, since digitalisation alters consumer behaviour, reshapes organisational practices, and influences the capacity of different economic actors to participate in markets that are increasingly less constrained by geographical proximity. This study examines these processes through the cultural and creative sector, which provides a particularly relevant setting for observing how technological change affects market access, patterns of consumption, and institutional strategies within the same economic environment. The choice of this sector does not confine the analysis to the economics of culture, because many of the mechanisms observed here are equally relevant to other activities facing comparable pressures to adapt their organisational structures and market strategies to technological change;*

***Method**: The analysis draws on international statistical evidence compiled in the Statista report Digitalization of the Arts and Culture Sector Worldwide, which brings together information on the art market, museums and galleries, and different forms of cultural engagement through digital channels. The available indicators are interpreted from an economic perspective, with particular attention given to the relationship between the expansion of digital channels, changes in consumer behaviour, and the capacity of organisations to incorporate new technologies into their existing models of operation. Particular consideration is given to developments during and after the COVID-19 pandemic, which represents a useful point of reference because it accelerated the adoption of digital solutions across many areas of economic and institutional activity. This distinction makes it possible to examine whether observed changes represented temporary responses to an exceptional external shock or whether they indicate more persistent adjustments in market behaviour and organisational practice;*
***Results**: The available evidence suggests that the acceleration of digitalisation during the pandemic was not followed by a complete return to previous market arrangements, even though several indicators associated with online activity subsequently recorded a degree of correction. Global online sales of art and antiques reached USD 9.2 billion in 2025, following a decline from the previous year, yet their value remained substantially above the levels recorded before the pandemic. A similar pattern can be observed in consumer behaviour, as 78 per cent of surveyed art buyers reported in 2022 that they had purchased art or collectibles through online channels during the previous twelve months, a proportion considerably higher than those recorded before 2020.*
At organisational level, however, the evidence presents a more differentiated picture because the adoption of digital technologies depends upon financial resources, specialised human capital, and the capacity to incorporate technological investment into a coherent institutional strategy. Around 45 per cent of the museums included in the international evidence allocated no more than five per cent of their budgets to communication and digital activities, while approximately 22 per cent employed full-time staff specifically dedicated to digital activities. At the same time, institutional interest in technological development remained substantial, with 78 per cent of surveyed organisations planning to introduce audio and video elements into exhibitions and 67 per cent considering the development of online exhibitions. Taken together, these developments suggest that digitalisation can expand the geographical reach of markets and reduce certain barriers to access, although its economic effects remain strongly conditioned by differences in organisational resources and institutional capacity;
***Originality**: The main contribution of the study lies in approaching digitalisation as a structural economic process that changes the relationships between markets, organisations, and consumers in ways that extend beyond the characteristics of any single sector. The cultural and creative sector is therefore treated as an empirical setting through which broader economic mechanisms can be examined, particularly those related to market expansion, organisational adaptation, and the changing allocation of resources under conditions of rapid technological development. This perspective makes it possible to connect sector-specific evidence with wider debates concerning structural change and economic development, while avoiding an interpretation of digital transformation as a purely technological phenomenon. The study consequently provides a sufficiently broad analytical framework for accommodating different research interests within economics and for examining how digital transformation increasingly shapes market functioning, organisational choices, and the capacity of economic actors to create and capture value.*

***Keywords**: digital transformation; economic development; structural change; organisational adaptation; digital markets.*

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DYNAMIC ANALYSIS OF THE RELATIONSHIP BETWEEN THE NATIONAL UNEMPLOYMENT RATE AND WAGE DYNAMICS IN ROMANIA'S IT&C INDUSTRY (2008–2025): A TIME SERIES ECONOMETRIC APPROACH

