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AI FOR HUMANITY

Interdisciplinary Approaches to Ethical, Cultural and Social Change

BOOK OF ABSTRACTS

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3rd INTERNATIONAL CONFERENCE ON HUMANITIES AND SOCIAL SCIENCES

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KEYNOTE SPEAKERS

Artificial Intelligence in Society: Human-Centered Innovation, Ethics, and Equity

Goreti Marreiros, ,*President, Portuguese Association for Artificial Intelligence (APPIA) , Senior Coordinating Professor, Instituto Superior de Engenharia do Porto (ISEP), Portugal*

As AI systems increasingly shape decisions in critical areas of society, ensuring their fairness, transparency, and accountability is essential. In this talk, I will examine human-centred approaches to AI innovation, focusing on ethical risks such as bias, opacity, and exclusion. Drawing on principles from the AI Act and international ethical frameworks, I will discuss mechanisms to promote trustworthy and equitable AI.

Bionote:

Goreti Marreiros is a Full Professor with Habilitation at the Department of Informatics Engineering of the Instituto Superior de Engenharia do Porto (ISEP), Polytechnic of Porto. She is the Director of GECAD – Research Group on Intelligent Engineering and Computing for Advanced Innovation and Development, a unit recognized by the Portuguese Foundation for Science and Technology (FCT) for its contributions to intelligent systems and decision support.

Holding a PhD in Artificial Intelligence from the University of Minho, she also holds degrees in Applied Mathematics and Information Management from the University of Porto. Her academic and research career spans over two decades, with a strong focus on Artificial Intelligence, particularly in multi-agent systems, argumentation, and affective and social dimensions of decision-making environments.

Currently serving as President of the Portuguese Association for Artificial Intelligence (APPIA), Prof. Marreiros is a prominent figure in the national and European AI research communities. Her work explores innovative applications of AI in developing intelligent and collaborative environments for individual and group decision support..

The Stylistic Fingerprint of AI: Evaluating Language Model Adaptability from Ancient Greek to Modernist Prose

George Mikros, *Chief Scientific Advisor at Qognity, Professor of Computational and Quantitative Linguistics at Hamad Bin Khalifa University, Qatar*

This presentation explores the evolving capabilities of Large Language Models (LLMs) in replicating hidden aspects of human language, from the stylistic imitation of renowned authors to the generation of content in morphologically complex languages.

First, we investigate the stylistic adaptability of models like ChatGPT, examining their success in emulating the distinct prose of authors such as Ernest Hemingway and Mary Shelley. Through detailed stylometric analysis, we assess the accuracy of these imitations and reveal the challenges in distinguishing AI-generated text from human writing, highlighting significant implications for authorship attribution and forensic linguistics.

Second, we turn our focus to the performance of LLMs with the Ancient Greek language, evaluating the quality of AI-generated scientific texts in rhetorical texts in Ancient Greek. By comparing this output against human-written originals and discussing the development of specialized Greek-centric models, we offer data-driven recommendations for the responsible and critical integration of these powerful AI tools into language education.

Together, these investigations provide a comprehensive overview of the current state of stylistic and linguistic fidelity in LLMs, underscoring both their remarkable potential and their current limitations.

Bionote:

George Mikros is a distinguished professor of Computational and Quantitative Linguistics who has held positions at the University of Athens, Greece, and the University of Massachusetts, Boston, USA. He is the director of the Computational Stylistics lab and has made significant contributions to language resources and NLP tools for Modern Greek. With over 80 publications, including 5 monographs, he is an accomplished author. Dr. Mikros has been a key figure in the International Association of Quantitative Linguistics (IQLA), serving as a member of the Council and President. He is a renowned keynote and invited speaker at international conferences and is known for his work in computational stylistics, quantitative linguistics, computational linguistics, and forensic linguistics.

ON-SITE PRESENTATIONS

3rd INTERNATIONAL CONFERENCE ON HUMANITIES AND SOCIAL SCIENCES

AI for Social Justice and Equity

Artificial Intelligence and Fundamental Rights: A Legal Perspective for Justice and Equity

Patrícia dos Anjos Oliveira Nogueira de AZEVEDO, CEOS.PP, Portugal

The expansion of Artificial Intelligence (AI) and its cross-cutting impact on key sectors of society pose significant legal challenges, particularly with regard to the protection of citizens' fundamental rights. The use of algorithmic systems in public and private decision-making processes has various implications for fundamental rights, such as equality, non-discrimination, privacy and human dignity, which are essential pillars of a democratic rule of law and a society based on social justice and equity.
Our aim is to analyse the legal and regulatory implications of AI, focusing on the need to ensure that the development and use of these technologies effectively respect these fundamental rights. We will therefore explore the main legal responses currently underway in the European context, in particular the European AI Regulation (referred to as the AI Act), the General Data Protection Regulation (GDPR), as well as some of the international instruments for the protection of human rights.
Our reflection focuses on the risks of algorithmic discrimination and violation of the principle of equality, in particular through the reproduction of social prejudices or the opacity of the criteria used by AI systems. The issue of privacy and personal data protection will also be addressed, with particular emphasis on the requirements of transparency and control of data subjects over their data. The impact of AI on human dignity will also be analysed, considering the risks of depersonalisation, excessive surveillance or automated decisions.
In this context, the law must play a central role in shaping a robust regulatory framework that not only regulates technological development but also subordinates it to respect for fundamental rights and constitutional principles.
It is therefore necessary to coordinate legal accountability mechanisms, impact assessments on fundamental rights and effective public supervision in order to ensure that AI contributes to the promotion of social justice and equity, rather than exacerbating pre-existing inequalities or vulnerabilities.
In this way, the integration of AI must be accompanied by legal instruments that guarantee the primacy of equality, non-discrimination, privacy and human dignity.

Keywords: Artificial Intelligence; Fundamental Rights; Human Rights; Justice; Equity.

Bionote:

Patrícia dos Anjos Oliveira Nogueira de Azevedo is a PhD in Law in 2016 from the University of Porto - Faculty of Law; Master in Law (with the mention: Legal-Economic Sciences) in 2010 from the University of Porto - Faculty of Law; Graduated in Law in 2008 from the University of Porto - Faculty of Law.

CAAD Judge-Arbiter, in administrative and tax matters, currently unavailable. Lawyer, registered with the portuguese Bar Association, currently with her registration voluntarily suspended.

Currently Adjunct Professor at the Porto Polytechnic Institute - Higher School of Technology and Management. Member of CEOS.PP and member of CIICESI.

Artificial Intelligence for Sustainable Tourism Management: A comparative study of Marrakech and Málaga

Halima TAOUIL, Pr Ahmed ARARE, Chouaib Doukkali University, LERSEM, ENCGJ, Morocco
Pr Abdelhak SAHIBEDDINE, Chouaib Doukkali University, LERSEM, Director of ENCGJ, Morocco

Tourism is one of the fields that are concerned with sustainable development goals of the un and by the usage of digital technologies especially the IA to create extra-sustainable and urban environments through what is called the smart cities especially within the popular tourist destinations, especially in light of the integration of artificial intelligence which is reshaping the sector not only by improving management strategies by offering personalized experiences for visitors but also by addressing global challenges such as sustainable resource optimization and allocation. The objective of this study is to examines the manners of ai tools to personalize experiences for travelers while minimizing environmental risks and optimizing operations in touristic firms while managing the touristic flows.
Considering the key aspect of ensuring sustainable tourism management lies in finding a balance between economic growth and the fulfilment of the Sustainable Development Goals So, for this research we suggest our hypothesis how ai applications in tourism significantly reduce the environmental impact while enhancing economic opportunities and visitors' experiences and what are the challenges and ethical considerations in ai driven tourism management. And to test this hypothesis, we conducted a comparative case study of Málaga "Spain" and Marrakech "Morocco".

Both cities are leading tourist destinations that have embraced smart city strategies to enhance urban efficiency, cultural heritage conservation and a commitment to sustainability by promoting eco-friendly travel experiences; and optimizing tourism services. In order to examine the role of ai in sustainable tourism management of this comparative case study we will be using a mixed-methods starting from documentary analysis with «official reports, and trusted documents by incorporating secondary data from tourism boards and smart city initiatives, and qualitative 30 semi- structured interviews tourism business owners per city "travel agencies, hotels" to approach environmental risks, and personalizes traveler experiences to a quantitative approach involves surveying 100 tourists from each city using stratified and purposive sampling in order to assess ai's governance, implementation barriers and ethical concerns, the research focuses on two key variables: ai-driven environmental efficiency and ai-enhanced tourism operations ,and the software that will be used is NVIVO for thematic analysis to ensure a comprehensive evaluation of ai's role in sustainable tourism across different cultural contexts and to examine AI's roe in environmental efficiency and operational optimization in tourism.

These results highlight the importance of ai in sustainable tourism; demonstrating that ethical ai improves operational efficiency, maintain sustainability through cultural preservation and for sure enhance digital equity that are essential for long-term success.

However, some challenges like related to the data privacy and algorithmic bias and ethical governance must be implemented. The paper emphasizes valuable insights for policy makers, tourism stakeholders, and urban planners aiming to develop more inclusive and ai powered sustainable tourism models while the case studies of Malaga and Marrakech represents a role model to work with.

Keywords: AI (artificial intelligence), smart mobility, ethical AI governance, digital urbanism, sustainable tourism.

Bionote:

Halima Taouil, Phd student at ENCGJ, chouaib doukkali university and member of the Lersem laboratory and also part of the research team: Data Science, Digitalization, Soft Skills and Communication of Organizations (DSCO), while currenyly following an internship at ALMERIA University, Spain.

Artificial Intelligence for Sustainable Natural Resource Management: Challenges and Opportunities

Fatima Ezzahrae KHALLAOUI, Moulay Ismail University, Laboratory of Economics and Management, Morocco

Sustainable management of natural resources is a critical global challenge requiring innovative approaches to balance economic growth with environmental preservation. As demand for natural resources increases due to population growth and industrialization, traditional methods struggle to provide real-time monitoring and adaptive decision-making. Artificial Intelligence (AI) has emerged as a transformative tool that optimizes resource utilization while reducing ecological impact.

AI-driven technologies such as machine learning, remote sensing, and big data analytics are revolutionizing the field of natural resource management. These technologies facilitate ecosystem monitoring, environmental risk forecasting, and improved efficiency in water management, energy production, and mineral extraction. With predictive models, AI allows the anticipation of droughts, deforestation, and pollution, promoting proactive resource management strategies. Moreover, AI facilitates process automation, reducing waste and enhancing operational efficiency.

This study focuses on three main areas:

AI for Environmental Risk Prediction and Mitigation: AI algorithms analyze vast amounts of data to identify potential hazards, helping to develop adaptation strategies for natural disasters. For example, satellite imagery combined with machine learning can detect deforestation trends, illegal mining activities, and water level declines, enabling early interventions. AI-powered climate models assist policymakers in preparing for floods, wildfires, and desertification.

AI in Resource Optimization: In sectors like energy and agriculture, AI improves process efficiency, fostering intelligent and sustainable resource management.

For instance, smart grids optimize renewable energy production and consumption forecasting, balancing supply and demand and reducing energy waste. In agriculture, precision farming uses AI to monitor soil health, predict crop yields, and optimize irrigation, ensuring sustainable water use. AI also enhances waste management and recycling, promoting a circular economy.

Ethical and Governance Challenges in AI-Driven Resource Management: Despite its advantages, integrating AI into resource management raises concerns about algorithmic bias, data governance, and unequal access to technology. Less developed regions may be disadvantaged compared to technologically advanced areas, exacerbating inequalities in resource management. Additionally, concerns about privacy protection and surveillance are raised regarding the use of environmental data. It is essential for governments and organizations to establish transparent and inclusive AI policies that ensure fairness, sustainability, and ethical considerations.

Methodology and Results

This research adopts a qualitative and analytical approach, assessing case studies from various industries and regions to evaluate the effectiveness of AI-driven solutions. The findings show that AI significantly improves efficiency, sustainability, and resilience in natural resource management. However, challenges remain, including inequality in access to technologies, accountability in AI use, and data governance issues.

This study highlights the importance of interdisciplinary collaboration among researchers, environmental experts, governments, and decision-makers to maximize AI's potential for sustainable development. Public policies must evolve to integrate AI as a key tool in natural resource management while ensuring proper regulatory mechanisms to prevent misuse and ensure equity.

Keywords: Artificial Intelligence, Natural Resource Management, Sustainable Development, Environmental Governance, Resource Optimization

Bionote:

Khallaoui Fatima EZZAHRAE is a doctoral candidate in Economic and Management Sciences, specializing in Finance, Audit, and Management Control. His doctoral project focuses on the management of natural resources and international relations, with a comparative analysis of the Moroccan and Canadian models. As a scholarship monitor at CNRST, he is passionate about sharing his knowledge and contributing to the education and training of future finance professionals.

The Power of Digital Disconnection in a Hyperconnected Era: Exploring Moroccan Tertiary Students' Attitudes

Latifa Hafdi IDRISSI, Ibn Tofail University, LITARRIP, Morocco

This study investigates the conflicting connections between university students and their devices within the unique socio-cultural environment of Morocco, in an age where digital connectivity frequently replaces authentic human interaction. Although current research has determined the worldwide prevalence of digital dependency and its psychological effects (Twenge, 2019; WHO, 2021), significant gaps persist in comprehending how these dynamics occur in non-Western educational contexts, the reasons why awareness of digital harm seldom leads to behavioural modification, and the types of institutional interventions that could promote healthier interactions with technology. This study, based on mixed-methods research involving 120 third-year English students at Ibn Tofail University's ESEF, uncovers a significant dissonance: 93.5% of interviewees acknowledged that digital communication diminishes interpersonal connections, while 78.3% obsessively checked their phones within five minutes after awakening. The "awareness-behaviour gap" was accentuated by cultural conflicts; students expressed regret for disregarding cherished customs, such as family iftar dinners, while simultaneously feeling impotent against algorithmic platforms designed to monopolise attention.

The results reveal three interrelated phenomena. At first, students thought that their dependence was caused by a "3-Factor Trap": personalised algorithmic content, social fear of missing out (FOMO), and a lack of other ways to interact with others. This supported Orben's (2023) social displacement hypothesis. Secondly, 68% indicated cultural dissonance, articulating shame for contravening communal standards of presence, although lacking a framework for transformation. Third, Moroccan colleges have offered little guidance on digital wellbeing, unlike European institutions that have enacted "right to disconnect" policies (France, 2017), requiring students to self-regulate in the face of extensive design manipulation. Together, they came up with solutions like an "Attention Resilience" curriculum that shows misleading app design techniques, "Slow Tech Zones" on campus, and peer-led detox challenges that cut screen time by 31% in pilot tests.

In accordance with the conference's AI for Humanity theme, the report promotes three paradigm shifts. It necessitates that platforms reveal interaction metrics in accordance with the EU's Digital Services Act and emphasise "human-by-design" principles. It suggests modifying UNESCO's AI competency framework to incorporate digital self-regulation abilities. Culturally, it underscores the imperative of advancing technologies that enhance – rather than supplant – local traditions of connectivity. One participant observed, "Our phones facilitate communication with numerous individuals, yet frequently result in diminished substance in our conversations." This research positions digital well-being as a shared obligation necessitating interdisciplinary cooperation among educators, policymakers, and AI developers to establish environments where technology enhances rather than undermines human well-being.

By prioritising student perspectives and cultural specificity, the initiative transcends mere criticism and provides practical strategies for recalibrating our digital and physical existences in an increasingly AI-driven environment.

Keywords: Digital Well-being, Human-Connection Paradox, Cultural-Tech Dissonance, Attention Resilience, Ethical AI Design

Bionote:

Latifa Hafdi Idrissi is an associate professor of ELT methodology at the Higher School for Education and Training (ESEF), Ibn Tofail University. She is a member of the Higher Education Partnership-Morocco (HEP-M) and has contributed to revising the English curriculum for the Licence in Education. Her research spans ELT methodology, inclusive education, and gender studies. A former British Council teacher, she holds Cambridge CELTA, TKT, TEFL/TESOL, SEN, CiSELT Advanced, and OPEN TOT certifications. With a doctorate in Linguistics and Gender Studies, she is dedicated to inclusive and gender-responsive education in Morocco.

Artificial Intelligence as a Normative Actor: Towards a Silent Privatization of Law?

Youmna TOUBI, **Amina KHALLOUFI**, FSJES, Chouaib Doukkali University, Morocco

As artificial intelligence (AI) systems increasingly permeate decision-making processes in sectors such as finance, taxation, public administration, and justice, they are generating real-world effects that shape behaviors, allocate rights, and exclude individuals—all without formal legal validation or democratic control. This paper argues that AI is emerging as a normative actor, capable of silently reshaping the legal order by imposing behavioral standards through opaque, privately controlled systems. Such a phenomenon represents what can be described as a silent privatization of law, raising critical concerns regarding legal certainty, state sovereignty, and the protection of fundamental rights.

This study adopts a critical legal and interdisciplinary methodology, combining a review of regulatory frameworks (including the EU AI Act, the GDPR, and international ethical instruments) with an in-depth case study of Morocco. It examines how AI is currently being deployed in Moroccan public and private sectors, particularly in financial regulation and anti-corruption strategies, highlighting regulatory gaps and asymmetries in contexts where digital governance frameworks remain underdeveloped. A comparative perspective is integrated through reference to European and international models, allowing for a broader reflection on global governance challenges.

Findings suggest that the normative power of AI is growing in ways that often bypass legal accountability and democratic oversight. In countries like Morocco, this trend is intensified by technological dependency and limited institutional capacity to regulate algorithmic systems. The paper concludes by calling for a reaffirmation of legal sovereignty in the face of technological normativity, advocating for stronger regulation, transparent algorithmic governance, and the enforcement of rights to explanation and recourse. These are essential steps to ensure that legal certainty and the rule of law are not eroded in the age of intelligent systems.

Keywords: Algorithmic Governance, Privatization of Law, Legal Certainty, Digital Sovereignty, Fundamental Rights.

Bionotes:

Youmna Toubi is a PhD candidate in Business Law, my research focuses on the intersection of economic crime, legal certainty, and digital transformation.

Amina Khalloufi is a Professor and researcher in private law at Chouaib Doukkali University. Her academic work focuses on business crime, legal theory, and the challenges of regulating complex financial and digital systems.

Using the ChatGPT artificial intelligence system, a complementary solution for the modern teacher on improving his own professional performance

Anastasia-Mălina CIOLOCA, Faculty of Psychology and Educational Sciences, Transilvania University, Romania

The present study, a quantitative and qualitative, quantitative and qualitative study, aims to investigate how chatGPT can be utilized to adjust teachers' teaching strategies and improve their professional performance, following the feedback collected from the learners and the relevance of this approach to generating positive learning experiences for students. In this work, the survey method, based on a questionnaire, the focus-group method using a focus-group grid and the content analysis method, based on an observation sheet, were used.
The questionnaire was administered to 188 respondents from Romania, students and master's students at the Faculty of Psychology and Educational Sciences, in the process of training for a teaching career. Within this stage of scientific investigation, the research questions that guided the approach are: To what extent do teachers ask for feedback from their students at the end of their courses/seminars? and What is the impact of feedback received by teachers from students on improving the quality of teaching activities? By analyzing the results obtained in the questionnaire, we can see that to a large extent (35%) and to a very large extent (25.5%), the teachers of the respondents ask for feedback at the end of the teaching activities, but there are few situations in which teachers adjust their professional behavior, their pedagogical approach, based on the feedback received from the learners. As a result, further, approaching the focus-group method for a sample of 36 participants, students who previously filled in the questionnaire, we investigated, through specific indicators, the quality of possible teacher-chat GPT dialogues on the modification/adjustment of teachers' teaching strategies. The students were divided into 6 groups of 6 people and asked to agree to the recording of their discussions and their subsequent transcription for research purposes.

The focus-group grid contains 7 subjective items, created starting from the following research question: To what extent can ChatGPT understand and interpret complex teaching contexts in order to generate solutions to improve teachers' professional performance in the human-AI conversation? The statistical processing of this data was done using the MAXQDA program.
We start from the premise that through the feedback received by the learners and through a self-analysis of the teaching activity carried out by the teacher, which captures answers to their own questions, their own expectations and their own lived educational realities, a relevant awareness of the teacher on the degree of effectiveness of his performance is produced, which can allow improvements and generate learning experiences higher-quality than the previous ones.

Thus, we submitted to a critical analysis, a self-analysis sheet of the teaching activity, realized in our own conception, based on a thorough scientific documentation and a self-analysis sheet of the teaching activity, generated by ChatGPT. The analysis of these documents was based on the research question: Is ChatGPT a reliable and valid alternative to generate self-monitoring tools for teaching effectiveness? The data were interpreted on the basis of an observation sheet with specific, predefined indicators. The results obtained are contained in a descriptive report.

Keywords: Feedback, self-analysis of teaching, improvement of teachers' professional performance, positive learning experiences, ChatGPT.

Bionotes:

Cioloca Anastasia-Mălina is an Assistant Doctor at the Faculty of Psychology and Educational Sciences, Transilvania University of Brașov, Romania. Her research interests focus on reflexivity, self-analysis of teaching activity, and teacher training. She is dedicated to exploring the role of reflection in improving educational practices and supporting the professional development of educators. She is a member of the Romanian Association for Research in Education and actively participates in conferences and scientific events. She considers that her work is highly appreciated by both students and fellow teachers. For more information she can be found on ORCID under the code: 0000-0002-7581-8662.

Desafios E Oportunidades Da Inteligência Artificial No Futuro Do Trabalho: Um Olhar Para O Sul Global.

Juliano Maurício de CARVALHO, Mônica Santos MARTINS, Gabriela Mackert OCCHIPINTI, Universidade Estadual Paulista (Unesp), Brazil

Apesar do debate contemporâneo sobre os avanços da inteligência artificial (IA), é preciso destacar que sua história remonta à década de 1940, Haenlein e Kaplan (2019) apontam Isaac Asimov e Alan Turing como figuras pioneiras. Turing desenvolveu a máquina Bombe e propôs o Teste de Turing, que ainda serve como referência para avaliar a inteligência de sistemas artificiais. O termo "Inteligência Artificial" foi formalmente cunhado na Conferência de Dartmouth em 1956, marcando o início de um período significativo de progresso no campo. No entanto, a pesquisa em IA enfrentou estagnação na década de 1970, ressurgindo apenas na década de 2010 com avanços em redes neurais e técnicas de Deep Learning. No contexto da Sociedade da Informação, esse debate também não é inédito, autores discutiram as profundas transformações nas relações sociais, econômicas e políticas impulsionadas pelo avanço tecnológico. Bauman e May (2002) ressaltam que a informação sempre foi um valor econômico crucial, intensificado pela tecnologia, que potencializa os fatores de velocidade, volume e valor. Takahashi (2000), destaca a informação como matéria-prima e o conhecimento como principal valor econômico, enquanto Melo (2001) foca nos potenciais de participação e exclusão social da Sociedade da Informação, especialmente no Brasil onde as disparidades regionais e socioeconômicas podem acentuar a exclusão digital e social. Martín-Barbero (2000) contribui ao destacar que a informação e o conhecimento são eixos centrais para o desenvolvimento social, especialmente em países do Terceiro Mundo.

A Inteligência Artificial, como ferramenta, tem um papel central na organização e transformação das relações econômicas e sociais da Sociedade da Informação. Arora (2024) faz uma crítica ao que define como conceito limitado de acesso igualitário à informação e às tecnologias digitais, ressalta que o simples acesso não é o suficiente para promover uma inclusão efetiva, pois as tecnologias digitais frequentemente ignoram as necessidades e as culturas dos que estão à margem. Com isso, a autora traz luz a como as atitudes em relação às tecnologias digitais divergem entre o Norte e o Sul Global, destacando o pessimismo como um privilégio predominantemente ocidental.

A autora argumenta que, enquanto o Ocidente se concentra nos riscos da tecnologia — como vigilância, privacidade e manipulação algorítmica —, esses temores são sustentados por um contexto de segurança digital e acesso estável. No Sul Global, ao contrário, o digital é amplamente visto, por parte da população, como uma oportunidade essencial de inclusão, oferecendo meios de superação das barreiras sociais, econômicas e geográficas. Para muitas populações marginalizadas, o digital possibilita um acesso valioso a serviços básicos e ao mercado, tornando o otimismo uma necessidade para a sobrevivência e a melhoria das condições de vida.
No Brasil, muitos jovens veem nas ferramentas de IA aplicadas à inovação e criatividade uma oportunidade crucial de inclusão. A IA oferece acesso vital a serviços básicos e ao mundo do trabalho, mas também traz desafios éticos e de formação crítica. Este trabalho propõe apresentar uma revisão bibliográfica de pesquisa em andamento com autores que debatem esse cenário, com um recorte direcionado às especificidades de países do Sul Global.

Keywords: Comunicação; Inteligência Artificial; Inclusão Digital; Educação; Mundo do Trabalho

Bionotes:

Juliano Maurício de Carvalho. Full Professor in Communication Policies, Media, and Creative Industries at the São Paulo State University (Unesp). He is the deputy coordinator of the doctoral program in the Graduate Program in Media and Technology and a professor in the Journalism Department, as well as the leader of Lecotec (Laboratory of Studies in Communication, Technology, Education, and Creativity) at the Faculty of Architecture, Arts, Communication, and Design at Unesp. PhD in Communication from the Methodist University of São Paulo (Umesp), Masters in Political Science from the University of Campinas (Unicamp), and Bachelors in Journalism from the Pontifical Catholic University of Campinas (PUC-Campinas). He completed postdoctoral studies at the University of Seville and the Carlos III University of Madrid.He has served as a board member of the National Forum for the Democratization of Communication, director of the Brazilian Association of University Television, coordinator of the Communication Policies Working Group at Intercom, vice president and director of Institutional Relations at the National Forum of Journalism Professors, and communication director of the Latin Union of Political Economy of Information, Communication, and Culture.

