

Digital Transformation of HR Practices: A Systematic Review and Bibliometric Analysis of e-HRM Literature

Digitalna transformacija prakse LJP-a: Sustavni pregled i bibliometrijska analiza literature o e-ULJP-u

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Abstract. *The digital transformation of Human Resource Management (HRM) has accelerated the adoption of electronic Human Resource Management (e-HRM), integrating advanced technologies such as artificial intelligence (AI) into HR components. This paper presents a systematic review and bibliometric analysis of the literature on e-HRM from 2015 to 2025. Special attention is paid to the role of artificial intelligence in shaping modern HR practices. In addition to quantitative bibliometric insights, a qualitative content analysis of eight of the most relevant papers dealing with artificial intelligence in e-HRM was conducted to explore emerging topics, challenges, and research gaps. The study contributes to the academic discourse by mapping the intellectual structure of the e-HRM field and suggesting future research directions in the era of intelligent HR systems.*

Keywords. electronic human resource management, e-HRM, digital transformation, artificial intelligence, systematic literature review, bibliometric analysis

Sažetak. *Digitalna transformacija upravljanja ljudskim potencijalima (ULJP) ubrzala je usvajanje elektroničkih sustava upravljanja ljudskim potencijalima (e-ULJP), integrirajući napredne tehnologije poput umjetne inteligencije (UI) u komponente LJP-a. Ovaj rad predstavlja sustavni pregled i bibliometrijsku analizu literature o e-ULJP-u od 2015. do 2025. godine. Posebna pozornost se posvećuje ulozi umjetne inteligencije u oblikovanju modernih praksi LJP-a. Uz kvantitativne bibliometrijske uvide, provedena je kvalitativna analiza sadržaja osam najrelevantnijih radova koji se bave umjetnom inteligencijom u e-ULJP-u kako bi se istražile nove teme, izazovi i istraživački nedostaci. Studija doprinosi akademskom diskursu mapiranjem intelektualne strukture područja e-ULJP-a i predlaganjem budućih istraživačkih smjerova u eri inteligentnih sustava LJP-a.*

Ključne riječi. elektroničko upravljanje ljudskim potencijalima, e-ULJP, digitalna transformacija, umjetna inteligencija, sustavni pregled literature, bibliometrijska analiza

1 Introduction

The digital transformation of HRM marks one of the most significant changes in organizational practices in recent decades. Faced with rapid change, organizations across sectors are recognizing the need to integrate digital technologies into HRM, which has become crucial for achieving efficiency and agility. This change includes the application of cloud computing, data analytics, artificial intelligence, and various digital tools that are reshaping the way HR services are delivered and decisions about employees are made.

1 Uvod

Digitalna transformacija LJP-a označava jednu od najvažnijih promjena u organizacijskim praksama u proteklom desetljećima. Suočene s brzim promjenama, organizacije u različitim sektorima prepoznaju potrebu za integracijom digitalnih tehnologija u LJP-u, što je postalo presudno za postizanje efikasnosti i agilnosti. Ova promjena uključuje primjenu računarstva u oblaku, analize podataka, umjetne inteligencije i raznih digitalnih alata koji preoblikuju način na koji se pružaju usluge LJP-a i donose odluke o zaposlenicima.

One of the main elements of this transformation is electronic Human Resources Management (e-HRM), which involves the use of various technologies to support and implement HR functions (Bondarouk & Brewster, 2016; Strohmeier, 2020). From an initial focus on the digitalization of administrative processes, e-HRM has evolved into a strategic system that impacts workforce planning, talent acquisition, performance management, learning and development, and employee engagement (Marler & Parry, 2015). Recent advances, especially in the application of artificial intelligence within HRM, have expanded the reach of e-HRM by enabling predictive analytics, algorithm-based decision-making, and automation of routine tasks (Nyathi & Kekwaletswe, 2023). The use of generative AI, such as ChatGPT, enables new research within HRM. This research encompasses the automation of communication, ethical implications, potential changes in work roles, and the need for transparency and human oversight (Budhwar et al., 2023). Empirical research has shown that the use of artificial intelligence in e-HRM improves efficiency, helps decision-making and reduces costs, but there are significant challenges such as lack of skills, fear of privacy and resistance to change (Mwita & Kitole, 2025).

Considering the increasing challenges and strategic importance of e-HRM, there is a growing need for a systematic investigation of previous scientific research in this area. Bibliometric analysis offers a useful method for insight into the structure, dynamics and development of scientific literature. It enables the identification of authors, topics, institutions and publishing trends, as well as finding gaps in knowledge and potential new research areas.