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Abstract
***Objective**: This paper examines whether a causal relationship exists between the registered unemployment rate at national level and the average net wage in Romania's information and communications technology (IT&C) industry, over the period January 2008 to December 2025. The starting point is an empirical observation: Romania's ICT goods exports declined from 4 billion euros in 2019 to 2.68 billion euros in 2024, raising the question of whether this slowdown is reflected in national labour market dynamics. The study tests the relationship in both directions and introduces the consumer price index as a control variable, in order to separate the influence of the general macroeconomic context from the direct link between the two variables of interest.*
***Method**: The analysis draws on monthly data from the National Institute of Statistics TEMPO-online platform, covering the registered unemployment rate (SOM103B), the average net monthly wage in IT&C activities (FOM106D) and the consumer price index (IPC102A). The sample comprises 207 monthly observations. The methodological approach follows the standard steps of time series econometrics: stationarity testing via the Augmented Dickey-Fuller test, optimal lag selection using AIC, SC and HQ criteria, estimation of a two-lag VAR model, and Granger causality testing. Since the unemployment rate and the IT&C wage series proved to be integrated of order I(1) and the Johansen test excluded the presence of cointegration between them, the VAR model was estimated on differenced series, with the CPI retained in its original form.*
***Results**: Granger causality tests do not confirm a significant causal relationship in either direction. IT&C wage dynamics do not detectably influence the national unemployment rate ($p = 0.714$), and the unemployment rate does not exert a significant influence on sectoral wages ($p = 0.543$). Each variable is explained primarily by its own past evolution. A distinct finding, with methodological relevance, is the causal relationship identified from inflation towards IT&C wage dynamics ($p = 0.041$), indicating that wages in this sector respond, at least partially, to general inflationary pressures, justifying the inclusion of the CPI as a control variable.*
***Originality**: Unlike previous studies that addressed this topic through cross-sectional analyses at county level or on annual data, this paper uses monthly time series covering nearly two decades, enabling a complete and verifiable econometric framework. The results do not confirm a direct causal link at national level, but do provide*

a methodological foundation for future panel studies combining the temporal and territorial dimensions, to examine whether such a relationship becomes visible in regions where the IT&C sector holds a significant share of the local economy.

***Keywords**: time series, unemployment rate, wage dynamics, IT&C, VAR model, Granger causality, Romania*

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LEVERAGING THE DIGITAL DIASPORA: HOW REMOTE WORK AND DIGITAL NOMADISM SHAPE CULTURAL HERITAGE CONSERVATION IN HOME COUNTRIES

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Abstract
The rise of remote work and digital nomadism has fundamentally reshaped the relationship between transnational migrants and their countries of origin.
***Objective**: While traditional migration literature heavily focuses on economic remittances, this paper investigates a novel phenomenon: the direct involvement of home-based and remote-working migrants in the preservation and promotion of their native cultural heritage. Utilizing a mixed-methods research design, this study examines how the intersection of digital proximity and geographic flexibility allows skilled professional migrants to bypass traditional diaspora channels. We analyze an inventory of emerging best practices across Eastern Europe, categorizing migrant contributions into digital documentation, cultural crowdfunding, and asymmetrical knowledge transfer (brain gain).*
***Results**: The findings indicate that remote working status significantly increases a migrant's propensity to engage in cultural co-creation, driven by a heightened need for identity negotiation and enhanced digital capital.*
***Originality**: This paper introduces a conceptual framework for 'digital cultural remittances,' offering actionable insights for policymakers to integrate the digital diaspora into national heritage sustainability strategies.*

***Keywords**: digital diaspora, remote work, cultural heritage, transnationalism, digital remittances, sustainability.*
***JEL classification**: F22, J22, Z10, O15, O33.*

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THE REMITTANCE-HERITAGE PARADOX IN EASTERN EUROPE: A PANEL DATA ECONOMETRIC ANALYSIS OF CULTURAL CAPITAL VALORIZATION

