Comparative Analysis of ERP Implementation in Public Sector Enterprises: A Study of Four Oracle E-Business Suite Projects

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Abstract: - Enterprise Resource Planning systems allow businesses, both private and public, to operate more efficiently. This comes with additional factors that influence the implementation of public vector ERPs such as regulations, funding, organizational complexity, infrastructure, and user acceptance or adoption. The paper compares four specific Oracle E-Business Suite implementations within institutions of special importance: the Albanian State Police, the Kosovo Airport, the Kosovo Energy Corporation, and the Albanian Energy Transmitting Operator. It employs a qualitative analysis of case studies with a quantitative analysis comprising data collected from 136 employees of the institutions. Statistical analyzes included descriptive statistics, a Kruskal-Wallis H test, Spearman rank correlations, an exploratory Composite ERP Success Index, and multiple linear regression. Responses rated 0 (no feedback) or left blank were considered missing data. Quantitatively, across all seven revised evaluation dimensions, Kosovo Airport (LIMAK) had the highest evaluation scores, with five of the dimensions differing by organization at the nominal alpha = 0.05 importance level. The organization-level regression model explained 53.4% of the variance in overall ERP satisfaction. The ERP Outcomes and Implementation Conditions ($B = 0.557$, $p < 0.001$) and ERP Competitiveness Potential ($B = 0.347$, $p = 0.0014$) variables were statistically important. Qualitatively, leadership involvement, appropriate training, good infrastructure, and adequate post-implementation support were identified as additional key success factors. For practice, this study provides both a set of recommendations and a clear quantitative framework for the implementation of new ERP systems in a similar public-sector context.

Key-Words: - ERP implementation, public sector, Oracle E-Business Suite, digital transformation, change management, organizational readiness, ERP success factors, ERP satisfaction, Kruskal-Wallis H test, multiple regression analysis.

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1 Introduction

Enterprise Resource Planning (ERP) systems integrate different business processes into a single digital platform and database, often resulting in better data management, improved operational efficiency, and faster decision-making [1], [2]. Governments and public institutions increasingly recognize the potential benefits of ERP systems, including greater financial transparency, more efficient resource management, and improved organizational performance [3], [4]. However, ERP implementation is commonly associated with public-sector-specific challenges such as resistance to change, data-security concerns, limited infrastructure in remote areas, and the need to align system processes with regulatory requirements [5], [6].

This study considers four Oracle E-Business Suite implementation projects in public-sector organizations classified as institutions of special importance. The paper identifies common and organization-specific challenges, as well as the factors that influenced implementation outcomes. By comparing these projects, the study provides insights for policymakers, internal IT professionals, implementation service providers, and organizational leaders considering ERP adoption in public institutions [7].

2 Methodology

2.1 Research Design

This paper applies a mixed quantitative and qualitative comparative approach grounded in direct project experience with Oracle E-Business Suite implementations in the four organizations. Data collection included analysis of project

documentation, review of implementation processes, and interviews with stakeholders at multiple organizational levels, including project managers, IT staff, end users, and management teams. A structured questionnaire was also used to assess implementation challenges, training effectiveness, system usability, and post-implementation benefits [8].

Each ERP implementation was evaluated across several dimensions, including project scope, challenges encountered during implementation, stakeholder engagement, customization requirements, and post-implementation evaluation and support. This approach provides a comparative perspective on the complexity of ERP implementation in public-sector institutions of special importance in developing-country contexts [9].

The authors confirm that this comparative dataset and analysis have not been previously published in any conference proceedings, technical reports, or other publications. The implementation project experience described herein represents original work prepared specifically for this journal submission.

2.2 Survey Instrument

A structured Likert-scale questionnaire (1-5 scale, where 1 represents the least favorable assessment and 5 the most favorable assessment) was administered to 136 employees across the four organizations: Albanian State Police (ASP, n = 74), Kosovo Energy Corporation (KEK, n = 26), Kosovo Airport (LIMAK, n = 19), and Albanian Energy Transmitting Operator (OST, n = 17). Employees who are active users within the ERP system were targeted for this survey. Twenty Likert-scale items were aggregated into seven exploratory evaluation dimensions: ERP Importance and Implementation Feasibility (2 items); ERP Outcomes and Implementation Conditions (5 items); Training and Staff Preparedness (3 items); Implementation and Change Management (6 items); Post-Implementation Support and Communication (2 items); Organizational Preparedness (1 item); and ERP Competitiveness Potential (1 item). Responses coded as 0 represented no feedback and, together with blank responses, were treated as missing rather than as Likert-scale values.

2.3 Statistical Methods

The quantitative analysis used valid 1-5 Likert-scale responses; 0/no-feedback and blank values were excluded from calculations. Multi-item dimension scores were calculated as respondent-level means of available valid items. The item measuring the impact of limited financial resources was reverse-coded before aggregation so that higher scores consistently represented more favorable implementation conditions. Kruskal-Wallis H tests were used for inter-organizational comparisons, followed by pairwise Mann-Whitney U tests with Bonferroni correction where appropriate. Spearman rank correlations were used for associations. The exploratory Composite ERP Success Index averaged available dimension scores when at least six of seven were present, while multiple linear regression used complete cases (n = 133). Internal-consistency estimates were alpha = 0.468 for Importance and Feasibility, 0.623 for Outcomes and Conditions, 0.865 for Training and Preparedness, 0.932 for Implementation and Change, and 0.918 for Post-Implementation Support. Omnibus tests are interpreted at the nominal alpha = 0.05 level.