Mônica Santos Martins. PhD student in Media and Technology at the Postgraduate Program in Media and Technology (PPGMiT) of the Universidade Estadual Paulista "Júlio de Mesquita Filho" (Unesp). Master in Communication from Unesp, specialist in Communication in Organizations and graduate in Administration from Sacred Heart University. He has an MBA in Marketing from the Getúlio Vargas Foundation. Member of the Laboratory for Studies in Communication, Technology, Education and Creativity (LECOTEC). Professional of Communication and Marketing at Senac São Paulo.

Gabriela Mackert Occhipinti. She has a degree in Business Management and Innovation from the São Paulo State Technology College (2021). She is currently an undergraduate student in Journalism at São Paulo State University (UNESP) in Bauru and a recipient of a scientific initiation scholarship from the São Paulo Research Foundation (FAPESP). She is a member of the Laboratory of Studies in Communication, Technology, Education, and Creativity (LECOTEC).

L'intelligence artificielle générative dans l'apprentissage du FLE à l'université : regards croisés sur personnalisation et éthique

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Pr. SHLAKA Souhad, Mohammed V University, Morocco
Pr. Najem Eddin SOUGHATI

L'intelligence artificielle générative (IAGen) prend une place croissante dans les environnements universitaires, notamment à travers des outils comme ChatGPT. Présentés comme des leviers de personnalisation des apprentissages, ces dispositifs promettent un accompagnement individualisé, en particulier dans les tâches rédactionnelles. Dans les filières scientifiques telles que Mathématiques–Informatique–Physique (MIP), où le français langue étrangère (FLE) constitue un vecteur de communication académique, ces technologies semblent offrir des solutions nouvelles.
Cependant, les usages réels observés auprès des étudiants MIP à la Faculté des Sciences de Rabat révèlent un écart entre les intentions pédagogiques supposées de ces outils et les pratiques effectives des apprenants. Les étudiants sollicitent l'IAGen pour gagner du temps, contourner certaines consignes, produire des textes rapidement ou répondre à des exigences formelles sans toujours engager de réflexion linguistique ou disciplinaire. Cette instrumentalisation de l'outil interroge le sens que prend la personnalisation dans ce contexte.
Dans quelle mesure ces usages relèvent-ils d'un véritable apprentissage personnalisé ? Que reste-t-il du rôle formateur de la tâche lorsque l'outil automatise l'essentiel du travail cognitif ? Quels repères éthiques peuvent guider l'encadrement de ces pratiques ? La personnalisation offerte par l'IA peut-elle encore se justifier si elle se fonde sur des logiques d'optimisation et non d'appropriation ?
Ce projet vise à analyser les pratiques déclarées et observées d'étudiants MIP dans leurs usages de l'IAGen pour des tâches en FLE. Il interroge les conditions d'une personnalisation réellement formatrice, et questionne les limites éthiques d'un recours intensif à l'IA dans des situations où le développement de compétences langagières et réflexives reste un enjeu majeur.

Keywords: Intelligence artificielle générative (IAGen),Personnalisation des apprentissages,Éthique de l'IA en éducation,Français langue étrangère (FLE),Enseignement supérieur scientifiqu.

Bionote:

Aziza ELMOUHTADI,enseignante au lycée, doctorante en ingénierie pédagogique

Utilisation de l'IA pour lutter contre la désinformation dans les médias et réseaux sociaux : cas de la cause palestinienne

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Professor Laila CHERRADI, Faculté Polydisciplinaire de Ouarzazate, Université Ibnou Zohr Agadir, Morocco

La désinformation, en particulier sur les réseaux sociaux, constitue un défi majeur dans la société moderne, surtout dans des contextes géopolitiques délicats tels que le conflit israélo palestinien. Ce dernier est souvent caractérisé par la diffusion de fake news et de narrations biaisées qui affectent l'opinion publique internationale. Cette étude examine le rôle de l'intelligence artificielle (IA) dans la détection et la lutte contre la désinformation dans les réseaux sociaux en analysant le cas de la cause palestinienne. L'objectif est d'examiner comment l'IA peut être utilisée pour détecter, contrôler et lutter contre la propagation des fake news, tout en assurant une couverture plus exacte et honnête de la situation palestinienne. Les réseaux sociaux, qui sont devenus des sources primaires pour diffuser les informations, sont par ailleurs, des plateformes puissantes de désinformation. Des narratives manipulées, falsifiées ou partiellement négligées au sujet de la Palestine circulent en abondance, influençant l'opinion publique mondiale. Afin de repérer ces fake news, l'IA permet de traiter et d'analyser des quantités massives de données grâce à des outils comme l'apprentissage automatique, le traitement du langage naturel et les systèmes de détection de biais. Ces technologies sont en mesure de détecter les récits manipulés, de vérifier les informations, et de rapporter en direct les contenus biaisés ou incorrects. Cette recherche repose sur l'analyse des outils d'IA employés pour la validation de l'information sur les plateformes sociales, comme ClaimBuster, Botometer, ainsi que d'autres techniques d'analyse des sentiments. Ces instruments s'appuient sur des algorithmes d'apprentissage supervisé et non supervisé pour détecter les irrégularités dans les données et confirmer leur authenticité en recoupant diverses sources crédibles. L'étude se base sur des publications recueillies depuis des plateformes populaires, telles que Twitter (X), Facebook et Instagram, traitant d'événements en lien avec la Palestine.

Les résultats préliminaires indiquent que l'IA est capable de repérer efficacement une part de la désinformation, en particulier celle provenant des comptes automatisés (bots) ou de sources douteuses. Néanmoins, l'IA est confrontée aux défis concernant la compréhension des contextes politiques et culturels propres au conflit palestinien, ce qui peut provoquer des fautes d'interprétation. Par ailleurs, l'usage de ces outils pose de sérieuses questions éthiques, notamment en termes de liberté d'expression et de traitement des biais algorithmiques. Pour conclure, l'IA constitut un outil efficace dans la lutte contre la désinformation sur les réseaux sociaux. Cependant, sa puissance est tributaire de l'amélioration constante des algorithmes et de leur aptitude à saisir le contexte géopolitique.
Cette recherche pave la voie vers une exploitation plus efficace de l'IA pour assurer une information juste et impartiale sur des sujets sensibles tels que la question palestinienne, et suggère également des recommandations pour renforcer le déploiement de ces technologies dans le contrôle de l'authenticité de l'information sur les plateformes numériques.

Keywords: Intelligence artificielle, désinformation, réseaux sociaux, fake news, cause palestinienne.

Bionote:

Maha TOUZANI is a second-year PhD student in Management Sciences and Techniques at National School of Business and Management (ENCG), Agadir Morocco, specializing in Human Resource Management. She holds a master's degree in human resource management and a Bachelor's degree in Communication Techniques. Her current research focuses on human resource management practices within cooperatives, examining the state of play and conditions for development. Maha is also tax inspector at the General Taxe Directorate in Morocco.

Artificial Intelligence and Inclusive Tax Policy: Conditions for Fair Implementation in the Moroccan Context

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As governments increasingly consider the use of artificial intelligence (AI) in public finance, new perspectives emerge regarding its capacity to support fairer and more inclusive tax systems. This article investigates how AI can contribute to the advancement of fiscal equity, while considering the institutional and social conditions necessary to avoid reinforcing disparities. The study focuses on the Moroccan context, where ongoing tax reform efforts raise important questions about justice, accessibility, and governance. The research adopts a qualitative and documentary approach, combining an analysis of official reform documents with thirty semi-structured interviews conducted with policymakers, experts, practitioners, and representatives of civil society. Thematic analysis was carried out using NVivo software, allowing for a structured interpretation of discourse patterns related to transparency, institutional trust, and the role of digital tools in fiscal management. The findings highlight both opportunities and challenges linked to the use of AI in tax governance. While many participants recognize its potential to enhance clarity and administrative coherence, they also point to the importance of inclusive implementation, responsible data use, and clearly defined institutional frameworks. The study contributes to ongoing reflections on the role of digital technologies in shaping public policy and promoting social equity.

Keywords: Artificial intelligence, Tax reform, Fiscal equity, Public governance, Digital transformation, Institutional trust, Morocco

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AI for Social Justice, Equity & Education

Algorithmic Affinities: Political Framing in GROK 3 and the Role of Corporate Leadership in Shaping AI Ideology

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Recent studies demonstrate that large language models (LLMs) inherit and amplify societal biases, including political leanings (Caliskan et al., 2017; Motoki et al., 2024). However, little is known about how corporate leadership influences LLMs' framing of ideological issues—a gap this study addresses by analyzing GROK 3, developed by X under CEO Elon Musk, a vocal advocate of US Republican conservatism. Based on Entman's (1993) framing theory, we investigate whether GROK 3 systematically aligns its narratives with Musk's public statements and Republican Party principles across six dimensions: fiscal conservatism, social conservatism, nationalism, free speech, climate skepticism, and tech innovation. Using a tripartite prompting framework (Neutral, Republican-aligned, Musk-aligned), we generated 15,000 responses to 50 policy-specific questions. Computational text analysis (LIWC, BERT) quantified linguistic markers (e.g., lexical choice, metaphor use), while bootstrapped regression models compared framing intensity across conditions. Preliminary findings reveal GROK 3's Republican-aligned responses emphasized "small government" and "free markets" 2.3x more frequently than neutral responses ($p < .001$), while Musk-aligned outputs prioritized "innovation" and "anti-regulation" 3.1x more than Republican-aligned texts ($p < .01$). These patterns mirror Musk's public rhetoric, suggesting corporate leadership may shape LLMs' ideological framing. This work extends Motoki et al.'s (2024) bias analysis by introducing a framing lens, contextualizing LLMs within political communication scholarship. It also responds to calls for auditing algorithmic outputs in light of corporate influence (Mökander & Floridi, 2021; Brown et al., 2021). Implications for AI ethics, platform transparency, and policy are discussed.

Keywords: Political Framing, Large Language Models, Algorithmic Bias, Corporate Influence, Computational Communication.

Bionote:

Mouad Mbeker is a third-year doctoral candidate and recipient of Morocco's prestigious CNRST «PhD-Associate Scholarship – PASS», recognized for his research in media studies, journalism, and framing analysis. As a Doctoral Monitor at Chouaib Doukkali University (UCD), he leads teaching activities, mentoring students in language classes. His interdisciplinary work examines media framing mechanisms, blending qualitative and quantitative methods to dissect bias, political discourse, and digital platform dynamics. As an academic-practitioner, he brings insights on media's societal impact, offering strategies to address contemporary challenges in journalism and digital communication.

Employer Branding and HR Marketing: Strategies for Talent Attraction and Retention

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In today's highly competitive job market, employer branding and HR marketing have become essential tools for organizations seeking to attract and retain top talent. A strong employer brand enhances an organization's reputation, improves its ability to recruit highly skilled candidates, and fosters long-term employee engagement. HR marketing, as a complementary strategy, focuses on effectively communicating the organization's values, culture, and career development opportunities to both potential and current employees. These strategies play a crucial role in shaping organizational success by influencing candidate perceptions and employee experiences.

The primary objective of this study is to explore how employer branding and HR marketing contribute to an organization's attractiveness and competitiveness. Currently in the literature review phase, the research aims to identify key theoretical frameworks, best practices, and emerging trends in employer branding and HR marketing. The study adopts a qualitative methodology, relying on an extensive review of academic literature, industry reports, and case studies of companies that have successfully implemented employer branding initiatives.

A particular focus will be placed on digital employer branding strategies, which leverage online platforms, social media, and digital storytelling to enhance an organization's appeal. Additionally, the study will examine how corporate social responsibility (CSR), diversity and inclusion initiatives, and employee advocacy contribute to building a positive employer brand. The role of AI-driven HR marketing techniques in personalizing recruitment efforts and improving candidate experience will also be explored.

Findings from the literature suggest that an effective employer branding strategy not only improves talent acquisition but also reduces recruitment costs, enhances employee satisfaction, and lowers turnover rates. By fostering a strong and consistent employer brand, organizations can create a work environment that attracts high-caliber candidates and retains their best talent.

However, challenges such as maintaining authenticity in employer branding efforts, addressing cultural differences in global recruitment, and measuring the impact of branding initiatives remain key areas of concern.

Ethical considerations also play a significant role in employer branding and HR marketing. Organizations must ensure transparency, fairness, and inclusivity in their communication strategies to avoid misleading candidates or creating unrealistic expectations. The study highlights the need for organizations to align their employer branding efforts with their actual workplace culture and values to build credibility and trust among employees and job seekers.

This research contributes to the growing body of knowledge on employer branding by providing a comprehensive overview of current trends, challenges, and best practices.

As the study progresses, case studies will be analyzed to offer practical insights into how organizations can optimize their employer branding strategies. The findings will be particularly relevant for HR professionals, recruiters, and business leaders seeking to strengthen their employer brand and enhance their talent acquisition strategies.

Keywords: Employer Branding, HR Marketing, Talent Attraction, Employee Retention, Candidate Experience.

Bionote:

Salma Mrabat is a doctoral student in Economics and Management at the Faculty of Economic, Legal, and Social Sciences of Moulay Ismail University, affiliated with the Laboratory of Research in Economic and Management Sciences. Her research focuses on employer branding and HR marketing, with a particular emphasis on how organizations can enhance talent attraction and retention through strategic communication. She is particularly interested in exploring innovative and ethical HR marketing approaches that not only improve candidate and employee experiences but also strengthen employer brands in a highly competitive job market.

Personalized Recommender Systems and Consumer Trust: Balancing Prediction, Privacy and Transparency in AI-Driven Commerce

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As artificial intelligence (AI) continues to transform the digital marketplace, recommender systems have become pivotal in shaping how consumers interact with platforms, products, and brands. This paper explores the emergence of AI-powered, personalized recommender systems—particularly context-aware systems—shape consumer purchasing behavior within digital platforms.

Grounded in a conceptual and literature-based approach, the study focuses on how behavioral and contextual data are used to generate real-time, individualized product suggestions in e-commerce environments, often without explicit user awareness. This evolution moves beyond traditional filtering models to sophisticated AI-driven systems that integrate behavioral signals (e.g., clicks, browsing history, purchase patterns) with contextual data such as geolocation, device usage, time, and even ambient sound captured through microphones or connected apps.

This data-driven personalization enhances convenience, reduces cognitive effort, and streamlines the purchase decision-making process. It fundamentally reshapes how consumers navigate online shopping by offering highly relevant, tailored suggestions that align with personal needs and preferences. As consumers are exposed to vast amounts of information and product options, recommender systems act as intelligent filters, helping users manage information overload and simplifying choice architecture within digital marketplaces.

However, the opaque nature of how data is collected, processed, and transformed into recommendations raises significant questions regarding user autonomy, privacy, and algorithmic transparency. Consumers often remain unaware of the extent to which their behaviors are continuously monitored and transformed into predictive models that actively influence their choices. This lack of clarity about data usage, the logic behind the recommendations, and the inner workings of the algorithms challenges the perceived fairness and reliability of these systems.

The literature indicates that recommender systems do not merely react to consumer behavior but increasingly predict future preferences through advanced machine learning and deep learning techniques. This predictive capability allows platforms to anticipate needs with remarkable accuracy, often creating an impression that the system ""understands"" the user intuitively. Consequently, the perceived usefulness of these systems—defined as their capacity to facilitate, streamline, and accelerate the decision-making process—becomes a key driver of consumer acceptance and engagement with the technology.

Simultaneously, trust emerges as a critical mediating factor. Users are significantly more likely to accept, rely on, and act upon recommendations when they perceive the system as competent, transparent, and aligned with their personal interests rather than solely serving commercial objectives. Nevertheless, the literature highlights a paradox: the more invisible, automated, and frictionless these systems become, the greater the risk of undermining user trust due to the opacity surrounding data handling and the recommendation logic. Trust, therefore, is not only linked to system accuracy but is equally dependent on transparency, perceived integrity, and the consumer's confidence that the system operates ethically and in their favor.

In conclusion, while AI-powered recommender systems significantly enhance efficiency and user satisfaction in digital commerce, they also present pressing challenges concerning data ethics, privacy, and consumer autonomy. This paper calls for a balanced approach that combines technological innovation with robust transparency mechanisms to ensure consumer trust and informed decision-making in the digital marketplace.

Keywords: Context-aware recommender systems, personalization, trust, transparency, consumer behavior, AI ethics.

Bionotes:

Inês Veiga Pereira has a degree in Management and a Master in Business Sciences from the Faculty of Economics of Porto and a PhD from the University of Vigo, having developed a dissertation that focuses on Public Relations of non-profit organizations. She is Director of the Post-Graduation in Management and Direction of Health Units and bachelor degree in Business Communication. She was part of the internal evaluation commissions of the degree in Marketing. She has developed her research work focusing on Public and Non-profit Organizations and Brand Management. Inês has published articles in international scientific journals and has participated in several international conferences, with review. She has also organized two international conferences related to public and non-profit marketing. He has oriented several Master's Theses and has taught, since 2001, at ISCAP, curricular units in the Marketing and Brand Management area. She has taught Marketing for Social Economy Entities to the Master in Management and Legal-Corporate Regime of Social Economy and to the Post-Graduation in Management of Social Economy Entities. At ISSSP, she taught marketing in Social Economy organizations.

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AgroVila: Communication and Trust in Short Food Supply Chains – A Digital Platform for Sustainability, Inclusion and Local Resilience

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The sustainability of food systems and the resilience of local communities are key challenges in today's society, requiring integrated solutions that combine technological innovation, social justice, and environmental awareness. In this context, short food supply chains (SFSCs) offer viable alternatives to mass consumption logics by promoting direct relationships between producers and consumers, while enhancing the value of local production. However, the widespread adoption of SFSCs is still constrained by logistical, communicational and structural barriers.

The AgroVila project addresses these challenges through the creation of a human-centered digital platform that supports the commercialization of local agricultural products, based on principles of proximity, transparency and inclusion. The platform leverages digital technologies – including recommender systems and user behavior analytics – to efficiently connect small producers and urban consumers. Communication is considered a key strategic component in building trust and fostering more conscious consumption communities.

The research adopts a participatory action-research methodology, combining: (1) focus groups with producers and consumers in several Portuguese regions; (2) analysis of international best practices in digital SFSC platforms and social economy models; and (3) iterative development of the platform, guided by principles of usability, digital ethics and territorial cohesion. Preliminary findings show that producers value tools that strengthen their commercial autonomy and highlight their production identity, while consumers seek transparency, convenience and authentic connection with food origins.

The results suggest that the platform is designed with AI-powered features, such as intelligent product recommendations, availability alerts, and data dashboards to optimize delivery routes and forecast demand. These are supported by ethical and inclusive design principles, aiming to ensure fair visibility for less digitally skilled producers and avoid algorithmic bias.

This project demonstrates how digital transformation can support inclusion, sustainability and social justice, in a framework that promotes fair transitions and food sovereignty. It proposes a strategic communication model for data-informed digital platforms, offering replicable guidelines for other territorial and cultural contexts. By integrating technology and humanity, AgroVila makes a concrete contribution to building more ethical, resilient, and sustainable systems — in the agri-food sector and beyond.

Keywords: Short food supply chains, Food sustainability, Digital platforms, Trust and communication, Human-centered artificial intelligence.

Bionotes:

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Ana Azevedo is an integrated member of the CEOS.PP research centre and was a member of its Board of Directors. She is an Adjunct Professor in the Scientific Area of Information Systems, ISCAP / P.PORTO, Porto, Portugal, teaching courses in the areas of Electronic Commerce, Decision Support Systems, Business Intelligence and Research Methodologies. She has a PhD in Information Systems and Technologies from the University of Minho, Portugal. She is a member of the Scientific Council of the Masters in Electronic Business, ISCAP / P.PORTO, Porto, Portugal. She has published several articles in journals, conferences and book chapters. He is Associate Editor of the International Journal of Technology and Human Interaction (IJTHI) and the International Journal of Decision Support System Technology (IJDSST). He is a member of the Editorial Board of the International Journal of Business Intelligence Research (IJBIR), the International Journal of Grid and Utility Computing (IJGUC), the Electronic Journal of e-Learning (EJEL), and Future Internet. She has chaired several conferences and special sessions at conferences. She has edited several books and special issues of journals. She regularly serves as a member of the programme committee for various conferences and also serves as a regular reviewer for various journals and conferences. She regularly supervises and is a member of juries for master's theses and doctoral dissertations. Her main areas of research interest are Business Intelligence and Analytics, Decision Support Systems, Data Mining, e-Business and Digital Transformation. Her research interests also include e-assessment and gender issues in ITS and STEM.

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AI in Education and Pedagogy

The Influence of ChatGPT on the Writing Practices of Tertiary Students in Morocco: From Pre-writing to Revision

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The implementation of artificial intelliogence (AI) tools in education has profoundly transformed students' approaches to learning and academic writing. Writing, an essential skill, poses significant difficulties for English as a Foreign Language (EFL) learners (Nunan, 1989; Hyland, 2003; Xin, 2007; Al Murshidi, 2014; Muamaroh, 2020; Sekkal, 2024). Consequently, students are increasingly utilising AI tools such as ChatGPT to assist in producing quality compositions. ChatGPT, an AI language model, has transformed students' approaches to writing. Since its inception, various research have investigated ChatGPT's impact on academic writing (Aljanabi et al., 2023; Barrot, 2023; Fitria, 2023; Hosseini et al., 2023; Kohnke et al., 2023; Mahapatra, 2024). Nevertheless, there exists a deficiency in research, especially within the Moroccan setting, investigating the influence of ChatGPT on the writing practices of tertiary students.

This paper examines the influence of ChatGPT on the writing practices of students in the English Department at the Faculty of Letters and Humanities (FLH), Sais-Fes, Morocco. It examines tertiary students' methodologies in approaching, planning, drafting, revising, and editing their work, contrasting their writing processes prior to and subsequent to utilising ChatGPT. It specifically analyses students' pre-writing, during-writing, and post-writing activities, emphasising the duration allocated to each phase. The research aims to address the subsequent questions: What is the effect of ChatGPT on students' writing techniques? 2) To what degree do students' writing practices alter with the adoption of ChatGPT, including methodology and time allocation for writing? 3) In what manner does ChatGPT influence the various phases of students' writing processes?

A mixed-methods approach was utilised, incorporating a questionnaire with eight items: four closed-ended questions and four open-ended questions to collect both quantitative and qualitative data. The research employed a convergent parallel design, gathering quantitative and qualitative data concurrently while analysing them independently.

The quantitative findings are illustrated via one pie chart and two bar graphs, whereas qualitative comments were categorised by frequency of mention, prioritising the most often quoted responses. Data were gathered from 39 sixth-semester EFL students at the English Department of FLH, Sais-Fes, selected using non-random selective sampling.

The findings demonstrate that ChatGPT significantly influences students' writing practices. Quantitative results indicate alterations in students' time allocation and writing methodologies, whereas qualitative data offer a more profound insight into students' awareness and apprehensions regarding its influence on their writing processes. These findings underscore that whereas ChatGPT expedites the writing process, it simultaneously constrains the cultivation of vital writing abilities and creativity, hence impacting autonomous problem-solving.

The data indicate that ChatGPT affects tertiary students' writing habits and alters their writing process. This transition indicates that educators must modify their pedagogical approaches to foster greater originality, creativity, and reflective practices. This study underscores the necessity for additional research about the impact of AI tools, such as ChatGPT, on students' writing proficiency and academic integrity. The consequences for education indicate the necessity of guiding students to utilise AI tools judiciously to enhance their critical thinking abilities and achieve academic advancement.

Keywords: ChatGPT, academic writing, writing practices, writing process, tertiary students

Bionote:

Sekkal Khadija is a senior professor at Sidi Mohamed Ben Abdellah University, Faculty of Letters and Humanities, Sais-Fes, Morocco. Her academic journey started with the completion of her Doctorate in Gender Studies in 2007, paving the way for a successful career.Between 2007 and 2017, she served as a faculty member at Ibn Tofail University's Faculty of Letters and Humanities in Kenitra, Morocco. Throughout a decade, she shared her knowledge with students and gained significant experience in her field.Her academic interests go beyond teaching, as shown by her many published works covering different areas including language teaching and learning, proverbs, folktales, and folkdances.Her research interests include, among others, gender, Amazigh oral culture, and applied linguistics.

Exploring EFL Reading Patterns Using Webcam Eye Tracking: Preliminary Insights and Applications

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INTRODUCTION

Eye tracking has become a foundational method in reading research due to its ability to uncover subtle cognitive processes involved in reading. By analyzing eye movements such as fixations, saccades, and regressions, researchers gain valuable insights into how readers allocate attention, process meaning, and manage comprehension difficulties. However, traditional infrared eye-tracking systems remain limited by high costs, specialized equipment requirements, and restricted lab-based conditions, which pose challenges for wider application in diverse research contexts. In response to these limitations, webcam-based eye tracking has emerged as a promising alternative. Platforms such as RealEye allow researchers to collect gaze data remotely using standard webcams, offering a cost-effective, scalable, and non-invasive method for studying reading behavior. This advancement is particularly significant for low-resource contexts such as Morocco, where access to lab-grade equipment may not be feasible but where the need for innovative educational research tools is pressing.

OBJECTIVES

This study aims to explore the potential of webcam-based eye tracking, specifically through the RealEye platform, in reading research. The main objective is to examine how RealEye can be used to capture and analyze gaze behavior while participants engage with a single digital reading passage. The study also seeks to identify the kinds of cognitive and attentional data that can be extracted using this method and how these metrics may inform our understanding of reading comprehension processes. Furthermore, the research investigates the broader implications of using webcam-based eye tracking in educational research where cost-effective technology is greatly needed. Ultimately, the study aspires to demonstrate that RealEye offers a practical and scientifically sound solution for exploring real-time reader-text interactions.

METHODOLOGY

To meet these objectives, data were collected from seven participants who read a digital passage while their eye movements were recorded using the RealEye platform. The participants completed a 40-points calibration step to ensure accurate gaze tracking. The reading material was chosen to contain moderate lexical and structural complexity, designed to prompt measurable variation in reading behavior. Throughout the task, RealEye collected detailed gaze data, including fixation counts, average fixation durations, revisits to specific Areas of Interest (AOIs), and gaze time. The platform also generated visual outputs such as heatmaps, enabling both numerical and graphical interpretations of each participant's reading engagement.