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Abstract
The economic developmental impact of personal remittances in transition economies has been a subject of intense academic debate within the New Economics of Labor Migration (NELM) framework. In Eastern Europe, remittance inflows have historically served as a critical macroeconomic stabilizer, mitigating balance-of-payments deficits, alleviating household poverty, and financing private micro-enterprises. However, while the literature extensively covers the impacts of these capital flows on education, health, and traditional infrastructure, their intersection with cultural economics - specifically the preservation and economic valorization of tangible and intangible cultural heritage - remains profoundly under-researched.
***Objective**: This paper investigates the economic limits and structural prerequisites of utilizing private migrant remittances for public cultural capital valorization in Eastern Europe.*
***Method**: Using a balanced panel dataset of seven major remittance-dependent Eastern European economies over the 2010–2025 period, we deploy a Fixed Effects and Dynamic GMM econometric framework to test the remittance-heritage nexus.*
***Results**: The empirical results reveal a nuanced macroeconomic reality: while aggregate remittances significantly boost private consumption and residential real estate development, their direct spillover into cultural sector expenditures and heritage preservation is negligible. Furthermore, our interaction models demonstrate a strict institutional threshold effect. Personal remittances yield positive externalities for cultural tourism development and heritage valorization only in jurisdictions characterized by high governance efficiency, low transaction costs, and robust anti-corruption indices. Under weak institutional frameworks, high remittance inflows trigger a crowding-out effect on local public cultural funding, alongside a structural "Dutch disease" effect in the local real estate market that accelerates the demolition of traditional architecture. These findings suggest that transforming volatile, private diaspora capital into sustainable public cultural assets requires dedicated public-private co-financing mechanisms, fiscal incentives, and institutional trust-building.*

***Keywords**: personal remittances, cultural heritage, Eastern Europe, panel data econometrics, institutional threshold, crowding-out effect.*
***JEL Classification**: F24, Z10, O43, C23.*

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THE CONCEPT OF SMART CITY – AN ORIGINAL APPROACH

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Abstract
***Objective**: This paper examines the concept of the smart city and the relationship between innovation, economic growth and the quality of life of its citizens.*
***Method**: The proposed approach uses the Tsukamoto fuzzy logic method and considers a Cobb–Douglas production function. It explores the use of annual innovation indicators and gross value added as variables for assessing a selected smart city. The discussion also draws on economic growth and innovation theory, the Jevons paradox and Okun's law.*
***Results**: The proposed framework aims to provide an understanding of how innovation and resource use may contribute to economic performance and improve life in a smart city.*
***Originality**: The paper proposes the use of the Tsukamoto fuzzy logic method to assess the role of innovation in smart city development.*

***Keywords**: smart city, innovation, economic growth, Tsukamoto fuzzy logic, gross value added, quality of life*

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THE ROLE OF DIGITAL TRANSFORMATION IN STRENGTHENING ORGANIZATIONAL RESILIENCE

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Abstract
In today's globalized economy, organizations operate within increasingly interconnected networks shaped by international trade, financial relations and information exchange. While these connections create opportunities for growth, they also make organizations more exposed to disruptions originating beyond their immediate business environment. The COVID-19 pandemic, followed by supply-chain and energy shocks, showed that organizations often have to respond within a limited amount of time and incomplete information. Digital transformation is frequently put forward as a way to build this ability to respond, yet its link to organizational resilience has seldom been examined as a topic in its own right. ***Objective****: Drawing on the existing literature on resilience, innovation and globalization, the paper discusses how digital capabilities and digitally supported practices can help organizations spot risks earlier, obtain and use information, decide faster, keep operations flexible and continuous and learn from past experiences. The relationship also has a downside. Heavier dependence on digital systems can introduce new vulnerabilities, so digitalization does not make an organization resilient by itself.* ***Results****: The paper argues that what digital transformation contributes depends on how well technological capabilities are matched by managerial and organizational adaptation.* ***Originality****: Resilience is understood here as the ability to anticipate, absorb and adapt to major disruptions while learning from them. Digital transformation is treated less as a matter of adopting technology and more as an organizational process that alters routines, structures and the way decisions are made.*

Keywords*: globalization, digital transformation, organizational resilience*