The aim of this paper is to create a comprehensive overview of e-HRM research in the past ten years (2015–2025) through a combination of systematic review, bibliometric mapping and qualitative content analysis. The research particularly emphasizes the importance of artificial intelligence within the literature on e-HRM, with the aim of investigating the impact of artificial intelligence on the transformation of the HR function.

The research is based on the following research questions:

1. How has the scope and focus of e-HRM research evolved over the last decade?
2. Who are the authors, topics, and institutions that have shaped this field?
3. What is the role of artificial intelligence in the context of e-HRM?

Jedan od glavnih elemenata ove transformacije jest elektroničko upravljanje ljudskim potencijalima (e-ULJP), koje podrazumijeva korištenje različitih tehnologija za podršku i implementaciju funkcija LJP-a (Bondarouk & Brewster, 2016; Strohmeier, 2020). Od početnog fokusiranja na digitalizaciju administrativnih procesa, e-ULJP je evoluirao u strateški sustav koji utječe na planiranje radne snage, privlačenje talenata, upravljanje radnim učinkom, obrazovanje i razvoj, kao i angažman zaposlenika (Marler & Parry, 2015). Nedavni napredak, posebno u primjeni umjetne inteligencije unutar ULJP-a, proširio je domet e-ULJP-a omogućujući prediktivnu analizu, donošenje odluka na osnovi algoritama i automatizaciju rutinskih zadataka (Nyathi & Kekwaletswe, 2023). Upotreba generativne umjetne inteligencije, kao što je ChatGPT, omogućuje nova istraživanja unutar ULJP-a. Ova istraživanja obuhvaćaju automatizaciju komunikacije, etičke posljedice, potencijalne promjene u radnim ulogama te potrebe za transparentnošću i ljudskim nadzorom (Budhwar et al., 2023). Empirijska istraživanja su pokazala da korištenje umjetne inteligencije u e-ULJP-u poboljšava efikasnost, pomaže u donošenju odluka i smanjuje troškove, ali postoje značajni izazovi poput nedostatka vještina, straha za privatnost i otpornosti ka promjenama (Mwita & Kitole, 2025).

S obzirom na sve veće izazove i stratešku važnost e-ULJP-a, postoji rastuća potreba za sustavnim istraživanjem dosadašnjih znanstvenih istraživanja u ovom području. Bibliometrijska analiza nudi korisnu metodu za uvid u strukturu, dinamiku i razvoj znanstvene literature. Ona omogućava identifikaciju autora, tema, institucija i trendova u objavljivanju, kao i pronalaženje praznina u znanju i potencijalnih novih istraživačkih područja.

Cilj ovog rada je izraditi sveobuhvatan prikaz istraživanja e-ULJP-a u proteklih deset godina (2015.–2025.) kroz kombinaciju sustavnog pregleda, bibliometrijskog mapiranja i kvalitativne analize sadržaja. Istraživanje posebno naglašava važnost umjetne inteligencije unutar literature o e-ULJP-u, s ciljem istraživanja utjecaja umjetne inteligencije na transformaciju funkcije LJP-a.

Istraživanje se temelji na sljedećim istraživačkim pitanjima:

1. Kako je obujam i fokus istraživanja e-ULJP-a evoluirao u posljednjem desetljeću?
2. Tko su autori, teme i institucije koje su oblikovale ovo područje?
3. Kakva je uloga umjetne inteligencije u kontekstu e-ULJP-a?

2 Theoretical framework and conceptual definition

Electronic Human Resources Management, known as e-HRM, encompasses a wide range of activities, including planning, application, and use of information technology. Its goal is to network and enable cooperation among actors in the joint implementation of activities related to Human Resources Management (Strohmeier, 2007).

Digital Human Resource Management enables individualized employee experiences, real-time workforce analytics, and agile HR operations. In this way, digital HRM can be considered a subcategory of e-HRM that focuses more on innovation and transformation (Bondarouk & Brewster, 2016).

The digital transformation of Human Resources Management brings significant opportunities, but also serious challenges. In terms of capabilities, digital HR tools can ease administrative tasks, improve the employee experience, offer useful workforce insights, and aid in data-driven decision-making. Organizations have the ability to use artificial intelligence to predict labor trends, adjust development programs, and improve the quality and speed of talent acquisition (Strohmeier, 2020).

On the other hand, digital transformation also brings with it certain challenges, including technical integration, acceptance of change, cybersecurity risks, as well as ethical aspects related to data privacy and algorithmic bias. Digital HRM also requires new competencies from HR professionals, who must be skilled in data analysis, system implementation, and digital strategy (Marler & Fisher 2013).