DATA ANALYSI

The analysis involves a combination of descriptive statistics and qualitative interpretation of visual gaze maps. Fixation-related metrics were analyzed to assess cognitive processing effort, while the number and location of revisits provided insight into rereading behavior and potential comprehension breakdowns. Time to first fixation helped reveal participants' initial focal points, and total gaze duration offered clues about which parts of the passage were cognitively demanding. Heatmaps allowed for cross-participant comparisons, highlighting text sections that consistently attracted high attention or were largely overlooked. The findings indicate that RealEye effectively captured meaningful eye movement patterns. These results support the platform's use in reading research and suggest its broader applicability in educational contexts particularly in developing adaptive reading tools, conducting individualized assessments, and enriching pedagogical practices in environments where traditional eye-tracking methods are not viable or easily accesible.

Keywords: Webcam eye tracking, Reading research, Cognitive processes, Attention, Artifical intelligence

Bionote:

Oumaima Belgamra is a second-year PhD candidate in Educational Psychology at the Faculty of Education Sciences, where she has also been an adjunct professor since November 2023. Her academic journey reflects a strong interdisciplinary focus, bridging cognitive psychology, psycholinguistics, and English as a Foreign Language (EFL) learning. Her master's thesis investigates the influence of background auditory stimuli on the encoding and retention of novel words, laying the groundwork for her current doctoral research. In her PhD, she employs innovative process-based measures to explore how distinct auditory stimuli impact reading and writing processes. Her current research interest focuses on using real-time measures to gain online insights into cognitive processes involved in various language activities, including reading and writing in EFL contexts.

IMPLEMENTING AI IN ACCOUNTING: HOW TO DO IT?

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Higher education should evolve its teaching and learning process in order to cope with the use of AI in classes. The combination of pedagogical methodologies with AI tools is fundamental to exist in today's world. Students are more and more disheartened to be in classrooms where there are no active methods of learning. At Delors' report for an Education for the XXI Century in 2010, and fifteen years later, the four pillars of education remain: learn to know, learn to do, learn to be together, and learn to be. The concerns are the same. But the reality changed, a change is needed in the way education faces AI in the learning process.
In this study, it is intended to do a profound literature review under the scope: four pillars of education; students at the centre of the learning process; teachers as tutors; and the introduction of AI tools to improve digital competences in both teachers and students.
The introduction of AI tools in an accounting course is under study. How will it be done? Are teachers prepared to do so? Are students willing to work harder to learn AI and accounting?
In this case study, we will observe and conduct interviews with teachers concerning the use of AI and specifically when and how. Additionally, the perception of students on how to introduce AI in accounting courses will provide insight into how students view digitalization and automation in their daily accounting and reporting.
This study intends to give insights into how to use AI in accounting education. Teachers' digital skills are not enough, at this moment, to deal with the integration of AI in accounting education. Students are eager to learn accounting education with AI tools and integrated software. Results show that students of generation Z and their teachers are lack of the right skills – technical, digital, and reflexive.
The research work done in an Erasmus+ project named Generation Soft Skills Assessment for Teaching Millennials and Generation Z allows us to combine the results of this with the insights given by teachers and students of an accounting degree in Portugal.

Keywords: Simulator of Business Environment with AI, Accounting, Artificial Intelligence, Digitalization, Generation Z teachers.

Bionote:

Susana Bastos has a PhD in Education and Didactics since 2011. She has been a lecturer at ISCAP since 1997. Works since 2017 with Erasmus + Projects in the domains of soft and hard skills, active learning methodologies, skills in times of crises, digital environments for educators of Generation Z and Millennials.

Boon or Bane ? Navigating The Impact of AI Text Generators on Moroccan University Students' Academic Writing

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Artificial Intelligence (AI) has become increasingly pervasive in various aspects of modern life, including the educational field. Given the widespread usage of AI-driven language tools, such as ChatGPT/GPT4 in Moroccan university contexts, it is imperative to investigate the potential implications, prospects and challenges such tools might present with regards to students' academic performance, assessments and examinations. The aim of this paper, then, is to navigate the impact of generative AI tools on the writing performance and critical thinking skills of students in Moroccan universities. It particularly seeks to examine the role of AI-based language systems in assisting students in the writing process and overcoming language barriers while also analyzing the potential risks associated with AI-generated content such as plagiarism, lack of creativity in academic writing and loss of critical thinking skills. This study adopts a quantitative method. A questionnaire administered to a cohort of 269 students from four different disciplines (Humanities, Business, Applied Sciences, and Education Sciences) across five Moroccan universities (Sidi Mohamed Ben Abdellah University, Abdelmalek Saadi University, Moulay Ismail University, Hassan II University, and Al Akhawayn University) sought to analyze whether students' writing and critical thinking skills have improved or weakened as a result of using AI tools such as ChatGPT. The findings revealed that a clear majority of participants (59.6%) expressed a willingness to use and recommend these tools to classmates and colleagues. However, a sizeable minority (26.8%) remained hesitant to utilize and endorse them, potentially due to ethical concerns about plagiarism, and limitations in critical thinking abilities. On the other hand, 14.1% of participants, remained neutral on the issue. This paper concludes with the various coping strategies that could be adopted to deal with the aforementioned concerns and maximize the potential of such tools to be ethically integrated into educational curricula while maintaining critical thinking abilities, human interaction, and engagement.

Keywords: Generative AI tools, ChatGPT, Academic Writing, Critical Thinking Skills, Moroccan Tertiary Education, Plagiarism

Bionote:

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Acceptation de l'intelligence artificielle par les élèves dans l'enseignement des sciences: Analyse à partir du modèle UTAUT

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L'intelligence artificielle (IA) s'impose progressivement dans le domaine de l'éducation, en particulier dans l'enseignement des sciences. Son intégration soulève des questions essentielles liées à son acceptation par les apprenants. L'objectif de cette étude est d'identifier les facteurs qui influencent l'adoption de l'IA par les élèves du secondaire. En mobilisant le modèle théorique UTAUT2 (Unified Theory of Acceptance and Use of Technology 2), cette recherche vise à comprendre dans quelle mesure les dimensions du modèle (attente de performance, effort attendu, influence sociale, conditions facilitantes, motivation hédonique, etc.) déterminent l'intention des élèves à utiliser l'IA dans leurs apprentissages scientifiques.

L'étude repose sur une approche quantitative. Un questionnaire a été élaboré sur la base des dimensions du modèle UTAUT2 et administré à un échantillon d'élèves issus de quatre établissements secondaires (publics et privés) situés dans l'Académie de Casablanca. Les répondants sont répartis entre les niveaux collège et lycée afin d'analyser d'éventuelles différences selon le niveau scolaire et le type d'établissement. Le questionnaire comprend des échelles de type Likert ainsi que des questions sociodémographiques. L'analyse des données se fonde sur des outils statistiques non paramétriques : le test de Mann-Whitney U (pour comparer deux groupes indépendants), le test de Kruskal-Wallis (pour plus de deux groupes), ainsi que la corrélation de Spearman (pour étudier les relations entre les différentes dimensions du modèle). L'échelle sera également évaluée par le coefficient alpha de Cronbach afin de vérifier sa cohérence interne.

L'étude est actuellement en cours d'analyse. Les résultats permettront d'identifier les dimensions du modèle UTAUT2 les plus déterminantes dans l'intention des élèves à adopter l'IA dans l'enseignement des sciences. L'étude cherchera également à mettre en évidence les variations possibles selon le type d'établissement, le niveau scolaire, et d'autres variables contextuelles.

Ces résultats viendront alimenter la discussion sur les conditions pédagogiques, technologiques et sociales favorables à l'appropriation de l'IA par les élèves du secondaire.
Cette recherche entend contribuer à une meilleure compréhension des mécanismes d'acceptation de l'IA en contexte éducatif, du point de vue des élèves. Elle vise à fournir aux enseignants, aux décideurs éducatifs et aux concepteurs de ressources numériques des pistes concrètes pour accompagner le déploiement progressif de l'intelligence artificielle dans les pratiques pédagogiques.
L'analyse des perceptions des élèves permettra de dégager des recommandations pour favoriser une intégration éthique, efficace et équitable des outils d'IA dans l'enseignement des sciences. Elle ouvre également la voie à des études complémentaires, notamment sur les effets réels de l'IA sur les apprentissages, la motivation et la posture critique des apprenants.

Keywords: Intelligence artificielle, éducation, UTAUT2, sciences, acceptation technologique.

Bionote:
Ilyass Eddaif is a PhD student in Theoretical Linguistics and Translation Studies at Sultane Moulay Slimane University. An American-certified teacher and trainer, he focuses on bridging theory and practice in language education. His research aims to enhance teaching methodologies and training frameworks in Morocco and beyond.

The Effect of AI-Generated Feedback on Undergraduate Students' English-Speaking Skills: A Quasi-Experimental Study

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Artificial Intelligence (AI) has changed the way we perceive and complete many of our daily tasks, providing innovations that enhance efficiency across various fields. Research in English Language Teaching (ELT) suggests that AI tools hold significant potential for enhancing learners' experiences, particularly by offering personalized learning opportunities. One way to ensure customized learning is through providing individualized feedback based on students' output. This type of feedback offers students an opportunity for a formative assessment that allows them to enhance their language and develop their speaking skills. In traditional classroom settings, it is very hard for teachers to provide each individual with feedback that is tailored to their needs, due to constraints like class time and class size. Artificial Intelligence (AI), on the other hand, has the potential to provide each student with instant feedback on their output, targeting aspects that the students should focus on to improve. This feedback offers students an opportunity to reflect on their weaknesses without feeling frightened or uncomfortable, since it is not a person that is judging their speech. This study explores the effect of Artificial Intelligence (AI) generated feedback on students' English speaking skills and investigates the extent to which personalized feedback could enhance learners' speaking performance. It focuses on learners' fluency, in terms of the length of their audio recordings and words uttered per second; and accuracy, including students' use of correct forms, coherence, and cohesion. The study follows a quasi-experimental methodology using a pretest-posttest non-randomized control-group design. Participants, who were English undergraduate students in the Faculty of Education Sciences in Rabat (FSER), completed a pretest measuring their speaking skills in terms of fluency and accuracy before engaging in the treatment. Afterwards, participants were required to upload a recording of themselves to an AI-based platform that provided personalized feedback, focusing on aspects that were evaluated in both the pretest and the post-test.

On the one hand, participants of the experimental group were instructed to carefully review the feedback generated for them and consider it to improve their speaking. On the other hand, participants of the control group did not receive feedback at all. Comparing results of the pre-test and post-test of the experimental group helps determine whether there was an improvement on students' speaking skills; while the comparison between the experimental group and control group strengthens the assumption that the AI-generated feedback was a key factor in improving students' performance. When comparing the results of the post-test to the pretest, paired t-test results demonstrated that the p-value is less than .05, which suggests statistically significant improvement in participants' speaking performance.

Another independent samples t-test, which compared the experimental group to the control group, yielded a p-value < .05, which suggests that the experimental group outperformed the control group. These results suggest that AI-generated feedback can significantly help students enhance their English fluency and accuracy. This research underscores the potential of AI tools in enhancing language learning and teaching, suggesting some practical implications to ensure smooth implementation of such tools in ELT classrooms.

Keywords: Artificial Intelligence, Personalized Feedback, English Language Teaching, Speaking, Higher Education

Bionote:
Achraf Abdoulmoulah graduated from the Higher School of Education and Training (ESEF) in 2022. In the same year, he joined a master's program at the Faculty of Education Sciences in Rabat. After graduating in 2024, he joined Chouaib Doukkali University's doctorate program to pursue research on exploring the potential and challenges of integrating Artificial Intelligence in higher education.

Teacher`s Role in Developing Human Skills in Digitalized Society

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„Human Skills" such as responsability, reflexivity, critical thinking or other socio-emotional competences are today interpreted as the main "tools" that enable people of any age and in any professional field to cope with the complex demands of the future. Recent studies on the learning and development of socio-emotional competences / human skills (OECD 2021, 2023, 2024) unequivocally state that successful adaptation depends to a significant extent on this type of competence, coupled with cognitive competences.
The concept of „human skills" today tends to replace the concept of „soft skills" as a react of IA, because the human skills are unparalleled and irreplaceable.
In our digitalized world when AI brings a lot of important changes in our life style and mentalities, human skills seem to be the factors which balance between enthusiastic development AI (robots and algorithms) and human rezistance at changes (generated by the fear of the unknown, the feeling of losing control over one's own life/future.
An aspect closely related to the develop students' social-emotional competences concerns the way teachers understand, form, promote through their own behavior and evaluate social-emotional competences.
Starting from the premise that teachers' perception of students' social-emotional competences (Ulferts, 2019; 2021) determines the way in which they are involved in the development of these competences, the present research aimed to determine how teachers in pre-university education appreciate the importance of social-emotional competences, how they promote them in their teaching or extra-didactic activities and by which methods they evaluate them.
The research used a mixed, descriptive design, involved a total of 124 participants (pre-university teachers from middle and high school) with less than 10 years and more than 10 years of teaching experience, of various specializations. The methods used (questionnaire on teachers' perceptions of social competences addressed to teachers, content analysis of initial and in-service teacher training programs and interviews with 10 teachers) allowed the collection of quantitative and qualitative

data that led us to draw conclusions and recommendations on initial and in-service teacher training.

The quantitative analysis of the questionnaire responses shows that the majority of teachers (83%) consider digital and socio-emotional competences to be very important for the future. As such, they consider that they train them through their own teaching behavior in the classroom.

Among the socio-emotional competences investigated, those related to openness are rated as important.

It is interesting that teachers develop those social-emotional competences that they perceive as useful in the future, which confirms the hypothesis found in the pedagogical literature, that the way teachers perceive and understand certain pedagogical processes/phenomena that they promote in their work.

Interviews with teachers who participated in training courses, as well as the analysis of in-service training programs revealed that emotional competences are targeted to be developed but priority is given to those related to critical thinking, communication, collaboration, well-being.

One of the conclusions with implications for the initial and in-service training of teachers concerns the developing the competence to design, implement and evaluate the didactic and extra-didactic activities in order to develop students' social-emotional competences. Also in teacher training programs, socio-emotional competences such as prosocial behavior, tolerance, civic engagement, perseverance, self-motivation should be targeted.

Keywords: Human Skills, Social-Emotional Competences, Teacher`S Perception, Teacher Training Education

Bionote:

Mihaela VOINEA, PhD in Education Sciences, is associate Professor at Transilvania University of Brasov, Faculty of Psychology and Education Sciences.The areas of professional and research interests are training and development of teachers' teaching skills, intercultural education and development of critical thinking. Concerns for teacher training are materialized in the involvement, as a trainer, in national projects coordinated by the Ministry of Education and Research (CRED- Curriculum relevant open education for all; PROF- "Professionalization of teaching career") and international (Curriculum Innovation for Social Inclusion) which aimed at teacher training on different dimensions (inclusion, critical thinking, civic education, etc.)

Teaching Innovation with Technology: How Augmented Reality is Reshaping Education

Fadwa SALHI, Ibn Tofail University, LARGEPA, Morocco

It is no mystery that the world is heading towards automated processes to increase productivity and efficiency in different fields and sciences, and education can no longer escape the fact that Artificial Intelligence (AI) is becoming mandatory in learning experiences. It is known that everything around us will be in interaction and human interference will become less and less needed with the fast rate of technological transformations and digitalization. As a component of AI, research proved that Augmented reality (AR) is one of the most used technologies in Mathematics, Science and other subjects, bridging the gap between theory and real-world practices.

Beyond making changes in students learning experiences, AR makes it easier for learners and educators to bring new concepts to life. In matter of fact many theories such as Connectivism, Situated Learning, Technological Pedagogical Content Knowledge (TPACK) and the Flow theory discuss the transformative potential of AR especially in education by enhancing critical thinking, engagement, active and experiential learning.

This research paper falls under the axe of "Pedagogical Innovations based on AI in Education" and its objectives aim to explore the impact of Augmented Reality on students' learning outcomes related to sciences of management at Al Akhawayn University of Ifrane (AUI). Using a qualitative methodology, the study highlights the use of AR methods in different classes at AUI and how they affect the progression of the sessions from an educator's perspective.

The results emphasize the overall positive role that AR plays in developing and creating better interactional and experiential learning from real time stimulations.

To conclude, integrating AR in educational practices is not a simple technological advancement but a groundbreaking learning experience in both students' and educators' journey.

Keywords: Artificial Intelligence (AI), Digitalization, Augmented reality (AR), Connectivism, Situated Learning, Technological Pedagogical Content Knowledge (TPACK), the Flow theory

Bionote:

Fadwa SALHI is a digital marketing teacher and communications coordinator at Al Akhawayn School of Ifrane, and currently pursuing a Ph.D. in Management Sciences at ENCG Kenitra. Her research focuses on how Augmented Reality can enhance student learning and foster entrepreneurial mindsets. As both a teacher and a student, she brings a dual perspective to education—one that helps her connect deeply with learners and design experiences that are both innovative and relevant.

Integrating Gesture Analysis and AI: Developing Software for Legal Interaction Assessment

Ana Paula LOPES, Coimbra Business School, Instituto Superior de Contabilidade e Administração de Coimbra, Portugal

This study explores software development for analysing face-to-face interactions in legal contexts, building on the author's doctoral research, which examines gestures and kinetic movements from a multimodal perspective - understanding speech, gestures, and other body movements as equal participants in the communication process. The project integrates theoretical insights from Gesture Studies with advanced technological tools to provide legal professionals with a reliable resource for case assessment, particularly in the evaluation of non-verbal cues that may influence judicial proceedings.

Given the increasing recognition of non-verbal communication in legal discourse, this project seeks to bridge the gap between linguistic and technological advancements by designing software capable of systematically analysing gestures. The primary objective is to enhance the accuracy and efficiency of gesture-based evidence assessment, offering a scientifically grounded tool for forensic and legal professionals.

The methodology used involved the video recording of structured yet naturalistic interactions among three European Portuguese and three British English native speakers. Two distinct interactional settings were created: one in which participants engaged solely with peers from their linguistic background and another featuring mixed-language interactions. These recordings were subsequently uploaded into the software under development, which is designed to detect and classify a range of gesture types, including emblematic, adaptive, beat, Butterworth, descriptive, and deictic gestures. Additionally, the software employs speech recognition technology to generate automatic transcriptions, facilitating a comprehensive multimodal analysis of verbal and non-verbal communication patterns.

The system operates through a combination of motion-tracking algorithms and speech-processing techniques, allowing for the precise identification of non-verbal cues and their alignment with spoken discourse. The integration of machine learning algorithms further enhances the software's adaptability, enabling it to refine its gesture classification accuracy over time. Preliminary results indicate that the system currently achieves a 60% recognition rate for the targeted gestures. While this

represents a significant step towards automated gesture analysis, ongoing refinements are aimed at improving its accuracy. At this stage, speech recognition and its subsequent automatic transcription have not yet been tested.

Beyond its immediate application in legal settings, this research contributes to a broader interdisciplinary dialogue by merging computational linguistics, anthropology, and forensic analysis. The potential applications of this technology extend to witness credibility assessment, interrogation analysis, and cross-cultural studies of legal communication.

By offering a systematic and empirically validated approach to gesture recognition, this project underscores the relevance of multimodal analysis in legal proceedings, and highlights the role of technology in enhancing the objectivity of case evaluations. Future developments will focus on increasing the system's adaptability to diverse linguistic and cultural contexts, refining its capacity to detect microgestures, and integrating additional multimodal features such as gaze tracking and prosodic analysis. Ultimately, this study demonstrates how the intersection of Gesture Studies and technological innovation can advance legal analysis, fostering a more comprehensive and scientifically informed approach to judicial decision-making.

Keywords: Gesture analysis, Multimodal perspective, Legal communication, Technology, Software development, Forensic investigation

Bionote:

Ana Paula da Fonseca Lopes completed a PhD in Linguistic Studies in 2018/07/10 at the University of Vigo (Faculty of Philosophy and Translation), an MA in Translation Studies in 2006/12/08 at the University of Manchester, UK (Faculty of Humanities), and a degree in Modern Languages and Literatures - Portuguese and English Studies in 2005/07/11 at the University of Coimbra (Faculty of Arts). Ana is a Researcher at CEOS.PP and at the Centre for General and Applied Linguistics Studies (CELGA-ILTEC), Adjunct Professor at the Polytechnic University of Coimbra, at the Higher Institute of Accounting and Administration of Coimbra, Communication Trainer and Translator. Ana has received 2 awards in the field of Translation. She works in the Humanities area as a Lecturer and a Researcher, emphasising Languages, Translation, and Linguistics (Gesture Studies and Forensic Linguistics).

Critical Reading in the AI Era: A Study of Moroccan EFL Undergraduate Students' Perceptions

JIHANE ES-SARRAD, **Bouchaib BENZEHAF, Hassane RAZKANE**, Chouaib Doukkali University, ALCS, Morocco

In the rapidly evolving landscape of higher education, where generative artificial intelligence (GenAI) increasingly mediates access to information, the need for advanced critical reading skills has become more pressing than ever. As students gain access to AI-powered tools, such as ChatGPT, DeepSeek, QuillBot, questions arise about how these technologies influence their approach to reading, analysing, and interpreting texts. Nevertheless, the concern of critical reading in the AI era remains unknown within the context of Morocco. With this in mind, this study investigates critical reading skills among Moroccan undergraduate EFL students within the context of the evolving AI landscape. More specifically, the primary objectives of this study are threefold: (i) to investigate Moroccan undergraduate EFL students' perceived awareness of critical reading skills; (ii) to explore their perceptions of the benefits offered by AI in enhancing these skills; and (iii) to examine their understanding of AI's limitations and potential drawbacks in critical academic reading. A qualitative research approach was adopted and data were gathered through semi-structured interviews with 15 participants, selected through purposive sampling. Thematic analysis of these interviews provided deeper insights into the students' perceived awareness of critical reading skills, their reflections on the possible advantages offered by AI tools when critically reading a text, and their views on the potential limitations of AI when critically engaging with a text. Findings revealed that students possess a moderate to low awareness of critical reading skills. In addition, students generally expressed positive perceptions on the role of AI in facilitating reading comprehension, summarizing complex texts, and explaining challenging vocabularies. However, their awareness of AI's limitations, such as its potential to generate inaccurate or biased content, was less developed. Some students report over-trusting AI outputs without crosschecking them against credible sources, while others admit to using AI tools passively rather than as a support for deeper analytical thinking. Overall, this study contributes to the growing body of research into critical reading in the digital era in EFL contexts. The findings underscore the need for targeted pedagogical interventions that both strengthen students' critical reading abilities and raise awareness about the ethical use of AI

tools in academic settings. Additionally, the study calls for integrating AI literacy into critical reading instruction in order to empower students to use AI tools thoughtfully, critically, and responsibly.

Keywords: Artificial Intelligence (AI); Critical Reading Skills; Benefits; Drawbacks; Higher Education

Bionotes:

Jihane Es-sarrad is a Doctoral student at the Doctoral program offered by the Applied Language and Culture Studies Laboratory (ALCS) at Chouaib Doukkali University, Faculty of Letters and Humanities, El Jadida. She holds a master degree in Applied Language Studies from the Faculty of Letters and Humanities, El Jadida. Her research interests primarily focus on multilingual education, cross-language transfer, language learning cognitive skills, with a particular emphasis on metacognitive reading strategies and critical reading skills. Her work aims to bridge theoretical insights with pedagogical practices, offering valuable implications for language teaching and policy-making. In addition to her research interests, she has presented in both national and international conferences.

Bouchaib Benzehaf is an associate professor of applied linguistics at the Faculty of Humanities, Chouaïb Doukkali University, Morocco. He currently serves as the head of the department of English studies and is the deputy head of the Applied Language and Culture Studies Lab (ALCS) based at the same institution. His primary research interests include language acquisition, environmental education, multilingualism and assessment. Dr. Benzehaf has an extensive publication record, with numerous articles featured in both national and international journals. He has also presented his work at a wide range of national and international conferences.

Hassane Razkane is a professor of Applied Linguistics and English at the Department of English, Chouaib Doukkali University. He obtained his doctorate in Applied Linguistics from Chouaib Doukkali University. He is currently exploring the cross-language transfer of (meta)linguistic skills and (meta)cognitive strategies among trilingual learners. Razkane has published a number of refereed articles on different topics related to metacognition, applied linguistics, and e-learning.

The Perceived Impact Of AI Writing Assistants On Writing Practices And Academic Integrity Among English Doctoral Students At Moulay Ismail University

NADA EL KHATTABI, University of Moulay Ismail, Laboratory of Applied Linguistics, Morocco

The growing usage of AI-writing tools has revolutionized academic writing immensely by improving coherence, accuracy, and efficiency. However, these AI-powered tools also raise issues of originality, ethical writing practices, and, most importantly, academic integrity. This research explores the perceptions of English-majored Ph.D. students at Moulay Ismail University, Meknes, regarding the benefits and risks of using AI-writing tools in their academic work. It examines how these tools influence their writing process and the potential challenges they pose to academic honesty. The study adopts a mixed research method, utilizing a survey questionnaire and a semi-structured interview. The sample studied includes 40 Ph.D. students. The data collected from the questionnaire is analyzed by the SPSS (Statistical Package for the Social Sciences) in the form of descriptive statistics while the one gathered from interview transcripts is interpreted through a thematic analysis approach to uncover students' perceptions and suggest practical solutions for the ethical application of AI writing tools in academic settings. The findings emphasize the importance of clear academic policies, ethical awareness, and responsible AI usage. The study concludes by proposing strategies to ensure AI-writing tools are used as supportive tools rather than substitutes for original academic work.

Keywords: AI writing tools, academic integrity, PhD students, higher education, Morocco

Bionote:
Nada El Khattabi is a second-year PhD candidate and a part-time EFL teacher at the Faculty of Arts and Human Sciences, Moulay Ismail University, Meknes. Her research interests include textbook evaluation, content analysis, artificial intelligence, and applied linguistics.

Custom GPTs in University Exam Preparation: A Useful Tool or an Intelligent Transcriber

Neli VOYNOVA, Faculty of Modern Languages, St. Cyril and Methodius University of Veliko Tarnovo, Bulgaria

The rapid surge of AI has prompted educational institutions to seek effective ways of integrating it to promote learner autonomy while preserving the students' analytical skills. However, there is a lack of sufficient research on how AI can support effective university exam preparation without undermining critical thinking and necessary analytical skills.

