

THE ROLE OF INFORMATION SYSTEMS IN HUMAN RESOURCE MANAGEMENT: PERFORMANCE EVALUATION AND TRAINING NEEDS ASSESSMENT THE CASE OF PUBLIC ENTERPRISES IN KOSOVO (KEK, POST TELECOM AND KUR – PRISHTINA)

Blerta Berisha¹, Naim Ismajli²

¹University of Library Studies and Information Technologies,

²AAB College Prishtina, Kosovo

Abstract: *This study explores the impact of Human Resource Information Systems (HRIS) on performance evaluation and training needs assessment in three public enterprises in Kosovo: KEK, PTK, and KUR Pristina. As Human Resource Management (HRM) shifts towards a strategic role, HRIS adoption is essential for promoting transparency, efficiency, and data-driven decision-making in the public sector. Using a mixed-methods approach, the research integrates survey responses from 120 employees with qualitative data from nine HR managers. Results reveal a strong positive correlation between HRIS usage and improved performance evaluation processes, while the effect on training needs assessment is evident but more limited. Main barriers to full implementation include low digital literacy, weak IT infrastructure, and institutional resistance to change. Nonetheless, HR professionals see HRIS as strategic enablers, not just administrative tools. Drawing on comparisons with countries like Greece and Morocco, the study highlights HRIS potential to improve planning, communication, and organizational performance. It recommends investments in digital skills, leadership support, and cross-platform integration. Within Kosovo's ongoing public sector reform and EU alignment, HRIS adoption represents a key step toward institutional modernization and better service delivery.*

Keywords: *Human Resource Information Systems (HRIS); Performance Evaluation; Training Needs Assessment; Public Sector; Human Resources Management (HRM)*

INTRODUCTION

In today's economy, where knowledge is a key asset, human capital is recognized as the most valuable organizational asset more important than technology or infrastructure. As Human Resource Management (HRM) shifts from an administrative to a strategic role, digital tools like Human Resource Information Systems (HRIS) have become essential (Kavanagh et al., 2015). HRIS are software systems that automate core HR functions such as recruitment, payroll, performance evaluation (Ball, 2001), training, and employee development. These tools improve data accuracy, enable real-time tracking, and align HR activities with organizational goals. In the public sector, where transparency and accountability are critical, HRIS can help overcome administrative and structural inefficiencies. However, in developing countries like Kosovo, implementation faces major challenges such as limited financial resources, low digital literacy, and resistance to change (Demi, 2024). Despite this, the modernization of public enterprises makes HRIS adoption a strategic

necessity. This study examines how HRIS affect two essential HR functions performance evaluation and training needs assessment (Ngai & Wat, 2006) focusing on three public enterprises in Kosovo.

Research Aim and Objectives

The primary aim of this research is to investigate the impact of Information Systems on the effectiveness of performance evaluation and training needs assessment in public enterprises.

1. To analyze the current practices of HRIS usage in performance evaluation across selected public enterprises.
2. To examine how HRIS supports the identification and management of employee training needs.
3. To identify organizational, technical, and institutional challenges that hinder effective HRIS implementation.

Research Questions and Hypothesis

Research questions:

1. To what extent are HRIS integrated into performance appraisal processes in public enterprises?
2. How do HRIS contribute to identifying and addressing training needs?
3. What are the key barriers and enablers to effective HRIS implementation in the public sector?

Hypotheses

▷**H1:** The use of Human Resource Information Systems (HRIS) (Kavanagh et al., 2015) is positively associated with the effectiveness of employee performance evaluation (Ball, 2001) in public enterprises.

▷**H2:** The use of HRIS significantly improves the identification and management of employee training needs in public enterprises.

▷**H3:** Resistance to change and lack of digital skills negatively affect the strategic use of HRIS in public sector institutions.

Significance of the Study

This study holds both theoretical and practical value. Theoretically, it contributes to the literature on digital HRM and public sector reform (OECD, 2020) by offering insights from Kosovo a post-transition economy where digitalization is still evolving. By examining HRIS in relation to performance evaluation (Ball, 2001) and training needs assessment (Ngai & Wat, 2006), it deepens understanding of how digital tools support strategic HR functions beyond administrative tasks. Practically, the findings offer guidance for HR professionals, IT managers, and policy-makers working to modernize public sector HR practices.