Academic interest in e-HRM began in the early 2000s, when it primarily focused on the adoption and technical use of information systems within HR functions. As time went on, researchers expanded their attention to the impact of e-HRM on organizational performance, employee experience, and strategic decision-making (Ruël & Bondarouk & Looise 2004).

Several bibliometric studies have explored the broader picture of HRM, but few have specifically addressed e-HRM or placed a strong emphasis on artificial intelligence. Previous systematic reviews have demonstrated the fragmentation of the field and the need for integrated frameworks that connect technology, human behavior, and organizational outcomes.

2 Teorijski okvir i pojmovno određenje

Elektroničko upravljanje ljudskim potencijalima, poznato kao e-ULJP, obuhvaća široki spektar aktivnosti, a uključuje planiranje, primjenu i korištenje informacijske tehnologije. Cilj mu je umrežiti i omogućiti suradnju među akterima u zajedničkom provođenju aktivnosti vezanih uz upravljanje ljudskim potencijalima (Strohmeier, 2007).

Digitalno upravljanje ljudskim potencijalima omogućuje individualizirana iskustva zaposlenika, analitiku radne snage u stvarnom vremenu te agilnost operacija LJP-a. Na taj način, digitalno ULJP se može smatrati podkategorijom e-ULJP-a koja se više fokusira na inovacije i transformaciju (Bondarouk & Brewster, 2016).

Digitalna transformacija upravljanja ljudskim potencijalima donosi značajne mogućnosti, ali i ozbiljne izazove. U vezi s mogućnostima, alati za digitalno upravljanje ljudskim potencijalima mogu olakšati administrativne zadatke, unaprijediti iskustvo zaposlenika, ponuditi korisne uvide o radnoj snazi i pomoći kod donošenja odluka koje se oslanjaju na podatke. Organizacije imaju mogućnost korištenja umjetne inteligencije za predviđanje radnih trendova, prilagodbu programa za razvoj i poboljšanje kvalitete i brzine pronalaženja talenata (Strohmeier, 2020).

S druge strane, digitalna transformacija nosi sa sobom i određene izazove, uključujući tehničku integraciju, prihvaćanje promjena, rizike vezane uz kibernetičku sigurnost, kao i etičke aspekte vezane uz zaštitu privatnosti podatka i pristranost u algoritmima. Također, digitalno upravljanje ljudskim potencijalima traži nove kompetencije od stručnjaka za LJP, koji moraju biti vješti u analizi podataka, implementaciji sustava i digitalnoj strategiji (Marler & Fisher 2013).

Akademski interes za e-ULJP započeo je na početku 2000-ih, kada se prvenstveno fokusirao na usvajanje i tehničku upotrebu informacijskih sustava unutar funkcija LJP-a. Kako je vrijeme prolazilo, istraživači su proširili svoju pažnju na utjecaj e-ULJP-a na učinkovitost organizacije, doživljaj zaposlenika i strateško donošenje odluka (Ruël & Bondarouk & Looise 2004).

Nekoliko bibliometrijskih istraživanja istražilo je širu sliku ULJP-a, no malo njih se konkretno bavilo e-ULJP-om ili je stavilo snažan naglasak na umjetnu inteligenciju. Prethodni sustavni pregledi pokazali su rastrkanost ovog područja i potrebu za integriranim okvirima koji povezuju tehnologiju, ljudsko ponašanje i organizacijske rezultate.

This theoretical framework sets the stage for future analysis that explores how these concepts and themes have been reflected and developed in the academic literature over the past decade.

3 Methodology

In order to achieve comprehensive coverage in the research, two recognized databases were used: Web of Science (WoS) and Scopus. Their selection is based on defined criteria for the inclusion of publications, which ensures a certain level of scientific relevance and reliability of sources. WoS and Scopus include journals with international peer review and clearly defined impact factors, which enables the analysis of not only the quantity but also the quality of published works. In addition, although partially overlapping, these bases also have complementary indexes, which further increases the breadth of coverage. These databases provide high-quality bibliographic information as well as advanced filtering tools needed for bibliometric and content analyses. The inclusion of these sources provides broad access to relevant peer-reviewed journal articles covering all disciplines related to human resource management and information systems.

The search was limited in time to the period from 2015 to 2025 in order to cover the latest trends in the field of e-HRM. Only journal articles were included in the analysis. An extensive list of key terms has been created to ensure broad coverage of the relevant literature. The following terms were used during the search: e-HRM, e-HR, Electronic HRM, Electronic HR, Electronic Human Resource, Digital HRM, Digital HR, Digital Human Resource, HRIS, Human Resource Information System, HRIT, Human Resource Information Technology; with the integration of advanced technologies such as artificial intelligence. The search was conducted separately in both databases, and the results were downloaded in .xls and .csv format. Manual and automatic removal of duplicates based on identical titles and authors was performed in Microsoft Excel.