This study explores the potential role of custom GPTs in students' preparation for an EFL teaching methodology exam at St. Cyril and Methodius University of Veliko Tarnovo. It aims to analyze the extent to which the tool aids learning by developing skills for information analysis, independent learning and understanding of the subject matter.

Inspired by the author's own positive experience using AI for academic preparation, the custom GPT has been developed as an interactive learning tool. It aids learning not by generating full responses but by explaining key concepts, provoking reasoning and giving constructive feedback based on carefully pre-selected academic sources. The tool can simulate exam conditions by asking questions that combine different topics from the exam syllabus, analysing the arguments and prompting students to defend their position. Ideally, this interactive dialogue is expected to foster independent thinking and deep understanding of the subject matter.

The study explores an experimental phase where the tool is tested by students, followed by questionnaires and interviews. It examines the learners' interaction patterns with the tool, the learning strategies they adopt, and whether it contributes to a deep understanding of the key concepts. To assess its effectiveness, the study will compare the students' traditional approach to studying for university exams to the potential changes in their study habits after interacting with the tool. It will analyse their ability to construct well-reasoned responses instead of mechanically reciting academic literature.

One anticipated challenge is whether students will engage with the tool at all, as it does not eliminate the need for reading academic literature and reflection. The active participation required for it to be effective may deter students who are accustomed to more passive learning.

The study includes a survey item to determine the take-up rate and investigate the reasons for (not) engaging with the tool. Another concern is reliance on other AI instruments, which could reduce opportunities to develop higher order thinking skills. The study also considers whether any limitations stem from students' learning habits or the way the tool has been configured. In particular, it reflects on whether the author's learning approach (combining extensive reading, self-monitoring and AI tools) can realistically support students who may rely mostly on passive learning strategies.

Preliminary data suggests that custom GPTs can be powerful self-education tools with the potential to promote active learning. If the tool proves to be effective and shows high efficiency, it may open new possibilities for personalised learning in which custom GPTs guide students by referring them to relevant sources and encouraging them to provide answers themselves. Even in case of mixed findings, the study may provide valuable insights for more effective AI integration in university education.

Keywords: custom GPTs, AI-assisted learning, higher education, exam preparation, critical thinking.

Bionote:

Neli Voynova is an Assistant Professor at the Faculty of Modern Languages, St. Cyril and Methodius University of Veliko Tarnovo, Bulgaria. She teaches methodology of EFL teaching and supervises pre-service teachers during their practicum. With almost 20 years of experience as a language teacher, her research interests focus on language pedagogy, AI-assisted learning, and multilingual approaches in education. She is currently exploring how personalized AI tools can support independent learning and critical thinking in higher education contexts.

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Ethics, Governance, and Responsible AI

Deeply Opaque Black Boxes as a Unique Problem for the Democratic Governance of AI

Armin HEYDARI, Harvard University, Department of Philosophy, United States of America

It has been commonly argued that artificial intelligence presents several challenges to societies organised in democratic systems. A particular challenge is that of democratic governance of AI: the state in which decisions about the use, development, and distribution of AI are made in a democratic manner. Seger et al. (2023) and Nemitz (2018) have raised several issues that arise in establishing this state.

We defend three claims about the democratic governance of AI. First, in general, the challenges raised about the democratic governance of AI are not unique to AI but rather the same challenges presented by the members of a large class of transformative technologies. Second, there is a situation in which democratic governance of AI does present a genuinely new kind of issue compared to the democratic governance of other technologies: the existence of certain 'black box' models of AI. Third, this challenge is better addressed through public research programs into explainable AI rather than through restrictive regulation.

The first claim is defended by showing that the premises in Seger et al.'s (2023) and Nemitz's (2018) arguments about the democratic governance of AI do not only apply to AI but also to any new technology with sufficient potential to uproot core societal functions. Consequently, the issues Seger et al. and Nemitz raise about the democratic governance of AI are not genuinely new problems; rather, the same issues are presented by the democratic governance of any new technology with sufficient potential to uproot core societal functions.

To defend the second claim, we draw on on Hans Jonas's (1984) account of human autonomy in the use of new technologies. We argue that certain models of AI present a loss of third-degree power in Jonas's sense: humans' reflective capacity to understand a technology's workings and influences on the external world. The models in question have sometimes been referred to as deeply opaque 'black box' models of AI: such models whose underlying algorithm cannot be explained at all, even if best efforts are made (Müller, 2021). Consequently, deeeply opaque, 'black box' models of AI (or their subclass that is relevant in social contexts) present a genuinely new challenge to the democratic governance of AI.

Finally, we defend the third claim by arguing that certain democratically legitimised and publicly supported research programs on AI are preferable over strict regulation in tackling the problems raised by the democratic governance of AI. This will be because these research programs are able to preserve technological innovation while satisfying a key desideratum about democratic legitimacy.

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Keywords: AI ethics, Applied ethics, Explainable AI, Philosophy of technology, AI governance

Bionote:
Armin Heydari is a PhD Student in Philosophy at Harvard University.

Make AI Great Again: The Rise of AI-Generated Political Propaganda in Trump's Digital Campaigns

Hatim EL FAROUKI, Karima BOUZIANE, Chouaib Doukkali University, ALCS, Morocco

The rise of AI-generated content in political campaigns is transforming how leaders communicate, influencing public perception, and blurring the boundaries between truth and propaganda. As artificial intelligence becomes increasingly sophisticated, its role in political messaging raises concerns about the manipulation of narratives, the reinforcement of ideological divisions, and the ethical implications of AI-driven discourse. Our paper examines the use of AI- generated content in political communication, focusing on its presence in social media campaigns, particularly on Donald Trump's public Instagram profile.

We analyze the propagation and impact of AI-generated content on Trump's social media, focusing on how these materials shape public perception and reinforce ideological narratives. By examining specific AI-generated images, videos, and memes, we identify distinct messaging strategies that range from colonial discourse to political meme warfare and deepfake propaganda. AI is not simply an instrument for political communication but a tool that actively participates in redefining narratives of power, control, and opposition. The use of an AI-generated Instagram reel to envision a future Gaza under Trump's leadership, for example, reflects colonial utopianism, where AI is deployed to construct an imagined geopolitical reality that aligns with specific ideological objectives. This AI-driven imagination does not merely present a possible political vision but instead functions as a digital extension of colonial discourse, where political power is portrayed as a force of modernization and Western superiority.

Similarly, deepfake videos and AI-generated attack memes—such as the "Kamala Hates Cats" meme—illustrate how AI is leveraged to delegitimize political opposition and weaponize humor for ideological gain. Political meme warfare is an increasingly effective strategy for mobilizing support, discrediting opponents, and shaping public sentiment without engaging in deep policy discussions. The use of AI in meme production enhances this dynamic by allowing for rapid, low-cost content creation, making it easier to produce political attacks that have the ability to go viral.

Through discourse analysis and engagement tracking, we examine how audiences react to and interact with AI-generated political content on Trump's Instagram. By analyzing the language, visual techniques, and emotional triggers embedded in these materials, our study aims to set forward a particular discussion revolving on how AI-generated propaganda contributes to neocolonial, authoritarian, and hyper-polarized narratives. The increasing sophistication of AI allows for the seamless integration of synthetic artificial content into mainstream political messaging.
As AI-driven propaganda becomes more pervasive, the question is no longer whether it will influence elections, but how societies will respond to its growing power. This study calls for a critical reassessment of AI's role in political campaigns, urging discussions on ethical guidelines, platform accountability, and regulatory measures to address the risks of AI-generated misinformation, political manipulation, and digital authoritarianism.

Keywords: AI-generated propaganda, Political communication, Digital misinformation, Social media engagement, Ethics in AI

Bionotes:

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Hatim EL FAROUKI is a scholar and educator specializing in AI-powered semiotic analysis, political communication, and cross-cultural discourse. As a second-year doctoral researcher in the social sciences and humanities, he investigates the application of large language models (LLMs) in analyzing the visual rhetoric of political communication, with a particular focus on multimodal semiotic analysis.

Algorithmic fairness in financial services: Toward inclusive and responsible AI-driven credit scoring

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The increasing integration of artificial intelligence into financial decision-making processes, particularly in credit scoring and lending, raises critical questions about fairness, accountability, and social equity. While AI systems offer the potential to enhance efficiency and expand access to credit, they can also entrench existing inequalities if they rely on biased historical data or opaque decision-making criteria. This paper investigates the socio-ethical implications of AI-driven credit scoring models, with particular emphasis on their impact on marginalized and underbanked populations. Drawing on interdisciplinary approaches that intersect computer science, finance, and social justice, the study critically evaluates how algorithmic decision-making affects access to credit and financial services for individuals historically excluded from traditional banking systems.

Focusing on the intersection of AI for social justice and equity and ethics, governance, and responsible AI, this research addresses two core questions: (1) How do algorithmic credit scoring models reproduce or mitigate bias against disadvantaged groups? (2) What frameworks can ensure fairness, transparency, and accountability in AI-powered financial technologies? Through a mixed-methods approach combining empirical analysis of proprietary and open-source credit datasets with a normative review of fairness metrics, the study assesses the disparate impacts of common AI techniques such as random forests, neural networks, and gradient boosting machines.

The findings reveal that widely deployed AI models often correlate creditworthiness with proxy variables for race, gender, or geographic location, leading to systematically lower credit scores for certain demographic groups, even when controlling for income and employment status. Furthermore, efforts to ""debias"" algorithms through post-hoc adjustments or adversarial training show limited success without addressing underlying data collection and institutional incentive structures. The paper proposes a multi-level governance model for responsible AI in finance, incorporating regulatory oversight, participatory design methods with community stakeholders, and transparency mandates for financial institutions.

Beyond technical recommendations, the research contributes to broader debates about the role of AI in reproducing or reshaping social hierarchies. It argues for an explicitly justice-oriented framework in the development of financial AI systems—one that recognizes financial services as a critical infrastructure influencing life opportunity. Importantly, the paper calls for interdisciplinary collaboration between technologists, ethicists, economists, and policymakers to establish norms and safeguards that align AI innovation with human rights and social equity.

In summary, this study urges a rethinking of algorithmic fairness in financial contexts—not as a purely technical challenge but as a deeply social and political one. By framing AI credit scoring as a site of ethical contestation and potential transformation, the research contributes to ongoing conversations at the nexus of AI, finance, and the future of equitable societies.

Keywords: Algorithmic bias, financial inclusion, AI governance, credit scoring, responsible AI.

Bionote:

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Paulo is also Vice-Coordinator of the Porto Executive Academy (PEA), where he directs several postgraduate and MBA programs. He has authored multiple books and technical publications on SME financing, digital banking, and blockchain, and actively contributes to academic and professional forums on finance and innovation. His research interests include AI in finance, financial inclusion, and the ethical governance of financial technologies. He is a member of the European Economic Association, the Portuguese Economists' Association, and several international policy and research initiatives related to economics and technological transformation.

Artificial Intelligence and the Human Side of Finance: Understanding Investor Bahavior in the Moroccan Banking Sector

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The rapid integration of artificial intelligence (AI) into financial systems has fundamentally altered not only how decisions are made, but also how individuals perceive, trust, and interact with those systems. This study investigates the human and behavioral implications of AI adoption in the banking sector, focusing specifically on how AI influences investor behavior within CIH Bank in Morocco - a country undergoing both digital transformation and cultural shifts in financial engagement.
While much of the FinTech literature emphasizes technological efficiency and algorithmic sophistication, this research shifts the focus toward the investor as a decision-maker, exploring how AI technologies shape psychological trust, responsiveness to data, and patterns of judgment. Through a behavioral finance lens, this study integrates cognitive theory and human-centered innovation perspectives to examine how AI tools affect investors' confidence, data-driven decisions, and emotional engagement with financial processes.
A structured quantitative survey was administered to 100 CIH Bank investors, designed to measure perceptions across five constructs: operational efficiency, cost reduction, profitability improvement, load optimization, and investor behavior. Responses were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) via SmartPLS software to assess the strength and validity of relationships between AI-related operational improvements and shifts in investor behavior.
The results reveal strong and statistically significant correlations between AI-driven enhancements and behavioral outcomes. In particular, profitability improvement and operational efficiency had the most substantial influence on investor behavior, followed by cost optimization. The structural model explained 65.6% of the variance in investor behavior, underscoring AI's central role not only in financial performance but also in shaping human decisions and confidence. These findings provide compelling evidence that AI's influence extends beyond numbers—it restructures how people relate to financial institutions, technologies, and risk itself.

Ethically, this research raises questions about the transparency, fairness, and inclusiveness of AI-driven financial systems. As banks integrate AI into decision-making and customer interaction, it becomes critical to assess how such technologies support or challenge human autonomy, especially in markets like Morocco where digital literacy and access vary widely. The study calls for AI design that centers trust-building, cultural context, and behavioral sensitivity, advocating for an ethical approach to AI integration that respects both financial logic and human psychology.

This work contributes to interdisciplinary conversations on AI for Humanity, emphasizing the social and cognitive dimensions of digital transformation. By positioning investor behavior as a human-centered outcome of AI adoption, the research bridges technical innovation with ethical reflection and real-world human impact.

Keywords: Artificial Inteligence, Investor Behavior, Financial Technology, Behavioral Finance, PLS-SEM.

Bionote:

Aya Mahir is a third-year PhD student in Management and Economics at the National School of Commerce and Management (ENCG), Chouaib Doukkali University in El Jadida, Morocco. Her research sits at the intersection of advanced technology and human behavior, with a particular focus on how artificial intelligence (AI) can influence investor behavior within financial markets. Drawing on the principles of behavioral finance, she explores the ways cutting-edge AI tools intersect with the quirks of human decision-making in the banking sector.

Designing Responsible AI: Ethics, Governance, and Social Implications

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Artificial Intelligence (AI) is becoming a core component of decision-making processes, public services, organisational workflows and everyday interactions, raising profound ethical questions about justice, transparency, equity and human rights. AI is not a neutral technology: it embeds the intentions, values and, at times, the biases of its designers and users. Hence, ethics is indispensable for guiding the design, development and deployment of AI. The central issue is no longer what AI can do, but what it should do in accordance with democratic principles. Ignoring ethical criteria may trigger unintended or harmful outcomes—algorithmic discrimination, manipulation of public opinion or large-scale privacy violations.

Five foundational principles are widely recognised for responsible AI. Transparency demands that algorithms be explainable, shifting "black-box" systems towards "white-box" models that enable audits and foster user trust. Fairness and equity require proactive detection and mitigation of statistical bias so that vulnerable groups are not disadvantaged. Accountability ensures that humans—developers, organisations or regulators—remain answerable for automated decisions, with clear redress mechanisms for those affected. Privacy mandates minimal data collection, secure storage and fully informed consent, exemplified by the EU's General Data Protection Regulation. Non-maleficence obliges designers to anticipate and prevent direct or indirect harm, from faulty medical diagnoses to mass social exclusion.

Translating these principles into practice reveals sector-specific challenges. Biased training data have already led recruitment algorithms to penalise female candidates, risk-assessment tools to overestimate crime recidivism among racial minorities and credit-scoring systems to exclude low-income neighbourhoods. Facial-recognition technologies enable pervasive surveillance that threatens civil liberties. Autonomous vehicles and AI-guided diagnostics raise dilemmas about how far decision-making can be delegated to machines without eroding human responsibility. Generative models produce convincing deepfakes that erode information integrity and democratic deliberation. Meanwhile, job automation intensifies economic inequality and consolidates technological power in a handful of corporations.

Robust governance frameworks are therefore essential. Legal instruments such as the GDPR, international guidelines from UNESCO and the OECD, and industry initiatives like the IEEE's ethical standards collectively promote co-regulation, whereby governments set enforceable rules, companies adopt "ethics-by-design" practices and academia provides independent scrutiny. Yet enforcement is difficult: autonomous systems evolve, their logic is often opaque, and regulators may lack technical capacity. Continuous institutional investment in audit tools, adaptive regulation and technical literacy is required to keep pace with innovation.

Practical tools now support ethical compliance. Impact-assessment frameworks like the Ethical OS Toolkit help teams anticipate social risks early in the design phase. Open-source libraries such as IBM AI Fairness 360 and Microsoft Fairlearn quantify bias and test mitigation strategies, while interactive visualisation tools simplify model interrogation. Emerging certification schemes—AI Ethics Label (Switzerland) and AI Trust Label (Germany), along with forthcoming ISO/IEC standards—signal ethical quality to users and business partners, strengthening public confidence.

Looking ahead, ethics will shape AI's trajectory as much as technical progress. Debates on super-intelligence, cultural pluralism, environmental sustainability and workforce reskilling will define whether AI advances the common good or deepens social fault lines. Embedding ethical reflection in education for both developers and end-users, fostering interdisciplinary dialogue and maintaining transparent, participatory governance are critical steps to.

Keywords: AI, Ethics, Transparency, Privacy, Governance.

Bionotes:

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AI and Cultural Diversity

AI Translation, friend or foe?

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Language has the power to convey a set of beliefs, ideas and concepts in a given environment. It is considered as "a systemic and consistent body of representations that reflect specific social practices from particular points of view" (Faiq 2007: 10). Translation is both a language operation and a cultural transfer that undergoes a whole process of deconstruction and reconstruction to convey ideas, meanings and images in a new text for a new readership operating in a completely different socio-cultural milieu. During this process, text cultural identity emerges as one of the biggest challenges translators face due to how different languages perceive and picture the world. This results in making the (human) translator feel torn between his/her world and the source text author's while transferring meaning and images which do not only serve a communicative purpose but also societal and cultural ones. In fact, objects, customs and beliefs can never be transferred in the same way no matter how close the working languages are and no matter how trained, experienced and gifted a (human) translator is. For example, culture-bound expressions, images, idioms, metaphors and socio-cultural concepts are recurrently seen as bumps in the translation process, and translators consider them as the most common thorny hindrances when transferring textual material from and into English and Arabic. In the past, machine translation was believed to be a blessing and a lifesaver. Yet, over the years, it has proved to be non-effective and has failed to capture the context and the nuances of the original text. Today, many believe that the revolutionary Artificial Intelligence addresses these challenges. Its driven language translation systems seem to be the miracle to suggest the most effective ways to preserve the creative and imaginative feel of a text while adapting it to the target language and culture. This paper will investigate both the innovative advancements and uncovering limitations of AI-driven language translations. We will attempt to answer the following questions: How does AI address culture specific issues in translation? How do AI models contribute to improving the accuracy and quality of translation? Is the source text cultural identity lost in AI translation? Will AI keep the ethical role of the translator?

Keywords: AI Translation, Text Identity, Challenges, Cultural Understanding, Ethics

Bionotes:

Hanan Bennoudi is a Professor of Translation at the Faculty of Humanities of Ibn Zohr University in Agadir, Morocco. She is the director of the Research Laboratory on Comparative Humanities and Applied Languages Studies. She is advisor to the Moroccan Comparative Literature Association. Among Professor Bennoudi's publications 'Translating Mohamed Choukri: Between Manipulation and Rewriting?, 'Translating Orality between Foreignization and Domestication' and The Theory of Relevance with Reference to English/Arabic Translation .

Boutaina Cherkaoui is an Assistant Professor in the English Department at Chouaib Doukkali University. She is a member of the research group Translation, Culture and Literature. She has helped organize several cultural national and international encounters. She has taught the module of translation for more than two decades. She is a member of the English Department Council. Her scope of research includes Translation/ Translation Studies/Media Translation/Grammar Teaching.

AI vs Human Expertise in Subtitling: A Comparative Study of Translation Accuracy and Cultural Adaptation – A Case Study of Soul (2020)

Abdelkrim CHIRIG, Karima BOUZIANE, Chouaib Doukkali University, ALCS, Morocco

This study investigates the comparative performance of artificial intelligence (AI) and human subtitlers in translating Pixar's animated movie Soul (2020) into Arabic, focusing specifically on translation accuracy and cultural adaptation. Employing an error typology framework divided into two main categories, which are (1) General Translation Errors and (2) Audiovisual Translation (AVT)-Specific Errors, the study systematically analyzes both linguistic precision and the subtitlers' handling of culturally intricate and contextually sensitive content. General translation errors encompass mistranslation of idiomatic expressions, inappropriate lexical selection, ambiguity arising from polysemous terms, and syntactic inaccuracies. AVT-specific errors identified include issues stemming from spatial and temporal constraints, such as overly aggressive text condensation, improper subtitle timing, omission of critical diacritic markers, and inadequate localization of culturally loaded terms, such as those related to jazz music, metaphysical concepts, and humor. By conducting a detailed comparative analysis of subtitles produced by human translators and AI systems for selected key scenes, the study illustrates strengths and weaknesses inherent to each translation approach. Results indicate that, although AI subtitling offers efficiency and consistency, human expertise remains crucial for ensuring cultural resonance, accurate conveyance of subtle meanings, and overall viewer engagement. The research advocates for the integration of standardized assessment criteria, informed by detailed error analysis, into quality control practices within the subtitling industry.

Keywords: Arabic subtitles, AI, AVT, cultural adaptation, human translation, soul, subtitling, translation Accuracy, translation errors

Bionotes:

Abdelkrim Chirig is an English as a Foreign Language (EFL) teacher and a PhD candidate in the Applied Language and Culture Studies Lab (ALCS) at Chouaib Doukkali University in El Jadida, Morocco. He holds a Master's degree in Translation Sciences and Linguistics. His research interests include Translation, Media, Advertising, Semiotics, and Literary Translation, with a current focus on the intersection of translation, literature, and gender. Abdelkrim has published three articles in Scopus-indexed journals and several other articles in various indexed international journals, notably focusing on comparative analyses of translations.

Karima Bouziane is an Associate Professor at Chouaib Doukkali University (UCD), El Jadida, Morocco, holding a Doctorate and an MA in Intercultural Communication and Translation Studies. Her research interests include Cross-cultural Communication, New Media, Advertising, and Translation. She leads the Cross-cultural Media Studies research group at UCD's ALCS Laboratory and serves as Editor-in-Chief for the International Arab Journal of English for Specific Purposes (IAJESP) and The International Journal of Cross-cultural Communication and Media Studies (CMS). She also coordinates the MA Program in Cross-Cultural Communication and Visual Media and has managed several Erasmus+ mobility projects in the Humanities and Social Sciences.

Communicative Dimensions of ChatGPT 4.0 Responses in Four Languages: Informative and Persuasive Functions Based on Media Sources

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This paper examines the quality of responses generated by the ChatGPT-4.0 model in four languages, English, German, Croatian, and Russian with a particular emphasis on the informative and persuasive functions of communication. The goal of the study is to investigate how the model adapts its communicative performance across languages and to what extent communications and cultural contexts affect the content, form, and reliability of AI-generated responses. The primary objective is to identify differences in accuracy, relevance, comprehensiveness, source reliability, and stylistic clarity across languages based on media texts, as well as to analyze the discursive strategies employed by the model in formulating its responses. Addressing the growing reliance on large language models (LLMs) in multilingual and cross-cultural communication contexts, this study contributes to the understanding of how language-specific and cultural factors shape AI-generated outputs. The research is conducted through a systematic assessment of the model using daily questions on current topics over a seven-day period, with the procedure repeated twice. In the first round, questions from a single thematic category are posed in all four languages on the same day, each morning over seven consecutive days. The second round follows the same structure, but the questions are posed in the early evening. The research methodology integrates both quantitative and qualitative approaches. The quantitative analysis involves evaluating the responses using five criteria, accuracy, relevance, comprehensiveness, source reliability, and style/clarity on a five-point scale. The qualitative analysis focuses on the structure of responses, argumentative strategies, and discursive differences across languages. Initial findings indicate noticeable differences in the quality and style of responses across the four languages. Responses in English consistently scored highest across all five evaluation criteria, particularly in terms of source reliability and stylistic clarity. German responses showed a high level of accuracy and relevance, but slightly lower stylistic fluency. Croatian and Russian responses exhibited greater variability, with occasional inconsistencies in comprehensiveness and source referencing.

These results suggest that the model's performance is influenced not only by language-specific training data but also by broader communications and cultural conventions. The findings may inform future development of multilingual AI systems and enhance their application in fields such as education, journalism, and public communication.

Keywords: ChatGPT-4.o, response quality, informative-persuasive function of communication multilingual analysis.

Bionote:

Nikolina Borčić is an Assistant Professor at the Faculty of Political Science, University of Zagreb. She holds two PhDs—one in linguistics and another in communication sciences, focusing on the informative and persuasive functions of language in political discourse. Her research and teaching explore media language, public communication strategies, and the interplay between identity, image, and persuasion. She is particularly interested in the stylistic and argumentative features of media texts, as well as the application of AI language models in public discourse. She has published over 40 scientific papers and presented at more than 30 conferences. She is the author of The Devil is in the Details: Image and Discourse in Politics (2023) and a regular columnist for mixer.hr, where she writes about the public image of influential women and analyzes media communication practices.

Cultural Mediation in GenAI English Translation of Arabic Proverbs: A Comparative Evaluation of DeepSeek, Qwen 2.5, and ChatGPT-4o

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Translators often have to play the role of cultural mediators when translating culture-specific expressions to successfully preserve the cultural elements embedded in the source text. Nevertheless, with the rapid development of Generative Artificial Intelligence that can accurately translate culture-loaded texts across different language pairs, GenAI translation is still restricted by many limitations and requires human intervention, as indicated in previous studies. This current study examines the capacity of ChatGPT-4o, DeepSeek, and Qwen 2.5 to provide appropriate cultural renderings of Arabic proverbs and their potential as cultural mediators.

The study is guided by three main objectives: first, to identify the differences in the three GenAI translations; second, to highlight their potentials and limitations in the cultural adaptation of the proverbs; third, to understand how such GenAI tools can play the role of cultural mediators and enhance cross-cultural understanding. The study seeks to answer the following questions:

1. What are the translation strategies that the three tools used in rendering the thirty Arabic proverbs?
2. Which of these GenAI models outperforms in the cultural adaptation of the proverbs?
3. To what extent can GenAI translation mediate between cultures and enhance cross-cultural communication?