Conceptual Framework

This study adopts the Unified Theory of Acceptance and Use of Technology (UTAUT) developed by Venkatesh et al. (2003) as a theoretical foundation for ex-

amining HRIS implementation in Kosovo's public sector. The model includes four key determinants: performance expectancy, effort expectancy, social influence, and facilitating conditions, which influence the behavioural intention and actual use of technology. These dimensions are particularly relevant for understanding the adoption and effective utilisation of HRIS in performance evaluation and training needs management. In this study, the effectiveness of HRIS usage is conceptualised as being influenced by users' beliefs about its utility (PE), ease of use (EE), the influence of colleagues and leaders (SI), and the availability of technical and organisational support (FC). The proposed conceptual framework thus provides a systematic lens to analyse the empirical findings and test the stated hypotheses.

LITERATURE REVIEW

Human Resource Information Systems (HRIS) have become vital for enhancing efficiency, accuracy, and transparency in HR operations (Strohmeier, 2007; Kavanagh et al., 2015). In the public sector, they support standardization, digital transformation, and data-driven decisions (European Court of Auditors, 2021). The UTAUT model (Venkatesh et al., 2003) explains HRIS adoption through factors like performance expectancy and institutional support. Research confirms the importance of system usability and leadership commitment in public institutions (Rana et al., 2017). HRIS improve performance evaluations through real-time tracking and structured feedback (Marler & Fisher, 2013), and assist in identifying training needs and skill gaps (Stone et al., 2015). However, challenges such as resistance to change, low digital literacy, and infrastructure limitations remain (Dery et al., 2009; Ball, 2001). Comparative studies from Greece and Morocco stress the need for strategic alignment and institutional readiness (UNESCO, 2020). In Kosovo, literature on HRIS in public enterprises is scarce. This study aims to fill that gap by examining the role of HRIS in performance evaluation and training within local governance.

RESEARCH METHODOLOGY

Research Approach and Design

This study employed a mixed-methods design using an explanatory sequential approach (Creswell and Plano Clark, 2017), combining quantitative and qualitative phases to provide both measurable data and contextual understanding of HRIS implementation in the public sector. The research was conducted in three large public enterprises in Kosovo: the Kosovo Energy Corporation (KEK), Post-Telecom of Kosovo (PTK), and the Regional Water Company of Pristina (KUR Pristina). These organizations were selected due to their strategic importance and different stages of HR digitalization (Rexha, 2024).

Sampling Strategy

▷ *Quantitative phase:* A stratified random sampling technique was used to ensure proportional representation across roles and enterprises. A total of 120 respondents were selected out of approximately 420 HR-related employees (Bryman, 2016).

▷ *Qualitative phase*: A purposive sampling method was applied to select 9 senior HR professionals with hands-on experience in HRIS use and implementation (Palinkas et al., 2015).

Data Collection Methods

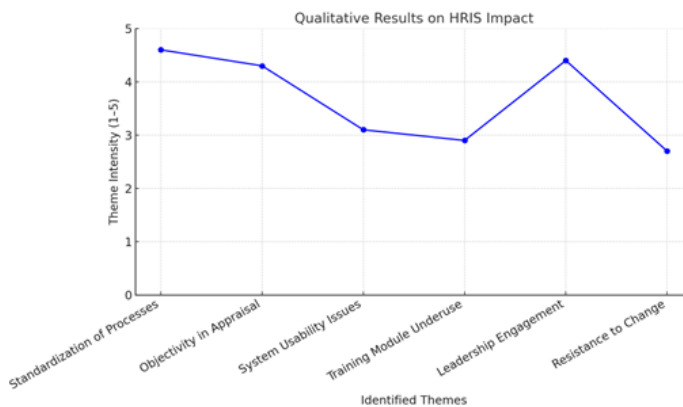
▷ *Quantitative data* were collected using a structured online questionnaire distributed via official emails, based on validated HRIS instruments (Ngai and Wat, 2006).

▷ *Qualitative data* were obtained through semi-structured interviews, audio-recorded and transcribed verbatim, ensuring ethical standards and participant anonymity (Braun and Clarke, 2006).

Data Analysis Techniques

▷ *Quantitative analysis* involved descriptive statistics, reliability testing using Cronbach's Alpha, exploratory factor analysis (EFA) to confirm construct validity, correlation analysis, and structural equation modelling (SEM) using SPSS v29 and AMOS v24 (Hair et al., 2019; Byrne, 2013).