In order to additionally ensure the objectivity and scientific foundation of the selection of papers for detailed analysis, additional selection criteria were defined. Each paper was scored according to the number of citations (citations), which attempted to quantify the scientific relevance and impact of the work within the research community. In parallel, the content of the titles was also analyzed – priority was given to papers that explicitly contained key terms relevant to the research area in the title, such as "e-HRM", "Digital HR", "AI in HRM", "HRIS" and related terms.

Based on the combination of these criteria – citations and semantic relevance of the title – a

Ovaj teorijski okvir postavlja osnovu za buduću analizu koja istražuje kako se ti koncepti i teme reflektiraju i razvijaju u akademskoj literaturi tokom proteklog desetljeća.

3 Metodologija

Da bi se postigla sveobuhvatna pokrivenost u istraživanju, korištene su dvije priznate baze podataka: Web of Science (WoS) i Scopus. Njihov odabir temelji se na definiranim kriterijima za uključivanje publikacija, što osigurava određenu razinu znanstvene relevantnosti i pouzdanosti izvora. WoS i Scopus uključuju časopise s međunarodnom recenzijom i jasno definiranim faktorima utjecaja, čime se omogućava analiza ne samo kvantitete nego i kvalitete objavljenih radova. Osim toga, iako se djelomično preklapaju, ove baze imaju i komplementarne indekse, što dodatno povećava širinu pokrivenosti. Ove baze podataka pružaju visoko kvalitetne bibliografske informacije, kao i napredne alate za filtraciju potrebne za bibliometrijske i analize sadržaja. Uključivanje ovih izvora osigurava širok pristup relevantnim recenziranim člancima iz časopisa koji pokrivaju sve discipline povezane s upravljanjem ljudskim potencijalima i informacijskim sustavima.

Pretraživanje je bilo vremenski ograničeno na razdoblje od 2015. do 2025. godine kako bi se obuhvatili najnoviji trendovi u području e-ULJP-a. U analizu su uključeni samo članci iz časopisa. Napravljena je opsežna lista ključnih izraza kako bi se osigurala široka pokrivenost važne literature. Tokom pretraživanja korišteni su sljedeći pojmovi: e-HRM, e-HR, Electronic HRM, Electronic HR, Electronic Human Resource, Digital HRM, Digital HR, Digital Human Resource, HRIS, Human Resource Information System, HRIT, Human Resource Information Technology; uz integraciju naprednih tehnologija kao što je umjetna inteligencija. Pretraga je provedena odvojeno u obje baze, a rezultati su preuzeti u .xls i .csv formatu. U Microsoft Excelu provedeno je ručno i automatsko uklanjanje duplikata na temelju identičnih naslova i autora.

Kako bi se dodatno osigurala objektivnost i znanstvena utemeljenost odabira radova za detaljnu analizu, definirani su dodatni kriteriji selekcije. Svaki rad je bodovan prema broju citata (citiranosti), čime se nastojala kvantificirati znanstvena relevantnost i utjecaj rada unutar istraživačke zajednice. Paralelno s tim, analiziran je i sadržaj naslova – prioritet su dobivali radovi koji u naslovu eksplicitno sadrže ključne izraze relevantne za područje istraživanja, poput "e-HRM", "Digital HR", "AI in HRM", "HRIS" i srodnih termina.

Na temelju kombinacije ovih kriterija – citiranosti i semantičke relevantnosti naslova –

narrower group of papers was formed. The final selection included the 8 most relevant scientific papers, which were taken into a detailed qualitative analysis. The aim of this phase was to understand how individual authors conceptualize and operationalize e-HRM and its connection with digital technologies, especially artificial intelligence. This approach ensured methodological transparency and objectivity in the selection of literature that forms the basis for further research conclusions.

4 Results of bibliometric analysis

In the initial phase of the search, 56 works were identified in the Scopus database and 44 works in the WoS database, which made a total of 100 works. After exporting data to Excel and implementing manual and automatic removal of duplicates, the number of papers was reduced to 74 unique scientific articles. The obtained set of 74 papers forms the basis for further bibliometric analysis. After the implementation of the bibliometric analysis, a qualitative selection of papers was additionally carried out for a deeper analysis. For this purpose, additional criteria were applied: the number of citations of an individual paper and the presence of key terms in the title of the paper, which enabled the identification of the most relevant publications. On the basis of these criteria, 8 works were singled out, on which a detailed content analysis was carried out. This ensures a balance between the breadth of coverage and in-depth processing of the relevant scientific literature. Other papers were used to identify thematic areas, key authors, collaborative networks and time trends.