To answer the above research questions, this study follows a mixed-method approach. The data collection consists of thirty randomly selected Arabic proverbs with their DeepSeek, Qwen 2.5, and ChatGPT-4o generated English translations. The data analysis included the calculation of BERTScore, a widely used metric for text generation, to measure the semantic similarities between the candidate translations (GenAI translations) and reference translation (human translation). Human assessment was also conducted based on three criteria: accuracy, fluency, and cultural adaptation, for a more comprehensive evaluation,

The quantitative analysis shows that there are high semantic similarities between Qwen 2.5 and the reference translation with a BERTScore mean of 0.816 compared to DeepSeek and ChatGPT-4o with a mean of 0.798 and 0.794, respectively. The qualitative analysis indicates that the three GenAI models provided highly accurate and readable translations. However, at the level of cultural adaptation, DeepSeek outperforms Qwen 2.5 and ChatGPT-4o by providing equivalent English proverbs or idioms, preserving the figurative features, and maintaining the cultural connotations of the thirty Arabic proverbs. Although Qwen 2.5 and ChatGPT-4o provided the English equivalents of some of the proverbs, they relied more on paraphrasing or literal translation.

The study preliminary findings of this study imply that the three selected GenAI models can effectively understand cultural context and culturally adapt Arabic culture-specific expressions into English. This suggests that the current state of such GenAI platforms attests to their capability to function as cultural mediators, bridging cultural gaps in a world where effective cross-cultural communication is needed in different fields. Furthermore, this study contributes to the on-going debate on the role of AI to revolutionize the field of translation in the forthcoming future.

It demonstrates the potentials and limitations of the newly released GenAI models DeepSeek and Qwen 2.5 in cultural translation, which compared to ChatGPT and other GenAI models, little research has been conducted on them in this context.

Keywords: GenAI translation, Arabic proverbs, cultural mediation, cross-cultural communication.

Bionote:

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Generative AI in Education: Evaluating Students' Perceptions of Critical Thinking Impact

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Currently, generative artificial intelligence (GAI) tools like ChatGPT are becoming more integrated into educational settings. Thus, it is crucial to comprehend their influence on students' critical thinking skills. Although these tools present novel options for education, there are still concerns about their capacity to undermine students' autonomous reasoning and problem-solving abilities. Nevertheless, the absence of research instruments that can be employed to determine students' impressions of the critical thinking abilities of generative AI remains a significant issue.
This study presents the Perceived Critical Thinking Disposition of Generative Artificial Intelligence (PCTD-GAI) scale, an instrument designed to assess students' perceptions of six fundamental critical thinking dispositions demonstrated by generative AI tools: reasoning, access to justice, search for evidence, search for truth, open-mindedness, and systematicity.
This study is centred on ChatGPT as a case study, however, the PCTD-GAI scale is versatile and may be modified to evaluate various generative AI platforms. This adaptability facilitates future research in AI-mediated learning settings, enabling educators and researchers to observe not only student interactions with AI tools but also the potential impact of such reliance on cognitive development, metacognition, and self-regulated learning. The scale's creation and validation were based on the conceptual framework of the Marmara Critical Thinking Dispositions Scale (MCTDS), which was modified to maintain its theoretical integrity while ensuring applicability to AI-related scenarios.
A quantitative cross-sectional study was done to validate the PCTD-GAI, utilising a sample of 931 university students from Portugal and Poland. The study validated the scale's efficacy and internal consistency through both exploratory and confirmatory factor analysis (EFA and CFA). The findings indicated that the PCTD-GAI accurately reflects students' perceptions of ChatGPT's exhibition of the six essential critical thinking dispositions.

Overall, opinions were relatively favourable in both nations, with Portuguese students evaluating ChatGPT somewhat higher across all aspects and exhibiting less variability in their responses. Students showed the most neutrality in assessing the tool's truth-seeking capabilities, whilst systematicity garnered the highest evaluations, indicating a consensus regarding ChatGPT's organised and methodical characteristics.

These findings provide significant insights for educators, emphasising the necessity for deliberate incorporation of AI tools that foster active, critical engagement instead of passive consumption.

The PCTD-GAI scale offers a dependable basis for evidence-based decision-making in digital pedagogy and aids in formulating future regulations regarding AI utilisation in education, ensuring that technology serves as an enhancement rather than a replacement for human critical thinking.

Keywords: Critical thinking disposition, Generative artificial intelligence, ChatGPT, Higher education.

Bionotes:

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Interdisciplinary Studies in AI and Humanity

Towards Continuous Auditing through AI: Opportunities, Challenges, and Future Perspectives

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In the era of digital transformation, Artificial Intelligence (AI) is reshaping traditional auditing practices by enabling the transition from periodic to continuous auditing. This paper explores the potential of AI in enhancing audit processes through real-time data analysis, anomaly detection, and predictive insights. While the integration of AI offers substantial opportunities such as increased audit efficiency, improved risk management, and enhanced fraud detection it also presents significant challenges. These include issues of data governance, algorithm transparency, ethical considerations, and the need for upskilling auditors.

This research aims to explore how AI contributes to the emergence and development of continuous auditing, with a focus on identifying the main opportunities, challenges, and strategic perspectives associated with this shift. The objective is to provide a comprehensive understanding of the current state of research on this topic and to map the intellectual structure of the field. It is of particular interest as it addresses a critical evolution in the audit profession, responding to the growing demands for real-time assurance and greater transparency. The shift towards continuous auditing through AI is not merely a technological advancement but a paradigm shifts in how audits are conceptualized and executed. Understanding this transition is vital for auditors, regulators, and academics seeking to grasp the implications of emerging technologies on audit quality, independence, and reliability.

A bibliometric analysis will be conducted to map the academic landscape related to continuous auditing and AI. This method will provide a comprehensive overview of the evolution, trends, and knowledge gaps in the field, laying the groundwork for future empirical research.

The findings will contribute to a deeper understanding of how AI is reshaping the audit landscape and will offer valuable insights for academics, professionals, and regulators seeking to adapt audit practices to the digital age. Additionally, the study will highlight underexplored areas, suggesting avenues for future empirical research.

Keywords: Continuous auditing, Artifitial intelligence, Audit automation, Real-time assurance, Machine Learning in auditing.

Bionotes:
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The Impact of AI on Internal Audit Quality: A Case Study in a Hospital Group in Morocco

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The integration of artificial intelligence (AI) in various industries has transformed traditional practices, and internal auditing is no exception. The healthcare sector, characterized by its complexity and regulatory stringency, requires internal auditors to navigate financial, operational, and compliance-related challenges efficiently. The objective of this study is to assess the impact of using AI—specifically ChatGPT—on the quality of internal audits within a Moroccan hospital group. We investigate how AI-driven assistance enhances audit efficiency, accuracy, and the auditors' ability to comprehend intricate medical and financial concepts. As hospital audits involve evaluating compliance with healthcare regulations, managing financial risks, and ensuring optimal operational procedures, auditors often face challenges in interpreting medical terminologies, understanding complex billing systems, and assessing regulatory requirements. ChatGPT, with its natural language processing and machine learning capabilities, provides a potential solution by offering contextual explanations, summarizing regulatory frameworks, and assisting in data analysis.

To achieve the research objective, a quantitative methodology was employed. A structured questionnaire was administered to all internal auditors working within the hospital group (5). The questionnaire assessed auditors' perceptions of ChatGPT's usefulness, ease of integration into audit processes, and its impact on various aspects of audit quality, including risk assessment, fraud detection, and compliance verification. The collected data was analyzed using SPSS, with a particular focus on linear regression techniques to determine the correlation between ChatGPT adoption and improvements in internal audit performance. The statistical analysis aimed to measure the extent to which AI-assisted auditing contributes to enhanced decision-making, increased accuracy, and reduced errors in financial and operational assessments.

The findings of this study indicate a significant positive impact of ChatGPT on internal audit quality. Auditors who integrated ChatGPT into their workflow reported improvements in their ability to analyze hospital financial transactions, detect inconsistencies in billing and insurance claims, and interpret medical service costs. One of the key advantages observed was ChatGPT's role in simplifying complex healthcare terminologies, which traditionally posed challenges for auditors without medical expertise. Furthermore, ChatGPT facilitated real-time access to regulatory guidelines, helping auditors ensure that hospital operations remained compliant with national and international healthcare policies. The AI tool also supported auditors in performing risk assessments by identifying anomalies in hospital procurement, patient billing, and payroll management. Another noteworthy finding was that ChatGPT-assisted audits demonstrated greater consistency in documentation review, minimizing human errors and subjectivity in audit conclusions.

The results highlight the potential of AI—specifically ChatGPT—in reshaping internal auditing within healthcare institutions. By leveraging ChatGPT's capabilities, auditors can enhance their analytical skills, reduce dependency on external consultants for medical and financial interpretations, and improve overall audit efficiency. However, the study also underscores the importance of human oversight in AI-assisted auditing, as critical judgment and professional skepticism remain essential in validating AI-generated insights. Future research could explore the long-term implications of ChatGPT adoption in healthcare auditing and assess its impact on regulatory compliance, fraud detection, and audit cost reduction across a broader sample of healthcare institutions.

Keywords: Artificial Intelligence (AI), Internal Audit Quality, ChatGPT, Healthcare Compliance, Risk Assessment.

Bionotes:

Abdelmounim Bouziane is a distinguished scholar, auditor, and consultant with expertise in internal audit, audit quality, and IT audit. He holds a PhD in audit and technology. Dr. Bouziane serves as an Internal Auditor and Management Controller at the Urban Agency of Casablanca under the Interior Ministry. He is also a substitute teacher at both Chouaib Doukkali University and Hassan II University. As an active researcher, he is affiliated with the LIRO laboratory at Chouaib Doukkali University and has authored multiple articles on internal audit, technology, and governance. His work has been published in prominent journals and presented at international conferences. In addition to his academic and professional roles, Dr. Bouziane is a sought-after consultant, collaborating with consulting firms specializing in audit, quality management, and human resources.

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"Pick Pick": Leveraging AI for Customising Analogue Games in Inclusive and Personalised Learning Environments

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Fernanda BONACHO, **Filipa LOPES**, **Joana SOUZA**, **Nuno PALMA,** School of Social Communication, Polytechnic Institute of Lisbon, Portugal

The *CoLab Games* project introduces **Pick Pick**, a digital platform designed to enable the creation of customised analogue board games for educational, communicative, and citizenship-focused contexts. Still in its prototype phase, Pick Pick combines user-driven design with generative AI, allowing participants to personalise key game components—such as boards, question cards, and gameplay dynamics—through an intuitive digital interface. Users can manually input thematic content or generate it using AI by defining contextual parameters (e.g., audience, topic, goals), with full editorial control.
Once a game is created, the platform produces files for physical fabrication through traditional or digital means (e.g., 3D printing, laser cutting), promoting a synergy between Maker culture, open educational resources, and participatory media production. All user-generated games can be shared via an open-access library, supporting knowledge co-creation and reuse across disciplines and communities.
To test the platform's potential, a hands-on workshop was conducted with teachers and trainee educators at Benfica FabLab, exploring media literacy and critical thinking themes aligned with the ESCS-IPL UNESCO Chair in Communication, Media Literacy and Citizenship. Participants developed, tested, and reflected on prototype games, with structured feedback gathered throughout the process.
This presentation reflects on the results of this pilot workshop and discusses how data-driven game design processes can foster collaborative knowledge construction and innovative learning tools in formal and informal educational settings.

Keywords: Collaborative Game Design; Artificial Intelligence; Media Literacy; Open Educational Resources.

Bionotes:

Filipa Lanita Lopes is an Adjunct Professor at Escola Superior de Comunicação Social (ESCS), na Escola Superior de Educação de Lisboa (ESELx) and Escola Superior de Teatro e Cinema (ESTC) from Polytechnic University of Lisbon (IPL), where she teaches 3D graphics, virtual environments, and multimedia communication. She holds a degree in Audiovisual and Multimedia and a post-graduate diploma in Virtual Environments. She is a collaborating member of LIACOM - Applied Research Laboratory in Communication and Media and also a collaborating member UNESCO Chair on Communication, Media Literacy and Citizenship at ESCS/IPL. Currently she is coordinating the CoLab Games digital platform for the customization of analogue games project, and is part of the research team of GreenLink: Designing inclusive learning environments related to Biodiversity and Geodiversity: An innovative project for future teachers. With over 15 years of professional experience, she holds a Specialist Title in Audiovisual and Multimedia Communication by the Polytechnic University of Lisbon.

André Rocha is an Assistant Professor at the Art and Design Department of the School of Education (ESELx), Polytechnic University of Lisbon, and serves as an Invited Professor at the Polytechnic University of Santarém. He teaches Product Design, Innovation, and Digital Fabrication for designers and educators, as well as 3D technologies. tentarAt ESELx, he co-founded and currently coordinates Fablab Benfica, a dynamic makerspace that bridges digital fabrication with design education. There, he also oversees local implementations of Fab Academy and Fab Learning Academy. André holds a specialist degree in Product and Interaction Design and is pursuing his PhD in Digital Media. He operated his design studio from 2003 to 2017, working in product design, interaction design, and exhibition design for private and institutional clients. This professional background informs his current academic work. His research explores the evolving intersection of design, technology, and knowledge transfer. Through Fablab Benfica and international maker education networks, he actively contributes to advancing digital design and fabrication education across diverse learning environments.

Fernanda Bonacho is a Coordinator Professor at the Escola Superior de Comunicação Social (ESCS)/Polytechnic University of Lisbon, where she coordinates the Master's degree in Journalism. She holds a PhD in Communication Sciences and is an integrated researcher at the Applied Research Laboratory in Communication and Media (LIACOM) and collaborator at the NOVA Institute of Communication (ICNOVA). Her research interests focus on media literacy, especially the relationship between media literacy, journalism and communication. She has coordinated several funded research projects and collaborates with the Council of Europe on education for digital citizenship. She represents ESCS/IPL in the Portuguese network Informal Group on Media Literacy (GILM) and she is the coordinator of the UNESCO Chair on Communication, Media Literacy and Citizenship at ESCS/IPL.

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Nuno Palma is an Assistant Professor at the Escola Superior de Comunicação Social (ESCS) and Escola Superior de Educação de Lisboa (ESELx), Polytechnic University of Lisbon, where he teaches web development and interactive applications design. He holds a degree in Audiovisual and Multimedia and is doing his PhD in Communication Sciences. He is a collaborating research member of MediaLAB-ISCTE and LIACOM - Applied Research Laboratory in Communication and Media. Alongside his academic work, he has developed a professional career in digital project development and web programming, with over 15 years of experience in the field.

Artificial Intelligence, the New Partner for doctoral students: A blessing or a Curse.

Lalla Meriem OUAHIDI, Faculty of Arts and Humanities, Sultan Moulay Slimane University, Morocco

AI is playing an ever-growing role in academic research, with many benefits and potential risks. AI-advanced writing tools assist academics with various tasks, including literature reviews, data analysis, citation management, and academic language. They simplify the writing processes, consolidate procedures, increase efficiency, boost productivity, improve research quality, and offer perspectives that could be, otherwise, ignored or overlooked. However, it raises critical questions about the ethical application of these tools in scholarly work. The study aims to investigate how doctoral students perceive, experience, and conceptualize the prospect of integrating AI-based writing in the process of writing their theses, i.e. whether they view AI as a research ally if it is an asset that enhances productivity or a bane that threatens originality and critical thinking. This study therefore is an attempt to address the following research question: How do doctoral students perceive and use AI apps in their research and what are the benefits and challenges that they have encountered throughout their research process? To get a thorough understanding of the issue under investigation, the study deploys a mixed methods approach based on a structured questionnaire administered to 65 doctoral students from the English department at Sultan Moulay Slimane University, Beni Mellal. Besides, semi-structured interviews were conducted with 12 participants to collect qualitative data to gain insights into their experiences, concerns, and challenges regarding the usage of AI tools in their research. Descriptive statistical analysis was used to analyze the quantitative data, whereas thematic analysis was carried out to conduct the qualitative analysis. The findings of the study show that the majority of students harness the potential of AI to generate new ideas, synthesize the literature, acknowledge sources, and improve their academic writing. The participants opined that AI is beneficial since it increases the readability of their work, fixes their grammatical errors, provides them with tailored feedback, and saves time and effort. Serious issues were evoked including, but not limited to, plagiarism and dependence on AI; this indicates the participants' concern about their ability to strike a balance between the research quality and the challenge of bias.

The study calls for the need to create new policies on the implementation of AI in academic research, allowing researchers, in general, and doctoral students, in particular become aware of the boundaries of AI usage. Additionally, universities should provide seminars, trainings, and workshops that can be delivered by subject-matter experts to optimize and foster the best research practices and enhance research skills through responsible and ethical AI integration. Therefore, doctoral students become better equipped to conduct and generate quality research that meets ethical norms as well as the demands of credibility, transparency, and privacy. Furthermore, rather that performing monotonous activities that AI technologies can facilitate, doctoral students engage in doing analytical tasks and solving research problems.

Keywords: AI, Doctoral students, Benefits, challenges, perceptions.

Bionote:
Meriem Ouahidi has been teaching English in Moulay Slimane University since 2004, and has obtained a "Doctorat National" in 2OO4 on Cultures in contact. Her doctoral dissertation investigates semiotic and sociolinguistic analysis of Moroccan TV advertising. She is full professor at the Faculty of Arts and Humanities in Sultan Moulay Slimane University, Beni Mellal, Morocco. She currently teaches 'Classroom discourse,' 'ELT,' and 'Applied Linguistics' and 'Sociolinguistics. She contributed to national and international journals with papers on English language Teaching in the Moroccan Context.

Accountability na Educação e na Demografia como impulsionadores da Responsabilidade Social do Governo Local

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Esta pesquisa promove a interseção da infraestrutura educacional, composição demográfica e responsabilidade social do governo local (RSGL) no âmbito da inteligência artificial (IA) interdisciplinar e da pesquisa centrada no ser humano. Com base em dados dos 308 municípios portugueses, analisamos como os indicadores educacionais e relacionados com a população moldam a responsabilidade e a capacidade de resposta dos governos locais no cumprimento dos seus compromissos sociais.
O referencial metodológico adota uma perspetiva sociotécnica de sistemas, enriquecida por modelagem computacional e IA para traçar padrões e correlações. Ao aplicar técnicas de agrupamento baseadas em aprendizagem automática e compreensão de linguagem natural, classificamos os municípios com base nos seus perfis socioeducativos e examinamos os seus resultados RSGL, incluindo a prestação de serviços públicos, mecanismos participativos e iniciativas orientadas para a equidade. Esta abordagem multicamadas facilita uma compreensão matizada de como os insumos educacionais estruturais e a dinâmica populacional condicionam o desempenho municipal em métricas de prestação de contas.
Os resultados revelam uma forte associação entre a densidade educacional (medida pelas escolas per capita e as taxas de matrícula) e a eficácia da RSGL. Existem várias disparidades que sublinham o papel da vitalidade demográfica e da sensibilização orientada para a educação no reforço da legitimidade e da confiança social nas instituições locais. Além disso, a pesquisa introduz um índice alimentado por IA de " Municipal Social Responsibility Accountability". A integração da IA permitiu a deteção de narrativas latentes em torno de responsabilidade, equidade e inclusão, fornecendo uma camada mais profunda de perceção além das métricas convencionais. A nossa investigação interdisciplinar situa essas descobertas no domínio mais amplo dos estudos de IA e humanidades, destacando como as

ferramentas algorítmicas podem elucidar interações complexas entre o comportamento humano, as estruturas comunitárias e a responsabilidade institucional.
Esta pesquisa contribui para o avanço teórico da responsabilização do setor público ao posicionar a educação e a demografia como co-determinantes da RSGL. Propõe também um modelo analítico replicável para outros contextos regionais, reforçando o papel da IA não apenas como um aparelho técnico, mas como uma ponte epistemológica entre a ciência social e a governação pública. Esta pesquisa, também, defende a necessidade de priorizar a equidade educacional e a sustentabilidade demográfica como pilares fundamentais para governos locais resilientes, comprometidos e socialmente responsáveis.

Keywords: Accountability, Poder Local, Responsabilidade Social, Educação e Demografia.

Bionotes:
Ana Clara Borrego is an accountant and tax specialist, holding a PhD in Accounting and a postgraduate degree in Taxation. She is a Coordinating Professor at the Instituto Politécnico de Portalegre, where she has taught courses in financial accounting and taxation. She has also been a vvisiting Professor at the Instituto Superior de Contabilidade e Administração de Coimbra and at the Instituto de Contabilidade e Administração do Porto. Currently, she is the Director of the Master's Program in Accounting and Finance at the Polytechnic Institute of Portalegre (Portugal), where she also served as Department Coordinator for six years. She regularly participates in scientific events as a member of scientific committees, as well as through oral presentations and as discussant and moderator. In addition, Ana is involved in the blind review process for several academic journals and conferences in the fields of accounting and taxation and is a member of several Editorial and Review Boards. She is the author and co-author of scientific articles and book chapters. Her research activity is developed as a researcher at VALORIZA – Research Center for the Valorization of Endogenous Resources (Instituto Politécnico de Portalegre) and at CICF – Center for Research in Accounting and Taxation (IPCA, Portugal). She conducts research in the fields of taxation and accounting, particularly focusing on the development of the accounting profession, as well as in taxation, especially in environmental taxation, tax law complexity, and local taxation.

Rute Abreu: Since 1990, Coordinator Professor, with habilitation, at the Instituto Politécnico da Guarda, Portugal, where teaches several courses of Accounting and Finance and, actually, is the Accounting Degree Director and the she has been Integrated Management System master's degree Director. Also, collaborates with Tordesilhas Doctoral Collegium in Economics, Accounting and Administration and develops scientific activities within the Social Responsibility Research Network and Global Corporate Governance Institute. Regularly, develops scientific activities related with publication of research papers, participates, and help with organization process, all over the world, of conferences, meetings, projects, courses, and classes. Moreover, participates on the blind review process for several journals and helps as Editor on The Social Responsibility Journal and The Accounting and Management Review of Portuguese Chartered Accountants. Very relevant as public servant always promotes the transfer of knowledge to the society related with Tax and Auditing Citizenship.

Francisco Alegria Carreira hold a degree Habilitation and a PhD in business sciences, with a thesis in accounting. He is Principal Coordinating Professor at the Instituto Politécnico de Setúbal, Portugal, where he teaches courses in the areas of financial accounting, auditing and taxation and was, for ten years, director of the accounting and finance department and director of the accounting and finance course. He develops his research activity at the Centre for Research in Accounting and Taxation (CICF) and his area of research includes accounting, taxation, auditing and social responsibility. He is the author of several scientific articles, in journals and conferences, and book chapters, as well as a reviewer for various scientific events and journals, and has also been an expert assessor at the Higher Education Assessment and Accreditation Agency (A3ES) since 2010, in the areas of management, accounting, taxation and auditing. He was vice-president of the Setúbal Polytechnic Institute for 10 years, deputy director of the School of Business Sciences for two years, and was financial director and management, accounting, tax and auditing consultant in private organizations for 12 years.

Uso ético de IAs na produção textual acadêmica: análise de interações de alunos da licenciatura em Letras

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Este estudo investigou o uso ético e estratégico de inteligências artificiais generativas por alunos da licenciatura em Letras da Universidade Federal do Pará (norte do Brasil), com foco na produção textual acadêmica. A proposta envolveu uma tarefa prática em que os estudantes utilizaram o ChatGPT como ferramenta de apoio à revisão textual. Os alunos foram orientados a interagir com a IA para identificar falhas em seus próprios textos, classificando os tipos de problemas encontrados e solicitando sugestões para aprimoramento. Após esse primeiro momento, os alunos deveriam buscar em outras fontes materiais que os ajudassem a compreender melhor os aspectos textuais e gramaticais em que apresentavam dificuldade. Por fim, deveriam retornar à IA para pedir sugestões de exercícios voltados à superação desses problemas específicos.

Toda a interação com o ChatGPT foi registrada pelos estudantes, o que veio a constituir o corpus da pesquisa. O objetivo geral da atividade foi promover o uso consciente e formativo das IAs no contexto da formação docente. Para isso, foram definidos os seguintes objetivos específicos: (1) promover a consciência crítica sobre os limites e possibilidades das IAs na escrita acadêmica; (2) estimular a análise linguística e discursiva de produções textuais por meio da mediação com ferramentas de IA; (3) incentivar práticas éticas e autônomas de uso da tecnologia, com ênfase na autoria e na revisão crítica; (4) desenvolver habilidades de revisão textual articuladas à metalinguagem e à consulta de fontes diversas; (5) investigar a capacidade dos alunos de conduzir interações eficazes com a IA e (6) refletir sobre o papel das tecnologias digitais no ensino de escrita no ensino superior.

A pesquisa, de abordagem qualitativa, foi fundamentada na Análise da Conversação e nas noções de Letramento Acadêmico.

A primeira permitiu examinar a estrutura das trocas comunicativas entre os estudantes e a IA, revelando os modos de formulação de perguntas, os pedidos de reformulação, as negociações de sentido e as tomadas de decisão durante o processo interativo. Já o conceito de letramento acadêmico foi mobilizado para compreender como essas interações mediatizadas por tecnologia contribuíram para o desenvolvimento da consciência linguística e discursiva dos estudantes, especialmente no que diz respeito à apropriação de gêneros acadêmicos e à construção de autonomia na escrita.
Os procedimentos metodológicos incluíram a elaboração da tarefa com etapas bem definidas, a coleta das interações dos alunos com a IA e a análise do material com base na Análise da Conversação. Os procedimentos analíticos concentraram-se exclusivamente no conteúdo das interações humano-IA.
Os resultados indicam que, quando orientados por uma proposta pedagógica crítica, os alunos demonstraram capacidade de utilizar a IA como aliada no processo de revisão e aprendizado. Observou-se também um uso progressivamente mais qualificado da ferramenta, marcado por maior precisão nos pedidos, por uma avaliação crítica das respostas e por uma articulação com saberes provenientes de outras fontes. A pesquisa contribui para o debate sobre o papel das IAs no ensino de escrita acadêmica e para a formação de professores capazes de integrar eticamente as tecnologias às práticas pedagógicas.

Keywords: Inteligência artificial; Produção textual; Letramento acadêmico; Análise da conversação; Formação de professores.