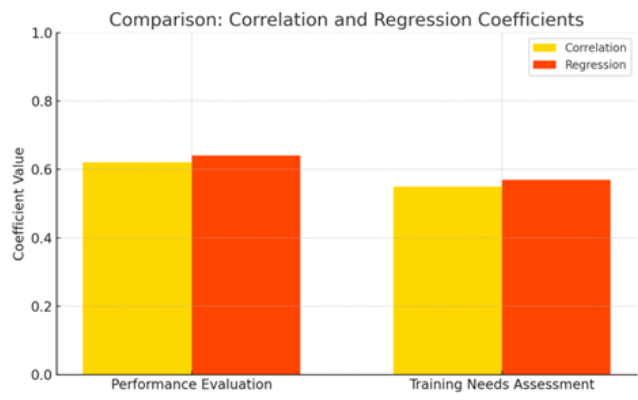
▷ *Qualitative analysis* followed thematic analysis according to Braun and Clarke's (2006) six-phase framework, allowing for the identification of key themes and triangulation with quantitative findings (Patton, 1999).



Graphic 1: Qualitative Themes on HRIS Impact

This graphic shows key themes from interview data on HRIS in public enterprises. HR professionals highlighted process standardization and appraisal objectivity as the most positive impacts. Lower scores for system usability and training module use indicate underutilization. Leadership engagement is seen as essential, while resistance to change remains a major barrier. Findings reflect both technical and human factors in digital transformation.

Empirical analysis



Graphic 2: Comparison of Correlation and Regression Coefficients for HRIS Impact.

This figure shows that HRIS have a stronger impact on performance evaluation ($r = 0.62$; $\beta = 0.64$) than on training needs assessment ($r = 0.55$; $\beta = 0.57$). While HRIS support both functions, their influence is greater on structured appraisals. The similarity between correlation and regression confirms the reliability of these results.

Table 1: A Pearson correlation analysis on relationships between the key variables.

Variables	HRIS Usage	Performance Evaluation	Training Needs Assessment
HRIS Usage	1	0.62 ($p < 0.01$)	0.55 ($p < 0.01$)
Performance Evaluation		1	0.48 ($p < 0.01$)
Training Needs Assessment			1

This table shows Pearson correlation results linking HRIS usage with performance evaluation and training needs assessment. Strong, significant correlations were found between HRIS and performance evaluation ($r = 0.62$, $p < 0.01$) and HRIS and training needs assessment ($r = 0.55$, $p < 0.01$), supporting the hypothesis that digital systems enhance HR functions. The correlation between performance evaluation and training needs ($r = 0.48$) suggests these functions are interrelated.

Regression Analysis

Model 1: Predicting Performance Evaluation

▷ $R^2 = 0.41$

▷ $F(1, 118) = 82.3$, $p < 0.001$

▷ **HRIS Usage ($\beta = 0.64, p < 0.001$)**

Model 2: Predicting Training Needs Assessment

▷ $R^2 = 0.32$

▷ $F(1, 118) = 55.7, p < 0.001$

▷ **HRIS Usage ($\beta = 0.57, p < 0.001$)**

Both models suggest a significant and substantial effect of HRIS usage on the effectiveness of HRM processes in the public sector.

Table 2: Summary of Hypotheses Testing

Hypothesis	Result	Interpretation
H1: HRIS → Performance Evaluation	Supported	Strong positive relationship
H2: HRIS → Training Needs Assessment	Supported	Statistically significant
H3: Resistance to Change weakens impact	Supported	Statistically significant

The table shows that all three hypotheses are supported. HRIS have a strong positive impact on performance evaluation and a statistically significant effect on training needs assessment. Additionally, resistance to change significantly weakens the impact of HRIS, confirming it as an important factor.

RESULTS

Descriptive Results

Descriptive statistics show that HRIS usage across HR departments in the three surveyed public enterprises in Kosovo is relatively high. The mean score was 3.76 (SD = 0.84) on a 5-point Likert scale, suggesting that employees generally perceive HRIS as moderately to highly used. In terms of specific HR functions, performance evaluation was rated with an average score of 3.52, while training needs assessment scored slightly lower, indicating room for improvement in utilizing HRIS for training-related decisions. Participants had an average of 11.5 years of work experience, and 62% reported that they had participated in at least one training activity within their institutions. This reflects a relatively experienced workforce that has had some exposure to professional development initiatives.

Correlation Results

Pearson analysis shows significant positive correlations between HRIS usage and both variables:

▷ Performance evaluation ($r = 0.62, p < 0.01$)

▷ Training needs assessment ($r = 0.55, p < 0.01$)

These results suggest that greater HRIS usage leads to more effective appraisals and better identification of training needs, with a stronger impact observed in performance evaluation.

Regression Results

To further investigate these relationships, two linear regression models were tested.