The largest number of publications was recorded in 2024, indicating an increased interest in the topic of e-HRM and its connection with the application of artificial intelligence in modern HR practices. The growth in scientific production began in 2018, in a period when the importance of digital transformation is increasingly emphasized globally, especially in the context of adapting businesses to new technologies, as shown in the figure.

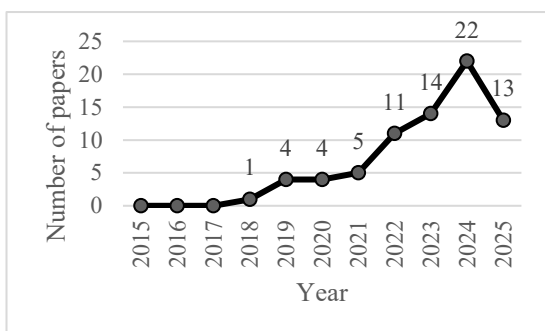


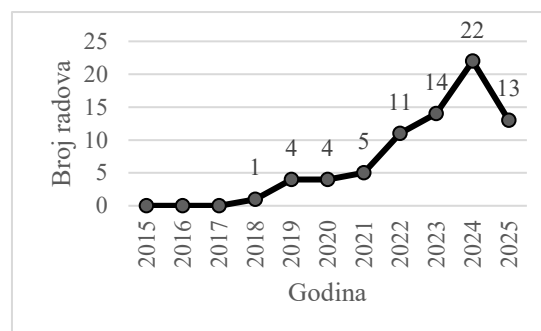
Figure 1. Overview of the number of published papers by year in the period from 2015 to 2025

formirana je uža skupina radova. Konačni odabir uključivao je 8 najrelevantnijih znanstvenih radova, koji su uzeti u detaljnu kvalitativnu analizu. Cilj ove faze bio je razumjeti kako pojedini autori konceptualiziraju i operacionaliziraju e-ULJP i njegovu povezanost s digitalnim tehnologijama, osobito umjetnom inteligencijom. Ovim pristupom osigurana je metodološka transparentnost i objektivnost u izboru literature koja čini temelj daljnjih istraživačkih zaključaka.

4 Rezultati bibliometrijske analize

U početnoj fazi pretrage identificirano je 56 radova u bazi Scopus i 44 rada u bazi WoS, što je ukupno činilo 100 radova. Nakon izvoza podataka u Excel i provedbe ručnog te automatskog uklanjanja duplikata, broj radova smanjen je na 74 jedinstvena znanstvena članka. Dobiveni skup od 74 rada čini osnova je za daljnu bibliometrijsku analizu. Nakon provedbe bibliometrijske analize, dodatno je provedena kvalitativna selekcija radova za dublju analizu. U tu svrhu primijenjeni su dodatni kriteriji: broj citata pojedinog rada te prisutnost ključnih pojmova u naslovu rada, što je omogućilo identifikaciju najrelevantnijih publikacija. Na temelju tih kriterija izdvojeno je 8 radova na kojima je provedena detaljna sadržajna analiza. Time je osigurana ravnoteža između širine obuhvata i dubinske obrade relevantne znanstvene literature. Ostali radovi korišteni su za identifikaciju tematskih područja, ključnih autora, kolaborativnih mreža i vremenskih trendova.

Najveći broj publikacija zabilježen je 2024. godine, što ukazuje na pojačan interes za temu e-ULJP-a i njezinu vezu s primjenom umjetne inteligencije u suvremenim praksama LJP-a. Rast u znanstvenoj produkciji započinje od 2018. godine, u razdoblju kada se globalno sve više ističe važnost digitalne transformacije, posebno u kontekstu prilagodbe poslovanja novim tehnologijama, što je prikazano slikom.



Slika 1. Prikaz broja objavljenih radova po godinama u razdoblju od 2015. do 2025. godine

The increase in announcements during the COVID-19 pandemic can be linked to the need for quick adaptations and the implementation of digital solutions in human resources management, especially in the context of remote work, digital communication, and automation of administrative HR processes.

The above confirms that e-HRM has become an important and rapidly developing research area. The growth trend has been observed since 2018, when discussions on the digital transformation of the HR function intensified, especially through the implementation of artificial intelligence, predictive analytics, chatbots, performance monitoring systems and digital talent management platforms.