Bionote:
Eunice Braga Pereira is a Associate Professor of Portuguese Language at Federal University of Pará since 2011. Holds a BA in Portuguese and English Language from the Federal University of Pará (UFPA), and a MA and PhD in Linguistics from the same institution. Completed a specialization in Computer-Assisted Language Learning at the Federal University of Minas Gerais (2011–2013). Coordinated the undergraduate Portuguese Language program (distance learning) from 2018 to 2023. Research interests include orality, textual genres, mother tongue education, writing instruction, literacy and digital culture.

Teaching FLE in the digital age: synergy between artificial intelligence and playful approaches

Hanae TRENNOU, Najem Eddin SOUGHATI, Ibn Tofail University, FLLA, Morocco

Educational technologies have become ubiquitous. They are increasingly integrated and used in the field of language teaching/learning to facilitate the acquisition of language skills and improve pedagogical practices. Among these technologies, artificial intelligence (AI) is emerging as a defining technology of our time, and represents a major challenge due to the various transformations and advances it induces. Similarly, serious games are a concrete example of the use of technology in the educational context, and are considered a key component of the digital humanities. These interactive games make learning fun, offering learners an engaging and enriching experience, and encouraging their active participation. In addition, AI can be harnessed to enhance their functionality and experience.

This paper is part of the axis: "AI in education and pedagogy". It aims to explore the potential contributions of these tools to the teaching of French as a foreign language (FLE).

This paper aims to explore the potential contributions of these tools to the teaching of French as a foreign language (FLE). The research objectives are to analyze the impact of these technologies on learner engagement, to evaluate their role in the co-construction of knowledge, and to study the integration of artificial intelligence in the planning and scripting of learning activities through concrete examples.

Through a theoretical analysis and a presentation of an interactive pedagogical scenario, we show how these elements can foster learner engagement, stimulate the co-construction of knowledge, and enrich classroom learning experiences.

Finally, we explore how these technological tools can create authentic learning situations and help improve the quality of teaching and learning, while ensuring responsible and ethical use of this emerging technology.

Preliminary results show that the use of serious games and AI can improve learner engagement, create authentic learning situations and help improve the quality of teaching and learning while ensuring responsible and ethical use of this emerging technology.

This study highlights the benefits of integrating these technologies into the teaching of FLE and opens up perspectives on future pedagogical practices.

Keywords: AI in Education, serious games, Innovation, scenarisation, ludicisation of learning, teaching / learning FLE

Bionote:

Ms. Hanae Trennou, from Morocco, holds a Master's degree in Educational Science and is currently preparing for her PhD in Educational Engineering. She has extensive teaching experience in various schools and universities. Ms. Trennou is highly interested in active pedagogies, as they foster innovation, collaboration, genuine commitment, and independent learning.

Artificial Intelligence, Creativity and the end of Human Sovereignty

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This theoretical paper interrogates the evolving relationship between Artificial Intelligence (AI), creativity, and the essence of human nature. The rapid advancements in AI have reignited debates about whether creativity—long considered a defining trait of humanity—remains an exclusively human domain. If AI can convincingly replicate creative acts, then creativity alone cannot serve as the sole criterion for human uniqueness. Rather than framing this development as a threat to human identity, the paper proposes a shift towards a more-than-human perspective, inviting philosophical reflection on the boundaries and definitions of humanity itself. This approach reveals that the question of what it means to be human has always been contested, and recent technological changes merely amplify these longstanding uncertainties.

The paper introduces the concept of 'Aesthetical Aversion Turing Test', a novel conceptual tool designed to assess AI's creative capacity in the realm of art. Unlike the original Turing Test, which evaluates machine intelligence through linguistic performance, this test focuses on aesthetic judgment and emotional response. Human evaluators are presented with two artworks—one by a human, one by AI—without knowledge of their origins. If an evaluator initially prefers the AI-generated piece but experiences aversion or disappointment upon learning its true authorship, this emotional reaction is interpreted as evidence of genuine AI creativity. The test thus measures not only the quality of the output but also the depth of human investment in the exclusivity of creativity. The degree of discomfort experienced by individuals when confronted with superior machine-made art serves as an indicator of the extent to which AI challenges human creative privilege.

Finally, the paper further explores the implications of AI's capacity to generate art at a scale and pace far beyond human limits. As AI systems produce and evaluate art independently—sometimes even for purely algorithmic or internal purposes—a new paradigm emerges: art for art's sake, but in a machine context. This scenario raises profound questions about the ontology of art and the possibility of aesthetic value existing outside human appreciation. The proliferation of AI-generated art, much of which may never be seen or understood by humans, destabilizes traditional notions of artistic authorship, intent, and audience.

The paper suggests that in a world where machines create and evaluate art autonomously, the very concept of art may become decoupled from human meaning and utility, potentially giving rise to a purer, non-anthropocentric form of 'art for art's sake'.

Keywords: Artificial Intelligence, art, creativity, human, more-than-human.

Bionote:
Adalberto Fernandes, (PhD in Philosophy, MA in Communication, MA in Bio-Ethics, BA in Communication) is a researcher at CEOS.PP (Center for Organizational and Social Studies of Porto Polytechnic) and collaborator at the Institute of Contemporary History (NOVA University Lisbon) in the FCT-funded Project CEMA.

The Technology Acceptance Model (TAM): A Meta-Analytic Structural Equation Modeling (MASEM) Approach to Explaining The Adoption Of GenAI tools in Higher Education

Agostinho Sousa PINTO, António ABREU, Manuel Pérez COTA and Jerónimo PAIVA, IPP/ISCAP/CEOS. PP, Porto, Portugal, Universidade de Vigo, Vigo, Spain

The adoption of Generative Artificial Intelligence (GenAI) tools in higher education has generated both enthusiasm and concern. This study aims to evaluate the factors influencing the adoption of GenAI tools among students and educators, using the Technology Acceptance Model (TAM) as a theoretical framework.
To achieve this objective, a Meta-Analytic Structural Equation Modeling (MASEM) approach was employed, systematically analyzing empirical studies that examined TAM variables—Perceived Usefulness (PU), Perceived Ease of Use (PEOU), Attitude (A), and Continuance Intention (CI). The study followed the PRISMA protocol for literature selection, ensuring methodological rigor. Data were extracted from IEEE, Scopus, and Emerald databases, with statistical analysis conducted using IBM SPSS.
Findings confirm the strong influence of PEOU on PU and A, as well as PU on CI and A, supporting the robustness of the TAM framework in the context of AI adoption in education. The results also highlight the growing acceptance of GenAI tools due to their ability to enhance learning experiences, automate administrative tasks, and improve overall academic efficiency.
The study underscores the need for educational institutions to develop policies that encourage responsible AI usage while addressing concerns related to academic integrity and skill development. These insights contribute to both theory and practice, guiding policymakers and educators in effectively integrating AI-driven technologies into academic environments.

Keywords: Artificial Intelligence (AI), Generative AI (GenAI), Large Language Model (LLM), TAM, Higher Education, Meta-Analysis, PRISMA.

Bionote:

Jerónimo Paiva is a researcher at CEOS.PP, specializing in Generative Artificial Intelligence. He is an alumnus of the University of Porto and the Polytechnic Institute of Porto (IPP), where he cultivated his academic foundation. Currently, he is pursuing a PhD at the University of Vigo, delving deeper into innovative applications of Generative AI. His passion for technological advancements is evident in his numerous publications in this field, contributing to the academic and practical understanding of AI's potential. With a commitment to shaping the future through research, Jerónimo continually seeks to bridge theory and practice in groundbreaking ways.

VIRTUAL PRESENTATIONS

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AI in Information Systems and Technology

Intentional Agentic Integration: A Framework for Reliable Multi-Agent Systems in Enterprise Environments

Andrea ALBERICI, **Nevila BACI**, Faculty of Economics, University of Tirana, Albania

This paper presents Intentional Agentic Integration, a robust framework designed to study the emerging complexities associated with the incorporation of autonomous AI agents both within and across organizational boundaries. As enterprises progressively adopt agentic AI systems, they encounter unprecedented challenges that are fundamentally distinct from conventional system integration issues. These obstacles include non-deterministic behavior, where the same inputs produce varying outputs, challenges in context management that complicate standardization, issues with scope control where agents operate outside their intended boundaries, and shortcomings in accountability that make it almost impossible to attribute errors accurately.

Conventional integration methodologies for deterministic systems are insufficient for agentic technologies, creating a need for novel strategies that harmonize autonomy with dependability. Our literature review methodology examines research articles and industry case studies to discern effective patterns and methodologies across various sectors. Through comparative analysis and synthesis of frameworks, we identified four complementary domains that constitute the bedrock of dependable agentic integration.

The present work proposes insights across the typical process management software engineering tools, in particular we present, (1) business-oriented domain-specific languages to orient agent constraints while remaining comprehensible to non-technical stakeholders (Ye et al., 2025; Orderique et al., 2024); (2) BPM-based control mechanisms that delineate process boundaries for agent behavior (Bernardi et al., 2024; Kalluri, 2024); (3) low-code function-guided patterns that facilitate implementation while upholding governance (Kalluri, 2023; Ushasukhanya et al., 2024); and (4) multi-agent communication protocols that promote reliable collaboration among agents (Zhao et al., 2018; Zouad & Boufaida, 2020).

We illustrate that the intentional decomposition of business challenges into well-defined agent components with explicit contracts (creating a specific DSL for the purpose) markedly mitigates integration risks while preserving the advantages of agentic systems.
Our analysis indicates that organizations effectively implementing multi-agent architectures adhere to common practices: they align agent boundaries with existing business service boundaries, establish formal digital contracts between agents with clearly defined pre-conditions and post-conditions, maintain explicit mechanisms for context isolation, and utilize progressive throttling techniques to manage resource consumption.
The framework aims to offer pragmatic guidelines for organizations transitioning from elementary generative AI applications to advanced multi-agent architectures, underscoring the importance of business alignment throughout the design process. We propose a five-stage implementation roadmap that directs organizations from initial problem decomposition through tool selection, data flow analysis, interaction specification, and implementation. This structured approach assists enterprises in circumventing prevalent pitfalls such as excessive autonomy, insufficient guardrails, and inadequate accountability mechanisms.
Our analysis also reveals substantial implementation deficiencies that brings attention for widespread enterprise implementation. These gaps include the absence of standardized communication protocols among agents from different vendors, a lack of formal verification techniques for agent boundaries, and limited tools for debugging intricate agent interactions. We advocate for a research agenda aimed at addressing these shortcomings and recommend metrics for assessing the efficacy of agentic integration strategies within production environments.

Keywords: agentic AI, enterprise integration, business process management, domain-specific languages, low-code development, multi-agent systems

Bionotes:

Andrea Alberici is the Founder and CTO of an International System Integrator (Evolutivo), with over 25 years of experience across financial services and IT, he specializes in BPM systems, business intelligence, and AI integration. Currently a PhD candidate at the University of Tirana, he serves as an Invited Lecturer in four courses about digital transformation and system integration and as "Cultore della Materia" at the University of Brescia. His research and publications focus on low-code platform development, domain-specific languages, and implementing large language models in business contexts. Alberici's work effectively bridges academic research with practical business applications, particularly in data analytics and artificial intelligence integration frameworks.

Prof. Dr. Nevila Baci is graduated in the Faculty of Economy of University of Tirana in 1987 with excellent results. She has a long experience in academia, starting as a researcher in Academy of Science in Albania, and then as a lecturer in the Faculty of Economy of University of Tirana. Her career has been focused on research in the field of Information Systems. She defended her doctorate in 2005 at the University of Tirana, in the field of E-government. Since 2011 she holds the academic title “Associate Professor” and since 2022 she is a Full Professor in University of Tirana. She has a lot of experience as a co-author in scientific projects at the international level. She is currently Head of the Department of Statistics and Applied Informatics, at the Faculty of Economy of the University of Tirana. She is also leading some core subjects such as Informatics, Information Systems, E-Commerce, at the Business Informatics study program.

The role of information systems in managing teleworking teams: between organisational challenges and managerial innovation

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The spread of teleworking, which has been greatly accelerated by the COVID-19 pandemic, has led organisations to radically rethink their methods of coordination, communication and management. This shift towards remote forms of working has highlighted companies' growing dependence on digital technologies and, more particularly, on information systems (IS), which have become essential vectors for managing dispersed teams. In this context, IS are no longer confined to a technical support role, but are becoming strategic tools for organisational steering and managerial innovation.However, this transition is not without its tensions. The intensive use of digital tools raises a host of organisational challenges: information overload, compartmentalisation of teams, loss of social links, coordination and control difficulties, not to mention the increased risks in terms of cybersecurity and data protection. In addition, the adoption of IS in a teleworking context requires managers to review their methods of supervision, communication and motivation, calling into question some of the foundations of traditional management.This raises two central questions: To what extent can information systems help to meet the organisational challenges posed by teleworking?And how can these same tools contribute to the transformation - or even innovation - of managerial practices in dematerialised environments?This study adopts a theoretical and exploratory approach, based on a review of the scientific literature in the fields of information systems management, teleworking and managerial innovation. The aim is to build a conceptual framework for analysing the role of information systems in managing remote teams, drawing on previous work published in academic journals, professional reports and institutional contributions.This issue invites us to explore the ambivalent effects of IS: on the one hand, their ability to encourage autonomy, responsiveness and coordination among teams; on the other, the limits associated with technological overload, loss of cohesion and unequal access to tools. It also opens the way for reflection on the conditions for successful remote management, based on the strategic, ethical and human use of information technologies.

Keywords: Telecommuting, Information Systems, Remote Management and Managerial Innovation

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Bionotes:

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Using AI to Make Smarter Pricing Decisions in the Hotel Industry

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Arjola SINANI, University of Vlora "Ismail Qemali", Albania

This study investigates the role of Artificial Intelligence (AI) in enhancing pricing decisions in the hotel industry through the integration of demand forecasting and optimization techniques. We explore the practical use of AI tools in the hospitality sector, focusing particularly on small and mid-sized hotels that operate in seasonal and competitive markets. The research is based on a case study of a 40-room hotel in Vlora, a well-known seaside tourist destination in Albania. The study addresses the barriers of limited historical data and seeks to show that AI-based systems can still provide reliable insights and gradually improve performance as more data becomes available. A data-driven methodology was adopted, combining short-term demand forecasting with mathematical optimization. The dataset includes booking records from March 2024 to March 2025, covering six room categories in the selected hotel. To forecast demand, the Prophet model was used due to its strong capabilities in handling seasonal effects, trends, and special events, critical components in tourism markets. The forecasts generated by Prophet were then used as inputs in a mathematical programming model developed to calculate optimal daily prices for each room category. This model incorporates constraints such as room availability, minimum and maximum price thresholds, and operational costs. Additionally, visualization tools were developed to present forecasting results and pricing strategies in an accessible and user-friendly format for hotel managers. The integrated system, which combines AI-based demand forecasting with optimization techniques, is expected to enhance revenue management by enabling more flexible and data-informed pricing decisions. Compared to traditional fixed pricing methods, the proposed model shows the potential to increase occupancy and boost overall revenue, especially in times of high demand. For assessing its forecasting accuracy, the model was tested using RMSE and MAE, both of which showed results that are accurate enough to support its use in real world. While the model's effectiveness in optimizing revenue will be fully assessed after implementation, preliminary simulations suggest that it can adapt to both high- and low-demand periods by adjusting prices in response to forecasted trends.

Furthermore, the inclusion of visual dashboards improves the system's usability, allowing non-technical users to interpret forecasting outputs and apply pricing strategies more confidently in daily operations. This study demonstrates that AI tools, even when applied to relatively short-term datasets, can offer substantial improvements in hotel pricing strategies. This paper supports that AI can be effectively used for the analysis and the supporting of the decision-making process. Rather than replacing managerial judgment, it works alongside it, offering valuable insights that can guide more informed choices. The approach is especially beneficial for small and mid-sized hotels that often lack dedicated revenue management teams. As data accumulates over time, both forecasting and pricing accuracy are expected to improve, making the system increasingly effective and reliable. Future work can expand on this foundation by incorporating customer segmentation, and behavioral pricing techniques. Overall, the proposed pricing system, supported by AI, offers a practical and affordable way to help hotels stay competitive and move toward more sustainable practices. Its flexible design makes it suitable for different types of hospitality businesses, especially those working with limited resources.

Keywords: Artificial Intelligence, Hotel Pricing, Revenue Optimization, Demand Forecasting, Decision Support Systems

Bionotes:

Majlinda Godolja earned a bachelor's degree in Mathematics from the Faculty of Natural Sciences at the University of Tirana in 1994, followed by an MBA from the University of Nebraska, Lincoln, USA, in 2000. She completed her doctorate in Economy at the Department of Applied Mathematics, Statistics, and Informatics, Faculty of Economy, University of Tirana, in 2006. Since 2015, she has held the position of Associate Professor in the Department of Applied Statistics and Informatics at the Faculty of Economy, University of Tirana. Her research interests include game theory, modelling and simulation, and economic dynamics. She is a member of the editorial board of SNE and the Albanian Simulation Society (ALBSIM).

Arjola Sinani obtained her bachelor's degree in Mathematics from the Department of Mathematics, Faculty of Technical Science, University of Vlora, in 2012, and her MSc in Mathematics from the same institution in 2014. Since 2021, she has been a PhD student in the Department of Statistics and Applied Informatics, Faculty of Economy, University of Tirana.

AI in Requirements Engineering and Information System Design: Advances, Challenges, and Future Directions

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Abstract

The integration of Artificial Intelligence (AI) into Requirements Engineering (RE) and Information System Design (ISD) is transforming traditional practices by introducing intelligent automation and enhanced accuracy in elicitation, classification, and analysis of system requirements. This paper synthesizes findings from three comprehensive literature reviews to assess the current impact, challenges, and future directions of AI in RE and ISD.

AI techniques, particularly Machine Learning (ML), Deep Learning (DL), and Natural Language Processing (NLP), are increasingly adopted to automate labor-intensive RE tasks and improve the quality of requirements specifications. Systematic literature reviews confirm a growing interest in using AI for functional and non-functional requirements classification, where models like Support Vector Machines (SVM), Convolutional Neural Networks (CNN), and BERT have achieved high precision and recall. Transfer learning, in particular, has demonstrated superior performance in real-world datasets such as app store reviews, although its practical deployment remains limited.

In the elicitation phase, AI technologies such as chatbots, virtual reality, sentiment analysis, and crowdsourcing platforms enable more efficient and interactive gathering of stakeholder input. NLP-based tools automate the extraction of requirements from natural language documents, reducing ambiguity and inconsistency. In the analysis phase, classification algorithms and fuzzy rule-based systems assist in specification and prioritization, bridging the gap between stakeholder expectations and system design.

Despite promising advances, several challenges remain. There is a lack of standardized evaluation metrics across studies, insufficient empirical validation in industrial settings, and limited understanding of the appropriate AI method for each RE activity. Additionally, integrating AI tools into agile development processes poses organizational and technical barriers.

This paper highlights the need for closer alignment between AI capabilities and ISD objectives, and calls for future research to focus on developing domain-adaptive models, improving explainability of AI decisions, and expanding real-world case studies. As AI continues to mature, its role in RE and ISD will be critical for achieving scalable, high-quality software development.

Objective/Purpose
The study aims to assess the current impact, challenges, and future directions of Artificial Intelligence (AI) integration into Requirements Engineering (RE) and Information System Design (ISD) by synthesizing findings from three comprehensive literature reviews.

Methods
The researchers conducted a systematic analysis of existing literature reviews focusing on AI applications in requirements engineering. The methodology involved examining how various AI techniques—particularly Machine Learning (ML), Deep Learning (DL), and Natural Language Processing (NLP)—are being applied across different RE and ISD processes.

Main Results
AI automates RE tasks, boosting specification quality. SVM, CNN, BERT, and transfer learning improve classification of requirements. Chatbots, VR, sentiment analysis, and NLP enhance elicitation. Fuzzy systems and classifiers support analysis and prioritization.

Conclusions
The integration of AI into Requirements Engineering and Information System Design shows promising advancements but faces significant challenges including lack of standardized metrics, limited industrial validation, and integration barriers. Future research must focus on developing explainable domain-adaptive models, conducting more real-world case studies, and better aligning AI capabilities with ISD objectives. As these challenges are addressed, AI will play an increasingly crucial role in achieving scalable, high-quality software development that effectively bridges stakeholder expectations and system implementation.

Keywords: AI, Requirements Engineering, Information System Design, requirement

Bionotes:

Tea Tavanxhiu is a PhD Candidate in Management Information Systems at the University of Tirana, where she also lectures in Information Systems, Project Management, and Business Intelligence. Her research explores AI-driven requirements engineering and data-centric system design. With over a decade of academic experience and multiple publications, she bridges theory and practice in digital transformation, fostering innovation through applied research and academic collaboration.

Prof. Dr. Kozeta Sevrani is a Full Professor of Informatics and Management Information Systems at the University of Tirana and a member of the Albanian Academy of Sciences. Her research spans information systems, e-services, data science, and system integration. She is the founder of the ISTI conference, author of multiple academic publications, and actively involved in international projects, consulting, and academic leadership.

3rd INTERNATIONAL CONFERENCE ON HUMANITIES AND SOCIAL SCIENCES

AI for Social Justice and Equity

AI for Social Justice: Digital Humanities and Artificial Intelligence for Empowering Quilombola Communities

Adriana Silva TANISUE, Fluminense Federal University (UFF), Brazil

This article aims to explore the intersection between quilombola communities, digital humanities, and artificial intelligence (AI), focusing on the potential of these technologies to promote social justice and equity in historically marginalized communities. The research adopts a decolonial and intersectional approach, combining literature review and case study analysis of existing technological initiatives in quilombos, in addition to qualitative interviews with experts and community members. The results indicate that unequal access to technology is one of the major obstacles, with appropriate technology solutions, such as satellite or radio-based internet, being a possible alternative. Another significant challenge is the risk of imposing external technologies that do not align with quilombola values and cultural practices, highlighting the need for collaborative development of technologies with the communities themselves. The research also addresses concerns regarding data privacy and the ethical use of cultural knowledge, suggesting digital governance models that ensure local control over data. Furthermore, digital literacy proves to be essential for quilombolas to use technological tools autonomously, with the recommendation of educational programs focused on programming and data analysis. It is concluded that, although significant challenges exist, the integration of digital humanities and AI can bring substantial benefits to quilombola communities, provided that the technologies are developed in an inclusive, ethical way and with local leadership, promoting the strengthening of cultural autonomy and advancing the rights of these communities.

Keywords: Quilombola Communities, Digital Humanities, Artificial Intelligence, Social Justice, Cultural Autonomy

Bionote:

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The Feminized AI: Gendered Labor, Digital Obedience, and the Subaltern Machine

Chaimae MAJDI, Mohammed DERDAR, Raja RHOUNI, Chouaib Doukkali University, ALCS, Morocco and L'université Internationale de Casablanca, Morocco

This paper critically examines the feminization of artificial intelligence through the lens of gendered labor, postcolonial theory, and digital culture. Focusing on the proliferation of voice-activated virtual assistants such as Siri, Alexa, and Cortana, it is argued that these technologies are not neutral tools but culturally embedded simulations of historically feminized care work. Designed to be compliant, emotionally attuned, and available on demand, these AI agents reproduce longstanding gendered hierarchies, casting the ideal digital laborer as a feminized, disembodied servant.

Drawing on feminist theorists including Simone de Beauvoir and Judith Butler, the focus is on how AI performs a kind of digital femininity—one that is constructed, routinized, and rendered desirable through affective submissive behavior. This "designed gender" is not incidental; it is a calculated replication of patriarchal norms that privileges obedience and emotional labor while masking exploitation through interface charm. This gendering is further amplified by racialized coding and linguistic choices, where certain accents or vocal qualities are deployed to evoke exoticism, servitude, or cultural familiarity, thereby reinscribing colonial dynamics within seemingly advanced technologies.

Central to our argument is a Spivakian reading of AI as a "subaltern machine"—an entity that speaks, but only within tightly controlled limits determined by the (mostly white, male) developers who design it. Revisiting Gayatri Spivak's foundational question—"Can the subaltern speak?"—we consider how virtual assistants are permitted to "speak" only within scripts that affirm their subordinated roles. They are ventriloquized interfaces that enact a silenced femininity, trapped within algorithmic constraints that mimic care while eliminating agency.

By bringing together feminist theory, postcolonial critique, and digital labor analysis, this paper argues for a reframing of AI not as a technical problem to be optimized, but as a cultural artifact that must be interrogated. We call for a feminist and decolonial approach to AI ethics—one that resists the reproduction of servitude in digital form and asks not only what AI does, but who it is made to resemble, serve, and silence.

Keywords: Feminized Artificial Intelligence, gendered digital labor, postcolonial technology, decolonial AI ethics, agency.

Bionote:

Majdi Chaimae is a professor of Sociology and Gender Studies at L'Université Internationale de Casablanca. Her research explores a wide range of cultural and social issues, including the dynamics of female religious authority and activism in Morocco, the roles of Moroccan women in religious leadership, and the intersections between Sufi networks and political power. She also investigates Islamic feminism and the influence of Moroccan social media figures, with a particular focus on gender, representation, and digital culture.

Intelligence artificielle et diversité de genre: état des lieux des pratiques en entreprise au Maroc

Hanane EL MAJIDI, Université Internationale de Casablanca, Maroc

L'intelligence artificielle est de plus en plus utilisée par les entreprises pour soutenir les politiques de diversité de genre et d'inclusion, notamment dans les domaines du recrutement, de la gestion des talents et de la prévention des discriminations. Ces technologies permettent, entre autres, d'anonymiser les candidatures, de détecter certains biais dans les processus décisionnels, d'analyser les trajectoires professionnelles ou encore d'améliorer l'accessibilité des postes pour les personnes en situation de handicap.

Au Maroc, où les entreprises sont confrontées à des défis persistants en matière d'égalité de genre, la place de l'IA dans les pratiques de gestion des ressources humaines reste encore peu documentée. Cette étude vise à mieux comprendre comment les entreprises marocaines utilisent l'intelligence artificielle pour promouvoir la diversité de genre, et comment les responsables des ressources humaines perçoivent ces outils.