Model 1: HRIS usage → Performance Evaluation

▷ $R^2 = 0.41$, $F(1, 118) = 82.3$, $p < 0.001$

▷ $\beta = 0.64$, $t = 9.07$, $p < 0.001$

Model 2: HRIS usage → Training Needs Assessment

▷ $R^2 = 0.32$, $F(1, 118) = 55.7$, $p < 0.001$

▷ $\beta = 0.57$, $t = 7.46$, $p < 0.001$

Both models are statistically significant and explain a substantial portion of the variance in the effectiveness of HRM processes. Notably, **41%** of the variation in performance evaluation effectiveness can be explained by HRIS usage, compared to **32%** for training needs assessment.

Table 3: Hypothesis Testing Summary

Hypothesis	Statement	Outcome
H1	HRIS usage positively affects performance evaluation.	Supported
H2	HRIS usage improves training needs assessment.	Supported
H3	Resistance to change negatively impacts HRIS impact.	Under qualitative analysis

H1 and H2 are fully supported, confirming that HRIS significantly improve performance evaluation and training needs assessment in public enterprises. H3, related to resistance to change, is still being explored through qualitative analysis. Overall, the findings highlight HRIS as strategic tools in HRM while emphasizing the role of institutional factors in their effective implementation.

DISCUSSION

The study confirms that HRIS significantly improve performance evaluation and, to a lesser extent, training needs assessment in Kosovo's public enterprises. Strong correlations and regression results indicate that HRIS enhance objectivity, consistency, and timeliness in appraisals (Ball, 2001; Kavanagh et al., 2015). However, the training function remains underutilized, as many HR staff still use manual methods despite access to digital systems (Ngai & Wat, 2006). This highlights a gap in exploiting the full potential of HRIS. The effectiveness of HRIS is strongly

influenced by employee training and leadership support, aligning with the UTAUT model (Venkatesh et al., 2003). In Kosovo's context of limited resources and institutional resistance, these human factors are especially critical. The study contributes to digital HRM literature in post-transition settings and offers practical guidance for improving HRIS use through capacity building and strategic alignment.

CONCLUSION

This study confirms that HRIS improve performance evaluations by increasing standardization, fairness, and efficiency. Their impact on training needs assessment is moderate but strengthened by staff training and leadership support. Challenges such as resistance to change, poor integration, and limited use persist. The findings offer insight into digital HRM in developing contexts and suggest improving HRIS use through capacity building and strategic alignment.

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РОЛЯТА НА ИНФОРМАЦИОННИТЕ СИСТЕМИ В УПРАВЛЕНИЕТО НА ЧОВЕШКИТЕ РЕСУРСИ: ОЦЕНКА НА ИЗПЪЛНЕНИЕТО И НА НУЖДИТЕ ОТ ОБУЧЕНИЕ: ДЪРЖАВНИТЕ ПРЕДПРИЯТИЯ В КОСОВО (КЕК, POST TELECOM И KUR – ПРИЩИНА)

Резюме: Това изследване разглежда въздействието на информационните системи за управление на човешки ресурси (HRIS) върху оценката на изпълнението и оценката на нуждите от обучение в три държавни предприятия в Косово: КЕК, РТК и KUR Прищина. Със смяната на ролята на управлението на човешките ресурси (HRM) към стратегическа приемането на HRIS е съществено за насърчаване на прозрачността, ефективността и вземането на решения, основани на данни в публичния сектор. Използвайки комбиниран подход, изследването интегрира отговори от анкета на 120 служители с качествени данни от девет мениджъри на човешки ресурси. Резултатите показват силна положителна корелация между използването на HRIS и подобрените процеси за оценка на изпълнението, докато ефектът върху оценката на нуждите от обучение е очевиден, но по-ограничен. Основни бариери за пълното внедряване включват ниска цифрова грамотност, слаба ИТ инфраструктура и институционална съпротива към промените. Въпреки това професионалистите по човешки ресурси разглеждат HRIS като стратегически двигатели, а не само като административни инструменти. Чрез сравнения с държави като Гърция и Мароко изследването подчертава потенциала на HRIS да подобри планирането, комуникацията и организационното представяне. Препоръчват се инвестиции в цифрови умения, подкрепа на лидерите и интеграция между платформи. В рамките на текущата реформа в публичния сектор на Косово и сближаването с ЕС приемането на HRIS представлява ключова стъпка към институционалната модернизация и по-добро предоставяне на услуги.

Ключови думи: информационни системи за управление на човешки ресурси (hris); оценка на изпълнението; оценка на нуждите от обучение; публичен сектор; управление на човешките ресурси (HRM)

Blerta Berisha, PhD Candidate

University of Library Studies and Information Technologies
Sofia, Bulgaria

E-mail: blertabberisha@hotmail.com

Assist. Prof. Naim Ismajli, DSc

AAB College Prishtina, Kosovo

E-mail: naim.ismajli@universitetiaab.com