Among the most important topics that stand out in recent literature are digitization of the recruitment and selection process, personalization of employee development through analytics, digital evaluation of work performance, and ethical challenges and employee data privacy in digital HR systems. In this way, the literature not only reflects technological changes, but also provides insight into the transformation of HRM from an administrative function to a strategic role, with increasing support for digital tools and data-driven HR management.

5 Overview of the most important works according to the chosen methodology

The digital transformation of HR practice in the literature is most often thematized through several key areas: (1) recruitment, selection and process automation, (2) learning, development and user experience, (3) analytics and decision-making, and (4) strategic role and digital transformation of HR.

Votto et al. (2021) prepared the paper "Artificial Intelligence in Tactical Human Resource Management: A Systematic Literature Review" which presents a systematic literature review focused on the application of artificial intelligence in tactical HRM. Their analysis demonstrates that AI plays an important role in processes such as recruitment, education and performance management. However, the authors emphasize the need for better data, standardization and practical integration of AI technologies into HR processes. Similarly, Sithambaram & Tajudeen (2023), in a survey based on interviews in 12 Malay companies, confirm that recruitment is one of the key application areas of AI, along with talent management and learning. They conclude that AI does not replace workers, but rather complements them, encouraging the development of skills and enabling focus on strategic activities. Johnson, Stone & Lukaszewski (2020), in the paper „The benefits of e-HRM and AI

Porast objava tijekom pandemije COVID-19 može se povezati s potrebom za brzim prilagodbama i implementacijom digitalnih rješenja u upravljanju ljudskim potencijalima, osobito u kontekstu rada na daljinu, digitalne komunikacije i automatizacije administrativnih procesa LJP-a.

Navedeno potvrđuje da je e-ULJP postao važno istraživačko područje koje se brzo razvija. Trend rasta uočava se već od 2018. godine, kada se intenziviraju rasprave o digitalnoj transformaciji funkcije LJP-a, osobito kroz implementaciju umjetne inteligencije, prediktivne analitike, chatbotova, sustava za praćenje učinka i digitalnih platformi za upravljanje talentima.

Među najvažnijim temama koje se izdvajaju u recentnoj literaturi su: digitalizacija procesa regrutacije i selekcije, personalizacija razvoja zaposlenika putem analitike, digitalna evaluacija radnog učinka te etički izazovi i privatnost podataka zaposlenika u digitalnim sustavima LJP-a. Na taj način literatura ne samo da odražava tehnološke promjene, već i pruža uvid u transformaciju ULJP-a iz administrativne funkcije prema strateškoj ulozi, uz sve veću potporu digitalnim alatima i podatkovno vođenom upravljanju LJP-a.

5 Pregled najznačajnijih radova prema odabranoj metodologiji

Digitalna transformacija prakse LJP-a u literaturi se najčešće tematizira kroz nekoliko ključnih područja: (1) regrutacija, selekcija i automatizacija procesa, (2) učenje, razvoj i korisničko iskustvo, (3) analitika i donošenje odluka, te (4) strateški uloga i digitalna transformacija LJP-a.

Votto i sur. (2021) pripremili su rad "Artificial Intelligence in Tactical Human Resource Management: A Systematic Literature Review" koji predstavlja sustavni pregled literature usmjeren na primjenu umjetne inteligencije u taktičkom ULJP-u. Njihova analiza pokazuje da UI ima važnu ulogu u procesima kao što su regrutacija, edukacija i upravljanje učinkom. Međutim, autori ističu potrebu za boljim podacima, standardizacijom i praktičnom integracijom UI tehnologija u procese LJP-a. Slično tome, Sithambaram & Tajudeen (2023), u istraživanju temeljenom na intervjuima u 12 malajskih tvrtki, potvrđuju da je regrutacija jedno od ključnih područja primjene UI, zajedno s upravljanjem talentima i učenjem. Zaključuju kako UI ne zamjenjuje radnike, već ih nadopunjuje, potičući razvoj vještina i omogućujući fokusiranje na strateške aktivnosti. Johnson, Stone & Lukaszewski (2020), u radu „The benefits of e-HRM and AI for talent acquisition“, povezuju e-ULJP i UI s potrebama sektora turizma i ugostiteljstva. Ističu da

for talent acquisition“, connect e-HRM and AI with the needs of the tourism and hospitality sector. They point out that AI improves the finding, selection and retention of qualified candidates, which contributes to reducing the costs and time of replacing employees.

Stanley & Aggarwal (2019) analyze how disruptive technologies, including AI, robots and networked systems, are transforming the recruitment, training and legal support functions. Robots, according to their findings, play a role in education and conducting interviews, while network systems improve connectivity within the organization. Majumder & Mondal (2021) focus on chatbots, emphasizing their role in increasing operational efficiency and automating routine interactions. However, they point out that in order to have a structural impact on HR, organizations must develop AI systems that can understand and respond to the emotional aspects of communication, thereby building trust.