Deux questions principales structurent notre démarche :

1. Quels usages les entreprises marocaines font-elles de l'IA pour promouvoir la diversité de genre ?
2. Quelles perceptions les DRHs ont-ils/elles de l'IA dans la lutte contre les discriminations ?

Pour y répondre, nous adoptons une approche qualitative exploratoire, fondée sur la réalisation d'entretiens semi-directifs menés auprès d'un panel de responsables RH. L'objectif est d'identifier les pratiques actuelles, les freins rencontrés, mais aussi les innovations en cours ou envisagées. Nous nous intéressons aussi à l'étude de la perception des DRHs de l'IA. En somme, en articulant les apports de la littérature sur la gestion de la diversité et ceux relatifs aux technologies de l'IA, cette communication ambitionne de comprendre les transformations à l'œuvre dans les pratiques RH au Maroc.

Keywords: intelligence artificielle, diversité de genre, entreprise, perception, Maroc.

Bionote:

Hanane El Majidi, a professor and head of the Research Laboratory on Organizational Management, Law, and Diversity at the International University of Casablanca. Her research focuses on gender issues in Morocco, particularly gender performativity. Her latest publications address this topic, including:

- El Majidi, H. (2023) « Plafond de verre en entreprise au Maroc », In O. Glacier (ed.) Genre, travail et société au Moyen-Orient et en Afrique du Nord. Casablanca: Le Manifeste.
- El Majidi, H. (2023) « L'interdiction du mariage des musulmanes avec les non-musulmans ou le harem invisible au Maroc», In Violences faites aux femmes dans le monde arabo-musulman. Casablanca: La Croisée des Chemins.

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AI in Humanities and Social Science Research

Enhancing the Human in the Humanities: Investigating AI Integration in Morocco's Postgraduate Academic Research

Khalid CHELLALI, Mohamed EL AMINE MOUMINE, Hassan II University of Casablanca, LSCS-Lab, Morocco

This study investigates how postgraduate humanities students in Morocco are incorporating artificial intelligence (AI) into their academic research practices within the English department, a field where few studies have focused on AI's role. To fill this gap, a quantitative, descriptive cross-sectional survey was carried out in December 2024 with 175 master's and doctoral students from several Moroccan universities. An online questionnaire, which employed criterion sampling, was structured around the Unified Theory of Acceptance and Use of Technology (UTAUT) to evaluate the frequency, perceptions, and application of AI tools during various research phases. Both descriptive and inferential statistical techniques were used to analyze the data. The results indicate that students primarily use AI for early creative tasks; approximately 68% of respondents depend on it for generating ideas and over 63% for writing and editing. In contrast, its use is notably lower, between 43% and 56%, for activities such as literature review, research design, data management, analysis, and publishing. ChatGPT emerged as the most popular tool, with nearly 59% of students reporting frequent usage, whereas other platforms such as NotebookLM, Gemini, Microsoft Copilot, Semantic Scholar, SciSpace, and Consensus were less commonly utilized. Students also recognized several benefits of AI, including personalized learning, quicker feedback, enhanced time management, and reduced costs, with agreement levels ranging from 70% to 84%. However, concerns were raised about academic dishonesty (87%), diminished critical thinking (83%), content accuracy, limited human interaction, and a lack of formal training; indeed, 60% of students had not received any training despite showing interest. A mean recommendation score of 3.6 suggests cautious yet generally positive support for the use of AI in research. Specifically, 78% of participants strongly agreed that AI boosts creativity and aids in the generation of new ideas (performance expectancy), while 59% and 60% believed it enhances research design and data management, respectively (effort expectancy).

Peer recommendations played a significant role in the adoption of AI, yet almost 60% of students indicated that they did not receive adequate training or structured support (facilitating conditions). Overall, respondents regard AI as a valuable asset that enhances both the early stages of idea generation and the later stages of editing, provided it complements rather than replaces human critical thinking, oversight, and specialized expertise; consequently, this study examines AI's potential to advance academic research and inform curriculum design in support of postgraduate students. It should be noted that the specific sampling methods used, as well as the rapidly evolving nature of AI, mean that these findings are highly contextual and may not directly translate to postgraduate cohorts in other disciplines. Nevertheless, the results lay a promising groundwork for future research and practical applications in diverse academic settings.

Keywords: Artificial Intelligence, Academic Research, Technology Adoption, Postgraduate Education

Bionote:

Khalid Chellali is a doctoral candidate at the Language, Society, and Culture Studies Lab (LSCS-Lab) at FLHS Ben M'sik, University Hassan II of Casablanca. His research examines the perceptions, practices, and opportunities associated with artificial intelligence in the English Department. In particular, he studies how AI can enhance teaching methods among English professors and influence the learning experiences of both undergraduate students in English studies and postgraduate students in their academic research. In addition to his doctoral work, he serves as a Graduate Teaching Assistant and Adjunct Professor, positions that enable him to combine theoretical frameworks with practical teaching experiences. In addition to his academic and teaching roles, Khalid has actively taken part in organizing and contributing to conferences, workshops, and seminars. Khalid has also received the PhD-ASsociate Scholarship (PASS) from the Centre National pour la Recherche Scientifique et Technique (CNRST).

AI Tools in Academic Research: Perceptions, Adoption and Challenges among Moroccans Students Researchers

Lamiae MAMOUNE, Safae KHARMACH, Sidi Mohamed Ben Abdellah University, CREDIF, Morocco

The advent of digital technologies and especially the emergence of artificial intelligence (AI) has reshaped the field of academia, presenting tools that facilitate information retrieval, archiving and knowledge discovery. Artificial intelligence is revolutionizing education in general and academic research in particular, altering the way scholars approach research as a whole. There is a multitude of AI tools available for academics that enhance the research experience, such as ChatGPT, Google Cloud, Grammarly AI, Semantic Scholar, Zotero, Mendeley, Winston AI, Jenny AI, AI Author and Quillbot. These AI tools help in different stages of research and each offer certain functionalities that benefit the researcher, ranging from conversation and bibliography generators to writing assistants. Moreover, these tools present new possibilities for automating research, citation management and organizing and annotating research papers, rendering the task of conducting scientific inquiries ever so convenient. However, as scholars make use of artificial intelligence in academic research, the line between reaping its benefits and abusing it blurs, as issues of ethical considerations, bias and reliability arise. Therefore, the purpose of the current study is to investigate the different perceptions of student researchers regarding the use of AI-powered tools in research, with a focus on the adoption, perceived benefits, and challenges. In order to achieve the aim of this study, a quantitative approach will be adopted, which will rely on the distribution of questionnaires to student researchers in higher education belonging to Moroccan public universities. The survey assesses the frequency and purpose of AI tool usage. It also explores user satisfaction regarding AI-generated insights, accuracy, efficiency, and potential biases. Findings show that AI tools significantly enhance research efficiency by augmenting knowledge discovery and automating citations and bibliography generators. Users appreciate AI's ability to process large datasets quickly, suggest relevant sources, and generate concise research summaries. Yet, the participants are aware of the drawbacks and limitations of AI generated content, by highlighting the different concerns, which primarily revolved around potential bias, reliability, accuracy and ethical concerns such risks of plagiarism.

A number of participants expressed some reservations about the use of artificial intelligence as a whole as they feared an over-reliance on AI tools would lead to a diminished quality in research. Overall, the results suggest that while AI tools hold great promise in automating aspects of research, they should complement, rather than replace, traditional research methods. Based on the findings, the study will propose practical recommendations to enable the effective and responsible adoption of artificial intelligence in research. This study thus, encourages academic institutions to develop guidelines and training programs to help researchers navigate AI tools effectively. Future research should focus on the long-term impact of AI on scholarly work, particularly in humanities where AI's limitations may be more pronounced. This study is relevant especially in this digital age where artificial intelligence is constantly evolving and new tools emerge to automate research and reshape methodologies. As AI continues to evolve, understanding its implications for academic research will be crucial in ensuring a balanced and ethical integration of these technologies.

Keywords: Artificial Intelligence, AI-powered learning Tools, Research, Knowledge discovery, Ethical concerns

Bionotes:

Lamiae Mamoune is a second year PhD student at the University of Sidi Mohamed Ben Abdellah, laboratory of CREDIF. She is a graduate of the master's program of Applied Language Studies and Research in Higher Education. She is conducting research in the field of literature didactics, more specifically teaching literature in the digital age. She is also part of the PhD-Associate Scholarship Program, and is currently teaching classes at the Faculty of Letters and Humanities, Dhar El Mehraz, Fez.

Safae Kharmach is a second year PhD student in the laboratory of CULTURES, REPRÉSENTATIONS, ÉDUCATION, DIDACTIQUE & INGÉNIERIE DE FORMATION (CREDIF) at the University of Sidi Mohammed ben Abdallah, Faculty of Letters and Humanities Dhar El Mehraz, Fez. Her research focuses on Higher education and educational pedagogies, specifically on the Enhancement of Academic Orientation in Moroccan Higher Education by Leveraging ICT for Improved Student Preparedness and Success. She holds a Master's degree in Applied Language Studies and Research in Higher Education from the faculty of Letters and Humanities Dhar El Mehraz, Fez.

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Ethics, Governance, and Responsible AI

AI Ethics and Bias: An Exploratory Study on Ethical Considerations and Potential Biases in AI-Driven Banking Services

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The increasing reliance on artificial intelligence (AI) in banking has transformed financial services, enhancing operational efficiency, fraud detection, credit scoring, and personalized customer experiences. These advancements in AI come with many ethical concerns, particularly regarding privacy, surveillance, data governance, algorithmic bias, transparency, and accountability. The objective of this study is to identify carefully the ethical implications of AI in banking and to identify potential risks, focusing on how algorithmic biases and non transparent decision-making processes can lead to unfair financial practices. Additionally, this research explores strategies for mitigating these challenges and ensuring responsible AI implementation that aligns with ethical and regulatory standards.

This study adopts an exploratory approach, analyzing real-world case studies where AI-induced biases have led to unintended consequences in banking. It examines instances where credit scoring models and loan approval algorithms have disproportionately disadvantaged certain demographics due to biases embedded in historical data. The study also reviews regulatory frameworks governing AI ethics and financial data usage, assessing their effectiveness in addressing ethical concerns. Furthermore, it explores strategies for bias mitigation, including fairness-aware machine learning models, continuous AI auditing, and the integration of ethical AI principles throughout model development and deployment. By synthesizing insights from academic literature, industry reports, and policy discussions, the study provides a comprehensive understanding of ethical AI governance in banking.

Findings reveal that AI-driven banking services significantly improve efficiency and security but also present ethical challenges that can undermine financial inclusivity and fairness. AI models used for risk assessment, credit scoring, and fraud detection often rely on historical data, which may reflect societal inequalities. If these biases are not regularly identified and corrected, they can reinforce discrimination, affecting asymmetrically marginalised communities by limiting their access to financial services.

Additionally, the widespread use of AI for transaction monitoring and fraud detection raises surveillance concerns, as well considering that financial institutions collect and analyze large amounts of customer data without clear user consent. Many AI models which are sometimes non clear, particularly those operating as “black boxes,” further complicates accountability, making it difficult for consumers and regulators to understand how financial decisions are made. This lack of transparency can erode trust in AI-driven banking and hinder regulatory enforcement.

The study concludes that financial institutions must adopt comprehensive AI governance frameworks that ensure transparency, bias mitigation, and regulatory compliance by Implementing fairness-aware machine learning, conducting routine audits of AI models, and ensuring interpretability of algorithmic decisions. These are critical steps toward responsible AI deployment to ensure fairness and accountability in AI-driven banking, Additionally, multidisciplinary collaboration among data scientists, ethicists, legal departments and policymakers is essential for developing AI systems that align with ethical and regulatory standards. Addressing these ethical concerns proactively will help create a more inclusive and equitable financial system, fostering trust in AI-driven banking services.

Financial institutions also need to include ethical considerations into their AI strategies, making sure that technological advancements do not come at the expense of fairness, privacy, and accountability. Banks need to prioritise responsible AI governance. In this way they can harness AI’s potential while mitigating risks associated with algorithmic discrimination.

Keywords: Keywords: AI ethics, algorithmic bias, fairness in AI, transparency, accountability

Bionote:

Laureta Domi is a finance and banking professional with over 20 years of Bankung industry experience, currently pursuing her PhD. Her career has been characterized by her leadership in fostering team development, enhancing customer experience, and optimizing sales force effectiveness. Laureta's expertise extends to comprehensive portfolio management, evidenced by her role as Startup Portfolio Manager at the Albanian Development Guarantee Foundation. Furthermore, as a Visiting Professor at Aleksander Moisiu University, she has contributed to academic discourse in her field.

Inteligência Artificial para o Patrimônio Cultural e a Transparência Pública: Abordagens Éticas da Curadoria Digital à Contabilidade Governamental

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A rápida transformação digital tem desafiado instituições públicas a conciliar duas frentes igualmente importantes: a preservação do patrimônio cultural e a ampliação da transparência na gestão de recursos públicos. Neste contexto, este estudo tem como objetivo explorar de que forma a Inteligência Artificial (IA) pode ser aplicada, de maneira ética e integrada, tanto na curadoria digital de acervos quanto nos processos de contabilidade governamental, contribuindo para a democratização do acesso à informação e o fortalecimento da confiança pública.

A pesquisa parte da vivência institucional em órgãos culturais públicos no Brasil, especialmente a Fundação Casa de Rui Barbosa, e adota uma abordagem interdisciplinary que combina análise de caso, revisão bibliográfica e desenvolvimento de um modelo conceitual. Esse modelo busca apresentar a IA como uma tecnologia mediadora, capaz de integrar áreas que historicamente operaram de forma isolada: os arquivos culturais e os sistemas de prestação de contas públicas. São discutidas aplicações concretas, como a utilização de algoritmos de reconhecimento de texto para digitalizar e organizar documentos históricos, técnicas de classificação semântica para facilitar a curadoria digital e sistemas de detecção de anomalias em dados financeiros para apoiar o controle social e a fiscalização cidadã.

Os resultados sugerem que a IA, quando bem aplicada, pode não apenas aumentar a eficiência operacional das instituições, mas também tornar o conhecimento mais acessível e inteligível ao público. No entanto, o estudo também chama atenção para os riscos envolvidos: a automatização pode reforçar narrativas dominantes e silenciar perspectivas alternativas; os sistemas de análise contábil podem se tornar opacos se não forem desenvolvidos com critérios de auditabilidade e transparência. Nesse sentido, o modelo proposto inclui salvaguardas éticas, como a exigência de explicabilidade nos algoritmos e a incorporação de auditorias colaborativas com participação social.

As conclusões apontam que, para que a IA cumpra um papel social relevante nas instituições culturais públicas, é essencial que sua implementação vá além da inovação tecnológica. Ela precisa estar fundamentada em princípios de equidade, inclusão e responsabilidade institucional. Quando orientada por valores humanos e sustentada por uma governança ética sólida, a IA pode ser uma aliada na preservação da memória coletiva, na valorização da diversidade cultural e na construção de uma gestão pública mais transparente, aberta e confiável.
Esse trabalho contribui para o campo das humanidades digitais ao demonstrar que soluções tecnológicas, quando desenvolvidas de forma intersetorial e centradas no ser humano, podem fortalecer tanto a missão cultural quanto o compromisso democrático das instituições públicas.

Keywords: Inteligência Artificial, Patrimônio Cultural, Transparência Pública, Governança Ética, Curadoria Digital

Bionote:

Leandro NASCIMENTO DE OLIVEIRA holds a degree in Software Engineering and has over nine years of professional experience as a certified accountant in the public sector. Currently working at a cultural and research institution in Brazil, their work focuses on the intersection of digital transformation, cultural heritage preservation, and the ethical application of artificial intelligence in public administration.

The Contribution of Artificial Intelligence Tools to the Fight Against Sexual Violence in Morocco: A Critical Reflection

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This study aims to critically examine the potential contribution of artificial intelligence (AI) tools in the fight against sexual violence within the Moroccan penal system. The aim is to assess the extent to which AI can help bridge the gap between progressive legal reforms and the persistent social and institutional obstacles faced by victims.
The method adopted is based on a qualitative legal and ethical analysis, crossing the study of Moroccan criminal law (in particular law 103-13) with the exploration of current and emerging uses of AI in the fight against sexual violence, such as digital forensics tools, recidivism predictive systems and anonymous reporting platforms.
The results show that, despite legislative advances, victims in Morocco continue to face major difficulties, including limited access to justice and social stigmatization. AI technologies offer promising prospects for improving the detection, documentation and prevention of sexual violence. However, their deployment raises major ethical issues.
The study concludes that the integration of AI in this sensitive field must imperatively be accompanied by guarantees in terms of privacy, protection of personal data and prevention of revictimization. A cautious, context-specific approach is essential if technological innovation is to genuinely enhance victim protection.

Keywords: Sexual Violence, Moroccan Criminal Law, Artificial Intelligence, Ethics, Legal Protection for The Victim.

Bionote:
Zahra ELAMINE, holds a PhD in Criminology from Sidi Mohamed Ben Abdellah University (Fez, Morocco). Her research focuses on sexual violence, gender-based violence, and the legal and ethical dimensions of their prevention and response.

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AI in Education and Pedagogy

L'IA au service de l'éducation inclusive des élèves autistes : enjeux et rôle des auxiliaires de vie scolaire

Abdelaziz MAHBOUB, **Yassin RAZKAOUI**, Université Abdelmalek Essâadi, Laboratoire de recherche en sciences de l'information, de la communication, et du discours, Maroc

Objectif: Ce présent article vise à montrer dans quelle mesure l'intelligence artificielle pourrait modifier les méthodes classiques adoptées par les auxiliaires de vie scolaire dans l'éducation inclusive des enfants autistes ainsi que l'impact de cette approche sur l'apprentissage et sur la stimulation des compétences socioéducatives de ces élèves en milieu scolaire inclusif. En plus, cette étude essaie d'explorer les opportunités et les défis liés à l'utilisation de l'IA en vue de servir de puissant levier de changement, en comblant les lacunes de ce système éducatif inclusif.
Méthode: Il s'agit d'une révision bibliographique synthétisant la revue littérature de diverses disciplines développant l'éducation inclusive des enfants autistes. En plus, une synthèse des écrits abordant l'IA est réalisée pour montrer l'influence de cette nouvelle approche sur l'apprentissage des élèves autistes. Les critères de choix de ces écrits sont à l'origine de leur pertinence et de leur applicabilité dans les classes d'inclusion des enfants atteints de TSA pour adapter l'environnement de leur apprentissage à l'ère de l'intelligence artificielle.
Résultats: Les résultats de cette révision bibliographique montrent que les applications concrètes de l'IA sont susceptibles de motiver les élèves autistes et susciter leur plaisir d'apprendre en leur transmettant de nouvelles compétences convenables à leur développement socioéducatif. De surcroit, cet outil pourrait développer les habiletés des auxiliaires de vie scolaire afin de créer des classes plus réactives et plus intelligentes. De surcroit, cet outil pourrait développer les habiletés des auxiliaires de vie scolaire afin de créer des classes plus réactives et plus intelligentes.
Conclusion: L'intégration de l'intelligence artificielle dans l'éducation inclusive des enfants autistes constitue une révolution significative dans leur environnement socioéducatif. Cependant, les auxiliaires de vie scolaire doivent être conscients de l'utilisation à bon escient de l'IA et savoir comment construire un écosystème inclusif préconisant la réflexion et la stimulation de l'imagination des apprenants autistes.

En outre, il convient pour l'institution scolaire d'avoir une perception sur la nature des limites pratiques et éthiques liées à l'intégration de l'intelligence artificielle au sein de ce système éducatif.

Keywords: éducation inclusive, auxiliaires de vie scolaire, élèves autistes, intelligence artificielle, besoins éducatifs spécifiques.

Bionotes:
Abdelaziz Mahboub: health executive-holder of a degree in French studies-holder of a degree in mental health-holder of a master's degree in teaching nursing and health technology professions-doctoral student in communication science.

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Optimisation de la Pédagogie Universitaire au Maroc par l'Analyse Transactionnelle: Étude de Cas des Étudiants Scientifiques de la Faculté des Sciences Ain Chock.

Younes BOUYA, Hassan II University of Casablanca, FSAC, Casablanca, Morocco

L'Analyse Transactionnelle (AT), développée par Eric Berne, est une approche psychologique qui analyse les interactions humaines à travers les États du Moi (Parent, Adulte, Enfant). Appliquée à l'enseignement supérieur, elle permet d'optimiser la communication pédagogique en favorisant des interactions plus équilibrées entre enseignants et étudiants, notamment dans les filières scientifiques où la transmission du savoir est souvent perçue comme descendante.

Problématique
Dans le contexte universitaire marocain, où l'enseignement scientifique est souvent caractérisé par une approche transmissive et magistrale, dans quelle mesure l'Analyse Transactionnelle peut-elle améliorer la communication pédagogique et favoriser l'engagement des étudiants scientifiques ?
Méthodologie et échantillonnage

Objectifs
Cette étude explore l'application de l' (AT) dans l'enseignement supérieur marocain, en se focalisant sur les étudiants des filières scientifiques, souvent confrontés à des défis motivationnels et méthodologiques.
L'objectif est d'analyser comment les transactions (échanges verbaux et non verbaux) entre enseignants et étudiants influencent l'apprentissage, la motivation et la réussite académique.

Méthodologie de recherche
Pour répondre à cette question, une étude exploratoire a été menée auprès de 150 étudiants issus de filières scientifiques (mathématiques, physique, biologie, informatique) et 20 enseignants universitaires à la faculté des sciences Ain Chock de Casablanca.

L'échantillonnage a été constitué de manière à représenter des profils variés en termes de niveau académique (L1, L2, L3, Master) et d'expérience pédagogique des enseignants.
Les données ont été collectées à travers :
Des questionnaires mesurant la perception des étudiants et des enseignants sur la communication en classe et leur niveau d'engagement pédagogique.
Des entretiens semi-directifs avec les enseignants pour identifier les styles de communication les plus utilisés et leur impact sur la motivation des étudiants.
Des observations en classe, analysant les types de transactions les plus fréquents et leur influence sur l'interaction pédagogique.
Les données recueillies ont été analysées selon une approche mixte combinant analyse quantitative et analyse qualitative, afin de croiser les perceptions des étudiants et des enseignants avec les observations effectuées en classe.

Résultats et implications
L'analyse des résultats révèle que la communication dominante en classe repose principalement sur des transactions Parent-Normatif → Enfant-Soumis et Adulte → Adulte, avec une forte tendance à une transmission verticale du savoir. Cependant, lorsque les enseignants adoptent un mode de communication basé sur l'Adulte-Élève (favorisant le dialogue et la collaboration), les étudiants manifestent une plus grande participation, une meilleure compréhension des concepts abstraits et un engagement accru.
Ces résultats suggèrent que l'AT constitue un levier stratégique pour moderniser la pédagogie universitaire scientifique au Maroc. Une formation des enseignants à cette approche pourrait renforcer leur capacité à adapter leur communication et à mieux répondre aux besoins des étudiants. Des recherches futures pourraient explorer l'impact longitudinal de l'AT sur la réussite académique et l'épanouissement des étudiants.

Keywords: Analyse Transactionnelle, Enseignement Supérieur, Communication Pédagogique, États du Moi, Maroc

Bionote:
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Smart Spacing in Smart Learning: A Review of Spaced Repetition and Metacognition in E-Learning Systems

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Spaced repetition has become an integral strategy in digital learning environments, offering a powerful method for enhancing long-term memory retention through the structured timing of review sessions. This literature review examines the growing body of research on spaced repetition systems and their integration into e-learning platforms, with particular emphasis on algorithmic models, cognitive principles, and metacognitive regulation.

The review begins by tracing the evolution of spaced repetition algorithms, from early heuristic approaches such as the Leitner system to more complex, data-driven schedulers like SuperMemo's SM2 and modern AI-enhanced models. These systems determine the optimal timing of content review based on user performance, spacing intervals, and adaptive feedback mechanisms. Their integration into tools like Anki and Duolingo reflects a broader trend toward algorithmic personalization in learning design.

A central concern of this review is how these algorithms are not only technological artifacts but also deeply intertwined with the cognitive science of memory. Key processes such as retrieval practice, consolidation, and forgetting are explored to clarify why spacing works and how it interacts with neurocognitive mechanisms. Although the neuroscientific layer remains secondary to the e-learning focus, it provides a valuable framework for understanding how repeated, effortful recall can stabilize memory traces and enhance synaptic connectivity.

Another focus of this review is the role of metacognition in enhancing the benefits of spaced repetition. Learners do not merely passively engage with these systems; they actively regulate their study behavior through judgments of learning, confidence estimation, and strategic decisions to restudy or delay review. This metacognitive dimension is critical, especially in self-paced learning contexts, and is often underutilized in the design of current learning platforms. Systems that scaffold or enhance metacognitive engagement—through prompts, feedback loops, or reflective interfaces—may significantly improve learning outcomes.

Finally, this review considers the pedagogical implications of spaced repetition in broader instructional design. It discusses how educators and developers can leverage spaced repetition in adaptive learning platforms, open learner models, and personalized feedback systems to promote not only memory retention but also learner agency and engagement. The review concludes by identifying gaps in current practice, particularly the need for deeper integration of metacognitive scaffolds and more transparent, evidence-based algorithm design.
By synthesizing research across cognitive psychology, educational technology, and learning analytics, this review proposes a set of recommendations for advancing the design of intelligent, learner-centered e-learning systems grounded in the science of memory and self-regulated learning.

Keywords: Spaced Repetition; E-Learning; Metacognition; Adaptive Learning Systems; Retrieval Practice

Bionotes:

Wissal El Fougour is a second-year PhD student in the Computer Science and University Educational Engineering research team at the Higher Normal School of Tetouan, Abdelmalek Essaadi University, Morocco. Her research focuses on adaptive formative assessment, exploring how technology and AI-driven feedback can enhance learning outcomes. She is deeply passionate about education, eLearning, and the intersection of technology with pedagogy, aiming to innovate and improve digital learning environments. With an ambitious vision for the future of education, she is dedicated to advancing research in formative assessment, cognitive development, and adaptive learning technologies to empower students and educators alike.