Radonjić, Duarte & Pereira (2024) in the work „Artificial intelligence and HRM: HR managers' perspective on decisiveness and challenges“ show that AI improves decision-making in HR through faster data processing. The authors emphasize that HR managers are willing to accept AI as a data management tool, but also that there are challenges associated with strategic alignment and organizational structure.

Sharma et al. (2022), based on analyzes and interviews in the Indian energy sector, highlight three strategic priorities: digital HR and employee performance, implementation of digital HR, and digital HR as a competitive advantage. They conclude that AI can support the development of more efficient and personalized HR strategies, which contributes to overall organizational efficiency. Kim et al. (2021) provide a long-term perspective of technology development in HRM, analyzing changes in 154 papers over 60 years. They identify key milestones (computers, internet) and conclude that technology, including AI, is continuously redefining HR functions such as recruitment, training and assessment.

6 Conclusion and future scope

In conclusion, it is possible to answer all 3 key research questions. The first research question How has the scope and focus of e-HRM research evolved in the last decade? demonstrates a significant increase in scientific papers in the period from 2015 to 2025. The peak was in 2024 when the largest number of publications was directed towards the digital transformation of the HR function and the applications of artificial intelligence. This trend indicates a growing interest among scientists in technologically assisted HR practices, especially in

UI unaprjeđuje pronalaženje, selekciju i zadržavanje kvalificiranih kandidata, čime doprinosi smanjenju troškova i vremena zamjene zaposlenika.

Stanley & Aggarwal (2019) analiziraju kako disruptivne tehnologije, uključujući UI, robote i mrežne sustave, transformiraju funkcije zapošljavanja, obuke i pravne podrške. Roboti, prema njihovim nalazima, imaju ulogu u edukaciji i vođenju intervjua, dok mrežni sustavi poboljšavaju povezanost unutar organizacije. Majumder & Mondal (2021) fokusiraju se na chatbotove, naglašavajući njihovu ulogu u povećanju operativne učinkovitosti i automatizaciji rutinskih interakcija. Ipak, ističu da za ostvarenje strukturnog utjecaja na LJP, organizacije moraju razviti UI sustave koji mogu razumjeti i odgovarati na emocionalne aspekte komunikacije, čime se gradi povjerenje.

Radonjić, Duarte & Pereira (2024) u radu „Artificial intelligence and HRM: HR managers' perspective on decisiveness and challenges“ pokazuju da UI unaprjeđuje donošenje odluka u LJP-u kroz bržu obradu podataka. Autori naglašavaju kako je prisutna spremnost menadžera LJP-a na prihvaćanje UI kao alata za upravljanje podacima, ali i da postoje izazovi povezani s strateškim usklađivanjem i organizacijskom strukturom.

Sharma i sur. (2022), temeljem analiza i intervjua u indijskom energetskom sektoru, ističu tri strateška prioriteta: digitalni LJP i učinak zaposlenih, implementacija digitalnog LJP-a te digitalni LJP kao konkurentna prednost. Zaključuju da UI može podržati razvoj efikasnijih i personaliziranih strategija LJP-a, što doprinosi ukupnoj organizacijskoj učinkovitosti. Kim i sur. (2021) daju dugoročnu perspektivu razvoja tehnologije u ULJP-u, analizirajući promjene u 154 rada kroz 60 godina. Prepoznaju ključne prekretnice (računala, internet) i zaključuju da tehnologija, uključujući UI, kontinuirano redefinira funkcije LJP-a poput regrutacije, obuke i procjene.

6 Zaključak i budući istraživački ciljevi

Zaključno, moguće je odgovoriti na sva 3 ključna istraživačka pitanja. Prvo istraživačko pitanje Kako je obujam i fokus istraživanja e-ULJP-a evoluirao u posljednjem desetljeću? pokazuje značajan porast znanstvenih radova u razdoblju od 2015. do 2025. godine. Vrhunac je bio 2024. godine kada je najveći broj objava bio usmjeren prema digitalnoj transformaciji funkcije LJP-a i primjenama umjetne inteligencije. Ovaj trend ukazuje na rastući interes

the context of dynamic changes in the work environment and digital adaptation of organizations. The second research question Who are the authors, topics and institutions that have shaped this field? identified scientists who are recognized through the citation and relevance of their works, which is shown through an overview of the most significant research to date in Chapter 5. The analysis identified key thematic groups that encompass technological implementation in HR (such as process automation, the use of digital platforms and learning systems), as well as a strategic approach to HR management through the use of advanced analytics and digital support in HR management. The third research question What is the role of artificial intelligence in the context of e-HRM? she identified several areas of application of artificial intelligence. First of all, artificial intelligence is used to predict patterns in employee behavior, to automate the selection process, as well as to make informed decisions, which significantly contributes to improving the strategic role of the HR function. In the context of the growing need for agile and personalized HR solutions, AI stands out as a key driver of changes in the HR approach.

An analysis of eight key scientific papers demonstrates that digital technologies, especially artificial intelligence, are increasingly being used in modern human resources management. The authors agree that AI has the potential to significantly improve selection, employee development, decision-making and user experience, using tools such as chatbots and predictive analytics. At the same time, challenges such as ethical dilemmas, lack of transparency in algorithmic decisions and the possibility of discrimination are highlighted. A deeper understanding of the impact of technologies on employees, their perception of fairness and trust in digital systems is needed.

Recommended directions for future research include the development of frameworks and tools for the ethical application of AI in HR management, as well as empirical research on the functionality of digital tools in different organizations (e.g. small vs. large companies, public vs. private sector). It is also recommended to conduct longitudinal studies to track the effects of digital transformation of the HR function over time, and comparative analyses between sectors with different levels of digital maturity.

For the purpose of a deeper analysis of this topic, future research should include additional criteria in literature selection, such as methodological approach, research context (industry, country) and evaluation of organizational effects, which would enable a more precise mapping of the impact of digital transformation on HRM practice.

znanstvenika za tehnološki potpomognute prakse LJP-a, posebno u kontekstu dinamičnih promjena u radnom okruženju i digitalne prilagodbe organizacija. Drugo istraživačko pitanje Tko su autori, teme i institucije koje su oblikovale ovo područje? identificiralo je znanstvenike koji su prepoznati kroz citiranost i relevantnost radova što je i prikazano kroz pregled najznačajnijih dosadašnjih istraživanja u poglavlju 5. Analizom su utvrđene ključne tematske skupine koje obuhvaćaju tehnološku implementaciju u LJP-u (poput automatizacije procesa, korištenja digitalnih platformi i sustava za učenje), kao i strateški pristup upravljanju LJP-a kroz upotrebu napredne analitike i digitalne podrške u upravljanju LJP-a. Treće istraživačko pitanje Kakva je uloga umjetne inteligencije u kontekstu e-ULJP-a? identificirala je nekoliko područja primjene umjetne inteligencije. Prije svega umjetna inteligencija se koristi za predviđanje obrazaca u ponašanju zaposlenika, automatizaciji procesa selekcije, kao i za donošenje utemeljenih odluka što značajno doprinosi unaprjeđenju strateške uloge funkcije LJP-a. U kontekstu rastuće potrebe za agilnim i personaliziranim rješenjima LJP-a, UI se ističe kao ključni pokretač promjena u pristupu LJP-a.

Analiza osam ključnih znanstvenih radova pokazuje da se digitalne tehnologije, osobito umjetna inteligencija, sve više koriste u suvremenom upravljanju ljudskim potencijalima. Autori se slažu da UI ima potencijal za značajno poboljšanje selekcije, razvoja radnika, donošenja odluka i korisničkog iskustva, koristeći alate kao što su chatbotovi i prediktivna analitika. Istovremeno se ističu izazovi poput etičkih dilema, nedostatka transparentnosti u algoritamskim odlukama i mogućnosti diskriminacije. Potrebno je dublje razumijevanje utjecaja tehnologija na zaposlenike, njihovu percepciju pravednosti i povjerenje u digitalne sustave.

Preporučeni smjerovi za buduća istraživanja uključuju razvoj okvira i alata za etičku primjenu umjetne inteligencije u upravljanju LJP-a, kao i empirijska istraživanja funkcionalnosti digitalnih alata u različitim organizacijama (npr. mala vs. velika poduzeća, javni vs. privatni sektor). Preporuka je i provođenje longitudinalnih studija koje bi pratile učinke digitalne transformacije funkcije LJP-a tijekom vremena te komparativne analize između sektora s različitim razinama digitalne zrelosti.

U svrhu dublje analize ove teme, buduća istraživanja trebala bi uključiti dodatne kriterije pri selekciji literature, kao što su metodološki pristup, kontekst istraživanja (industrija, zemlja) i evaluacija organizacijskih učinaka, čime bi se omogućilo preciznije mapiranje utjecaja digitalne transformacije na praksu ULJP-a.

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Zahvale

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