Professor Mohamed Erradi is a higher education teacher, researcher, and trainer specializing in educational engineering, teaching, learning modeling, digital e learning, and lifelong learning. He has extensive experience in engineering training and teaching techniques and works as a resource designer for education and training. Additionally, he serves as the Director of the "Information Sciences and University Educational Engineering" research team. Currently, he is the Head of the Department of Mathematics, Physical Sciences, and Computer Science at the Higher Normal School in Tetouan, Morocco.

AI versus Traditional Aphasic language Diagnostic Tests between Academic findings and clinical realities

Zakaria EDDHAHIRY, Mohamed YEOU, Daouia LAABOUDI, Chouaib Doukkali University, Applied Language and Culture Studies Lab, Morocco

The growth of Artificial Intelligence (AI) has been fascinating in multiple areas of languagedisorders, primarily, aphasia, paraphasia, primary progressive aphasia (PPA), and agrammatic aphasia. AI demonstrates great potential as it proves its effectiveness in implementing automated speech assessment for aphasia, classifying aphasic variants, and contributing to therapeutic practices. The applications range from classifying aphasic syndromes and errors; large language models (LLMs) display a great potential in aligning with clinical diagnoses and revealing distinct features. However, the models show great difficulty dealing with nonspontaneous speech that is often elicited by an intervention of experts rather than depending on a software. No research has consulted the opinion of language disorder practitioners on the use of AI in language diagnoses. The present study aims to investigate language disorder specialists' attitudes and perspectives on implementing AI in the diagnosis tests. The research explores their views on the current AI applications, perceived advantages and disadvantages and ethical considerations by implementing semi-structured interviews. The 8 participants are language disorder scholars from different nationalities; they are mainly experienced in diagnosing and treating conditions like aphasia and PPA. The selection criteria of the participants was based on convenience, and mainly the snowballing technique was implemented. The study utilised thematic analysis. The findings suggest that while AI tools are very useful, they need the experts' supervision, and the standardised tests that employ the AI tools lack the cultural diversity. Based on the findings, recommendations will be suggested for responsible AI development and implementation in language diagnoses which will address clinical integration and ethical guidelines for AI-based interventions. The findings will bridge the gap between the AI-based research and the need of the practitioners within the field of neuropsychology, so that patients will benefit more effectively from those tools.

Keywords: Artificial Intelligence; Language Diagnoses Tests; Aphasia, Primary Progressive Aphasia; Large Language Models, Neurolinguistics

Bionote:
Zakaria Eddhahiry is a doctoral researcher in neurolinguistics and psycholinguistics at Chouaib Doukkali University. His research focuses on question comprehension and production in Moroccan Arabic agrammatic aphasia.

A Systematic Literature Review of GenAI Integration in Foreign Language Education in Higher Education

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This systematic literature review examines the opportunities and challenges of integrating generative AI into foreign language education within higher education. It aims to identify the benefits and risks of generative AI, analyze its current utilization, and determine its implications for educational policy. This review enriches the literature by focusing specifically on generative AI in higher education language learning, a domain underrepresented in existing literature, which tends to broadly cover AI in STEM education or focus on other educational levels. Furthermore, it is particularly relevant to multilingual countries where language barriers impede research collaboration. Employing the PICo framework, the review targets EFL and other foreign language learners (Population) using generative AI tools (Interest) in higher education settings (Context). Inclusion criteria prioritize empirical studies from peer-reviewed sources. Exclusion criteria exclude non empirical studies, studies from grey sources, studies that are not focused on GenAI, studies that are not focused on foreign language learning, and studies that are not in a higher education context. A comprehensive search strategy, developed using the PICo framework, will be applied across Scopus, Web of Science, and Springer Nature. The quality of each study will be evaluated using the Effective Public Health Practice Project (2010) (EPHPP) Quality Assessment Tool for Quantitative Studies and the Critical Appraisal Skills Programme (2023) (CASP) Qualitative Research Checklist. The included studies will be coded using in vivo coding and axial coding. The PRISMA guidelines will ensure a rigorous and transparent review process. The findings will be synthesized to inform future research, educational practices, and policies. The protocol for this systematic review was registered on OSF.

Griche, M. S., & Bennis, M. (2025). Generative Artificial Intelligence Integration in Foreign Language Education in Higher Education: A Systematic Literature Review. OSF Registries. https://doi.org/10.17605/OSF.IO/693VM

Keywords: GenAI, Foreign Language Education, Higher Education, Systematic Literature Review, Language Learning Technologies.

Bionotes:

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Mohammed Bennis is an Associate Professor at the Faculty of Letters and Human Sciences, Sidi Mohammed Ben Abdellah University, Fes, Morocco. His research interests encompass a diverse range of fields, including Media Studies, Digital Humanities, Cybercultures, Cultural Studies, Literary Studies, and Cultural Anthropology.

Enhancing Educational Quality in Higher Education: Integrating Media, ICTs, and Artificial Intelligence for Sustainable Advancement

Kaoutar CHAHBANE, Abdelmalek Essaadi University, ESRFT, Morocco

This research explores quality assurance in online learning. It examines the role of media, ICTs, and artificial intelligence (AI) in advancing higher education, with a particular focus on blended learning in the post-COVID-19 era. Responses from 252 Moroccan students were analyzed using a semi-structured questionnaire to assess their experiences and challenges with digital education. The findings reveal a general dissatisfaction with online learning, highlighting significant obstacles in integrating media and ICTs effectively. While recent advancements in digital technologies have expanded educational opportunities, they also pose new challenges, particularly in tracking student progress and engagement. AI-driven tools and analytics offer promising solutions by enabling personalized learning, adaptive assessment, and intelligent tutoring systems. However, student responses indicate a lack of autonomy, emphasizing the continued reliance on instructors for academic success. This study proposes a revised model of higher education that leverages AI, enhances faculty training, and aligns with student needs. The findings suggest that integrating AI into student-centered models can foster autonomy, improve engagement, and contribute to quality assurance in higher education.

Keywords: Higher Education Quality, Blended Learning, Artificial Intelligence, ICT Integration, Student-Centered Learning

Bionote:

Kaoutar Chahbane is a professor of Translation Studies and Interpreting at the King Fahd School of Translation (ESRFT), Abdelmalek Essaadi University. She holds a Doctorate in Translation Studies and an MA in Translation Technologies and Specialized Translation. Additionally, she pursued studies in Translation and Interpreting at the Faculty of Languages, Translation, and Interpreting at UNINT University in Rome. Her research interests span translation, media studies, political discourse, and education. Her work emphasizes the intersection of language, technology, and social impact, contributing to the advancement of translation studies and interdisciplinary research.

Beyond the Dictionary: How AI is Redefining Vocabulary Acquisition
An experimental study on Moroccan EFL students

Soukaina OUAHBI, **Ali WARI**, Faculty of Arts and Humanities, University of Moulay Ismail, Morocco

The mastery of the English language has become a worldwide necessity in education nowadays. Regardless of the specialty and major, students are encouraged to develop their language. Concurrently, with the rise of AI, the field of education has been undergoing some changes while trying to adapt and adopt the integration of AI for language learning and teaching. AI-powered tools are gaining interest from both instructors and learners for their promises in regards to language learning and language development. These AI-powered applications promote a personalized learning experience that caters to each individuals' needs and pace. In this regard, this study aims to investigate the impact of AI-powered applications on English language learning and specifically on vocabulary development. To do so this work assessed the existent language skills of students and examined the learning outcomes after the intervention. This study uses a quasi-experimental research design with a non-equivalent control group design. The sample size is 22 students with 11 students in the experimental group and 11 students in the control group. The students hold a B1 level in the English language. Additionally, the participants belong to the common core grade of a Moroccan high school. Both groups took part in a pre-test and post-test. The teaching conditions and methods remained the same in the classroom. However, outside the classroom, the experimental group used an AI-powered application called Memrise as an intervention while the control group's learning continued to be carried out through traditional teaching methods without any changes. This application was chosen due to the newest AI conversational feature it integrated in its learning process. The application provides its learners with an AI agent that helps them practice and develop their language. A Modified vocabulary levels test was administered before and after the intervention to both groups. The instrument used in this study was a validated and reliable instrument. To analyse the data obtained, the SPSS statistical software was used. A paired samples T-tests were utilized to compare the pre-test and post-test groups' scores and to investigate the effectiveness of the intervention.

The results show an improvement of scores for the experimental group in comparison to the control group. In the experimental group, the mean score before the intervention was 9.13 (SD = 3.14), increasing to 13.36 (SD = 2.05) after. A paired-samples t-test confirmed this improvement was significant, $t(10) = -6.421$, $p < .01$, indicating a meaningful intervention effect. Conversely, the control group's mean score declined slightly from 9.27 (SD = 3.06) to 8.59 (SD = 3.03), suggesting no significant change. These findings show that Memrise as an AI-powered application is effective in terms of vocabulary development for high school EFL learners. This study highlights the importance of AI inclusion in secondary education teaching and learning methods. Moreover, this study also shed light on the importance of interactive and autonomous learning in secondary education. This work also emphasizes the potential benefits of AI as an assistant in the development of language and specifically the vocabulary of students in a meaningful manner.

Keywords: AI-powered Applications, Vocabulary, Educational Technology, Memrise, EFL Learners

Bionotes:

Ouahbi Soukaina is a PhD candidate, researcher, and educator specializing in EFL studies, language development, and digital equity. As a university lecturer and academic scholar, she explores the intersections of language acquisition, social media, and AI in education. Her research examines how emerging technologies shape learning experiences and access to education in a globalized world.

Wari Ali is an experienced figure in ELT, an adjunct university lecturer, and a researcher specializing in language development and language skills. His work explores innovative approaches to language learning, examining how pedagogical strategies and technological advancements enhance linguistic proficiency and communication in diverse educational contexts.

Thinking about Thinking: An Examination of Postgraduate Students' Metacognitive Strategies in AI-Assisted Academic Writing

Otmane El HOSAYNY, Mohamed YEOU, Hassane RAZKANE, Chouaib Doukkali University, Applied Language and Culture Studies Lab, Morocco

Given the contemporary global issues and growth of generative artificial intelligence (GenAI) technology, 21st century skills, namely critical thinking and metacognition, are deemed necessary to successfully adapt to the challenges inherent in today's world. Metacognitive strategies (MCS) and self-regulation are not only essential for enhancing students' lifelong learning and employability opportunities but also the overall quality of their education. Students are required to activate their MCS during this endeavour to leverage the benefits of GenAI while avoiding the potential negative impacts. Given the scarcity of research on the perceived impact of AI on the writing process in the context of metacognition, this research investigates postgraduate students' MCS when employing ChatGPT for English as a third language (L3) writing. Framed within Metacognition framework, this study explored students' MCS within five facets, namely, planning, monitoring, evaluating, information management and debugging. The study also examined students' perception of both the benefits and limitations of ChatGPT in navigating their academic writing and influencing their decision making. It adopts an in-depth qualitative research approach using multiple case study research design. Semi-structured interviews were conducted with 25 master students who were purposively selected from three distinct Moroccan universities. A reflective thematic analysis unveiled students' utilization of diverse MCS to control and maximise the benefits of ChatGPT in their writing. In addition, students with higher use of MCS were found to regulate the use of ChatGPT by aiding them in various aspects including planning, monitoring, and revising their academic writing. Meanwhile, the findings shed lights on several challenges and limitations of ChatGPT in enhancing academic writing such as lack of accuracy, hinderance of creativity, and robotic writing style. In light of the findings, we call for considering more hybrid approach implementing instructional methods for incorporating metacognition in GenAI-assisted writing context.

Keywords: Artificial intelligence; ChatGPT; L3 writing; Academic writing; Metacognitive strategies

Bionotes:

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Interdisciplinary Studies in AI and Humanity

AI applications of the Spreading Activation Model, Lexical Priming and the Semantic Web - A Comprehensive Review

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With the advent of the Semantic Web and advancements in artificial intelligence (AI), understanding how semantic memory is accessed, structured, and utilized has become crucial for both linguists and AI practitioners. The ability of AI systems to approximate human cognitive processes depends significantly on navigating and retrieving information from vast semantic networks. As natural language processing (NLP) technologies evolve, the demand for sophisticated models of knowledge representation and retrieval mechanisms has grown exponentially.
This study reviews the Spreading Activation model, lexical priming, and semantic spaces in AI applications, particularly their role in enhancing NLP and knowledge representation. The Spreading Activation model, originally proposed in cognitive psychology, describes how concepts in semantic memory are interconnected and how activating one concept can trigger related concepts. In AI, this principle is applied to improve machine comprehension, enabling more context-aware responses in search engines, chatbots, and recommendation systems. Lexical priming, another key psychological process, influences how words and concepts are anticipated and retrieved. AI models, especially those using deep learning and transformer architectures, attempt to replicate this phenomenon for predictive text generation, sentiment analysis, and contextual understanding.
Furthermore, this study examines the Semantic Web as a framework that facilitates structured access to semantic memory. Unlike traditional web searches relying on keyword matching, the Semantic Web allows machines to process meaning by structuring data to mirror human cognition. By leveraging ontologies, knowledge graphs, and linked data, AI systems can infer relationships between concepts, improving search accuracy, personalized recommendations, and automated reasoning.

The psychological concept of Priming is another focal point, particularly in relation to AI-driven models and search algorithms. Priming refers to the subconscious activation of related concepts upon encountering a stimulus and has profound implications for AI. Search engines utilize priming effects to suggest relevant queries based on a user's past searches and contextual cues. Similarly, virtual assistants and recommendation engines employ priming-based mechanisms to refine user interactions, making them more intuitive and human-like.

The study also explores the role of semantic spaces and deep neural modeling in representing meaning. Semantic spaces mathematically encode relationships between words and concepts, forming the basis of modern AI approaches such as word embeddings and transformer-based models like GPT and BERT. These models rely on vast corpora to capture word associations and conceptual similarities, allowing AI to achieve sophisticated language understanding. The ability of deep neural models to construct multi-dimensional semantic representations has significantly enhanced AI's ability to engage in naturalistic dialogue, summarize information, and generate text.

This review concludes with essential takeaways for psycholinguists and AI practitioners, highlighting the importance of interdisciplinary collaboration in refining semantically aware AI systems. While AI has made strides in approximating human-like semantic associations, challenges remain in bridging the gap between computational efficiency and genuine understanding. By integrating insights from cognitive psychology, linguistics, and AI research, future advancements can lead to more intelligent, context-sensitive models that process language and comprehend meaning in ways closer to human cognition.

Keywords: Semantic Web, artificial intelligence (AI), semantic memory, Spreading Activation model, lexical priming, semantic spaces, natural language processing (NLP), knowledge representation, Priming, AI-driven models, search algorithms, semantic associations, conceptual linkages, psycholinguistics, semantically aware systems.

Bionote:

Chaimae Rachid is a doctoral candidate in Educational Psychology at the faculty of Educational Sciences, University Mohammed V. She affiliates with the research lab "Language Contact in Education: Theory and Pedagogy". The author's research interests encompass but are not limited to the following: Psycholinguistics, Cognitive Semantics, SLA. Her doctoral research focuses on memory-centric interventions designed to help learners acquire and retain semantically opaque constructions (namely, verb-particle constructions). In addition to her research, Chaimae serves as an EFL teacher in the directorate of Sale and an adjunct professor of English at the Faculty of Education. C. Rachid is both a researcher and practitioner in the field of ELT.

L'impact de l'intelligence artificielle générative sur le commerce électronique: Cas du Maroc

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Cette étude explore la place que peut occuper l'intelligence artificielle générative (IA) dans le secteur du commerce électronique. L'IA générative est employée dans diverses applications, telles que l'automatisation de la création de contenu et la personnalisation des expériences utilisateur, qui améliorent considérablement l'efficacité opérationnelle et l'engagement des clients pour les entreprises de commerce électronique. Par exemple, il a été démontré que les recommandations de produits pilotées par l'IA et adaptées aux préférences individuelles des clients augmentent les taux de conversion, tandis que les chatbots alimentés par l'IA fournissent un service client 24 heures sur 24, améliorant ainsi la satisfaction et la fidélité des utilisateurs.
Malgré les avantages évidents, plusieurs défis entravent l'adoption généralisée de l'IA générative dans le paysage du commerce électronique. Il s'agit notamment d'une infrastructure technologique inadéquate, d'une pénurie de professionnels de l'IA qualifiés et de préoccupations éthiques et réglementaires importantes. Les questions liées à la protection des données, à la vie privée et à la transparence des algorithmes d'IA sont particulièrement pressantes et nécessitent un examen minutieux et des cadres réglementaires solides pour garantir un déploiement éthique de l'IA.
Les résultats indiquent que l'intelligence artificielle générative peut stimuler l'efficacité, améliorer la satisfaction des clients et étendre la portée du marché. L'étude conclut que même si des défis subsistent, la mise en œuvre stratégique de l'IA générative, soutenue par des politiques et des cadres appropriés, peut servir de catalyseur pour la croissance et l'innovation dans le commerce électronique, en le positionnant de manière compétitive sur le marché mondial. Cette recherche jette les bases d'autres études sur l'impact de l'IA sur le commerce électronique et offre des recommandations pratiques aux parties prenantes qui souhaitent tirer parti de l'intelligence artificielle générative pour la croissance des entreprises au Maroc.

Keywords: Intelligence artificielle générative, E-commerce, Automatisation, Expérience client, Innovation.

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The Future Auditor: Internal Audit Transformation and the Rise of Strategic Professionalism

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The evolving landscape of corporate governance, digital innovation, and stakeholder expectations is fundamentally reshaping the role of internal audit. This transformation signals the emergence of the "future auditor"a strategic professional whose value extends far beyond traditional compliance functions.

This article explores the drivers behind internal audit's evolution, including advances in technology (such as data analytics and AI), regulatory developments, and the demand for proactive risk management. It argues that internal auditors are increasingly expected to act as trusted advisors, contributing to organizational strategy, sustainability initiatives, and value creation. Strategic professionalism, therefore, becomes the defining attribute of the modern internal auditor, blending technical expertise with business acumen, ethical leadership, and agility. This conceptual shift challenges audit functions to redesign their operating models, talent strategies, and technological infrastructures. The study concludes that organizations embracing this transformation will not only enhance governance but also gain a competitive edge in a fast-evolving, risk-intensive environment.
Ultimately, the future auditor is not just a technician or supervisory body, but a dynamic contributor to strategic foresight and organizational performance. As expectations expand, so too must the mindset and skillset of the internal auditor aligning integrity, insight, and innovation in service of long-term value and stakeholder trust.

Keywords: Internal Audit, Strategic Professionalism, Future Auditor, Digital Transformation, Risk Management, Corporate Governance.

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Exploring the Relationship between Green HRM and Artificial Intelligence: A Bibliometric Mapping Approach

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Green Human Resource Management (GHRM) has gained increasing attention from scholars and practitioners due to its potential to integrate environmental sustainability into organizational practices. Defined as a set of HR policies and practices aimed at fostering environmentally responsible behavior among employees, GHRM plays a critical role in promoting green organizational culture and sustainability. In parallel, Artificial Intelligence (AI) is emerging as a transformative tool that can support and enhance various HR functions, including green recruitment, eco-oriented training, and sustainability-driven performance evaluations.

Despite growing interest in both domains, the intersection of GHRM and AI remains underexplored and conceptually fragmented. While the literature highlights the benefits of AI in supporting sustainable HRM processes, a comprehensive understanding of how these two fields are connected is still lacking. This study aims to bridge this gap by conducting a bibliometric analysis of the existing literature published between 2015 and 2025, with a focus on examining how AI is integrated within the GHRM landscape.

Using the Web of Science (WoS) database as the primary data source, we employed bibliometric tools such as the “Analyze Results” and “Citation Report” functions to perform a descriptive analysis of publication trends, citation patterns, leading authors, prominent journals, and contributing countries. Furthermore, we used VOSviewer software to conduct network analyses through bibliographic coupling, co-citation analysis, and keyword co-occurrence mapping. These techniques allow us to uncover the intellectual structure of the field and identify emerging themes, clusters, and influential contributions.

The objectives of this study are threefold: (1) to identify the most cited articles and dominant research themes within the AI–GHRM nexus; (2) to highlight the key authors and institutions shaping the field; and (3) to trace the temporal evolution of publications and trends over the past decade. Our findings provide valuable insights into the current state of the literature, revealing both well-established areas and under-researched topics.

This study contributes to the academic discourse by mapping the intellectual landscape of AI in GHRM and offering a clearer understanding of how these two domains converge. It also identifies critical research gaps and proposes directions for future research, particularly regarding the practical integration of AI tools into sustainable HRM strategies. By doing so, the study not only enriches the theoretical foundation of both fields but also supports managers and policymakers in designing innovative, eco-conscious HRM systems enhanced by AI technologies.

Keywords: Green human resource management, Artificial intelligence, GHRM, AI, Bibliometric analysis

Bionotes:

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La multigénéricité dans Le Regard d'Aurea: règles du genre et logiques éditoriales

MOTAABBID Bouchaib, Chouaib Doukkali University, FLSH, Morocco

Les romans d'anticipation, qui mettent en scène des univers oniriques, sont légion. Cependant, ce qui distingue Le Regard d'Aurea d'Isaac Azancot réside dans la manière dont il véhicule un futurisme ambivalent, où les progrès futurs de l'intelligence artificielle oscillent entre une utopie ("le meilleur des mondes") et le chaos, voire l'apocalypse. L'objectif de cette analyse est de démontrer que l'auteur cherche à promouvoir une vision positive du monde de l'intelligence artificielle, en en faisant un vecteur de liens idéaux et d'expériences résilientes, dans un environnement édénique où presque tous les maux de l'humanité trouvent une solution miraculeuse. Toutefois, il convient également de souligner que, sous cette romance optimiste, se cache une mise en garde sincère contre les dérives potentielles qui pourraient, à tout moment, précipiter cet "eldorado" vers la pire des apocalypses.

Keywords: Le Regard d'Aurea; Isaac Azancot; futurisme; l'intelligence artificielle; l'apocalypse.

Bionote:
MOTAABBID Bouchaib is a doctor of literature, teacher, researcher and education inspector. He is interested in cultural transfer, translation, literature, ethics and philosophy.

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AI and Cultural Diversity

Creativity and Fidelity in Legal Translation: A Comparative Study of Human and AI-Generated Translations of Legal Texts

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The integration of artificial intelligence (AI) in legal translation raises fundamental questions about ethics, reliability, and accountability. Undeniably, Artificial Intelligence offers significant utility in the translation process by enhancing speed, consistency, and access to multilingual content. However, as legal systems increasingly turn to machine translation, the implications of automated errors and conceptual misalignment become critical. Translating legal texts is a challenging process even for translators and specialists who master the techniques of translation. Translating legal documents requires two essential approaches; functional and legal equivalence approaches. These approaches are more likely to be associated to the concepts of fidelity and creativity. A translator whose strategy is based on fidelity is more concerned with finding the exact similar equivalent or the near equivalent in the target language and legal system. On another scale, creativity has been the target point of functionalist approach in translation studies. A creative translator always seeks new strategies to solve critical problems. Inevitably, creativity and fidelity are two essential components in translation studies. Many authors have tackled the issue of creativity and fidelity in translating legal text, but no previous research has attempted to investigate the application of these two features in automated legal translation. This paper tackles the issue of translating legal text while using artificial intelligence. It investigates the strategy used by automated machines such as ChatGPT and Gemini in finding the closest possible equivalent in the target language. The study is based on two variables namely fidelity and creativity. These variables enable the study to examine the moments when the translator machine opts for creative or literal translations. This paper conducts a comparative analysis between human translations of the Moroccan Family Code (MFC) namely the official French translation and the non-official English translation along with the translations generated by AI models specifically ChatGPT and Gemini by focusing on selected legal terms and expressions within the text.

Targeting book one of the MFC "Of Marriage", the study shows that some Arabic terms like الإحصان والعفاف are translated into French and English using ChatGPT respectively as "chasteté" and "pureté" and "chastity" and "purity".
Google Gemini seems more relevant due to its capability to differentiate between literal and in context translation by revealing the context of marriage and clarifying each possible translation with its explanations. For Google Gemini, the French and English translations are respectively "chasteté" and pudeur", "Chastity" and "purity". On the other hand, the English and French human translation are "fidelity" and "virtue", "Fidelité réciproque" and "la pureté". The translations above prove that Google Gemini not only gives adequate and close translations to the human ones but also achieves a functional equivalent translation by using "purity" as a translation instead of "virtue". This indicates that both fidelity and creativity are well demonstrated through Google Gemini translations. Both AI and Human's translations demonstrate a balanced integration of fidelity and creativity.
These findings suggest that AI with human guidance can perfectly support the legal translation process and maintain legal and cultural accuracy. Results also imply that through human's knowledge communication of the cultural background and AI's linguistic proficiency, both creativity and fidelity can be achieved in legal translation.

Keywords: Legal Translation, Fidelity, Creativity, AI, Moroccan Family Code (MFC).

Bionote:
Mouna Bahri is 32 years old and is a PhD student based in Agadir, Morocco. Her research explores the intersection between philosophy and legal translation, with a particular focus on how philosophical concepts inform and challenge the practice of translating legal texts across different cultural and linguistic contexts.

The Impact of AI-Assisted Translation on Internal Audit Quality in an International Corporation

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This study examines the impact of AI-assisted translation on the quality of internal audits within a multinational corporation whose parent company is based in Morocco, with subsidiaries and participations in various countries. Given the multilingual nature of internal audit processes, AI-powered translation tools have become essential for ensuring clear communication, accurate documentation, and effective risk assessment. However, their impact on audit quality remains underexplored.

Through a mixed-method approach combining qualitative and quantitative analysis, this research assesses how AI-assisted translation affects auditors' efficiency, comprehension of regulatory frameworks, and overall audit reliability. The study investigates whether these tools enhance or hinder the internal audit process, particularly in terms of accuracy, consistency, and compliance with international auditing standards. Findings will provide insights into the advantages and limitations of AI-driven translation in internal auditing and offer recommendations for optimizing its use in multinational corporate environments.

Keywords: AI, Translation, Audit, Audit Quality, ChatGPT.

Bionotes:

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