3 Case Studies Overview

3.1 Albanian State Police

Regulatory requirements and complexity of operations within the organization had a major impact on the ERP implementation project for the Albanian State Police. The biggest challenge was the frequent changes in the organizational structure, which led to constant system adjustments. The Human Resources module had an additional challenge, since it needed to save all historical data for an employee, sometimes very specific, like the number of times the employee was before a disciplinary commission, any penalty taken during his lifetime, up to all anthropometric measures which were needed for uniform procurement [10].

The shortage of Oracle professionals in Albania made implementation and maintenance even more complicated. Another challenge during this implementation was the amount of financial data under the Receivables module, particularly the registration of all traffic violations by all police officers. This requirement posed an infrastructure problem, as all police officers needed to be equipped with a device that could support Oracle e-Business Suite and also connect to the server at all times. Another issue was categorization of firearms, where even within the organization there was no consensus on whether to register them as inventory of fixed assets. Resistance to change was high, as employees didn't want to move to manual processes, but also leadership support and involvement were limited, which made resistance even stronger. As the project was funded by the

European Union, financial provisions for long-term support were almost impossible, as it was not a project that was budgeted, and laws didn't allow budget support against a project not budgeted before [11].

3.2 Albanian Energy Transmitting Operator

Albanian Energy Transmitting Operator's (OST) ERP project encountered issues stemming from the infrastructure and organization of the company. All locations were very remote and had a lot of issues with stable connectivity, thus slowing the initial configuration and day-to-day usage down. Particularly, its historical records migration proved to be a huge challenge. The amount of data that had to be migrated was the energy infrastructure of the whole country, calculated at more than 4 billion EUR, and particularly the asset revaluation method, which was custom-built and incompatible with the standard functionality of Oracle E-Business Suite.

Another issue was with organizational change. The procurement department was concerned about bringing their processes into the ERP system because they relied on informal processes such as telephone transactions and frequent absence from the office, causing further delay in implementing the ERP system procurement inbound processes. This cultural barrier was overcome with a strong change management approach [12].

3.3 Kosovo Energy Corporation

The ERP implementation at Kosovo Energy Corporation was not without its challenges. Problems included infrastructure issues, with all 6 remote sites suffering connectivity problems at times, and sometimes very old hardware. The warehouse workers on remote sites in particular resisted the change, as they were unfamiliar with the technology and the English language, which made using the system difficult, and meant the adoption process was very slow.

Yet another problem involved transferring data from the inventory module. The remote sites were so autonomous that it was nearly impossible to schedule the exact same time for every site to count their inventory, leading to inconsistent data and delays. The company decided to start using all other modules except inventory, but even though the go-live for this specific module was postponed several times, they still have not managed to use it even today. Postponing the go-live for inventory has forced the project implementation team to repeat the training sessions several times, because users claimed not to be ready for go-live and they had forgotten how to use the system between training cycles [8].

3.4 Kosovo Airport

The Kosovo Airport ERP implementation was smoother compared to the other three projects, but challenges still existed. The most important issue came from warehouse employees, who resisted the system due to limited English language proficiency and claimed that the new system was too complex for them. The management and project team decided to provide double training for these employees and offer incentives for the best-performing employees throughout the implementation and usage of the new system [13]. Apart from this challenge, the project faced a few infrastructural issues, but with the help of the management team, everything was solved in a timely manner, which made overall adoption of the ERP way easier.

4 Comparative Analysis

An Enterprise Resource Planning (ERP) system, Oracle e-Business Suite, was rolled out across all four projects to integrate all organizations in the areas of General Ledger, Accounts Payable, Accounts Receivable, Purchasing, Inventory, Tax Management, Fixed Assets, and HR.

Requirements were more complicated at some institutions, particularly for the Albanian State Police, with the HR module and compliance posing major barriers. The energy operators and the Albanian State Police dealt with multiple problems such as infrastructure and legacy data migration. Resistance to change was a common issue for all organizations, particularly from employees with limited English language skills and not feeling comfortable around new technology. The only organization that provided a contrast with the other three was Kosovo Airport, which experienced fewer organizational barriers and had an efficient rollout.

The most influential factor for the successful ERP implementation of all organizations was leadership involvement. On those projects where executives were more involved and provided strong sponsorship, implementation was smoother and users were more confident about the new system. In cases where leadership was a bit disengaged, the resistance from employees was stronger, and delays increased [7], [9].

5 Survey Results and Analysis

A survey of 136 participants across the four institutions-Albanian State Police (ASP), Kosovo Energy Corporation (KEK), Kosovo Airport (LIMAK), and Albanian Energy Transmitting Operator (OST)-provided quantitative evidence on perceptions of ERP performance, training effectiveness, implementation and change management, support, and organizational readiness. Respondents represented specialist, analyst, end-user, and management roles across finance, human resources, services, sales, and production. The largest ERP-experience group had more than five years of experience (47 of 135 valid responses; 34.8%), rather than constituting a majority. A total of 106 of 136 respondents (77.9%) held a bachelor's or master's degree.

Across the revised evaluation dimensions, Kosovo Airport (LIMAK) recorded the highest mean score in every dimension. This descriptive pattern is consistent with the case-study evidence of stronger management involvement, structured training, and continuing technical support [13]. ASP, KEK, and OST reported more moderate scores, although the pattern differed by dimension and should not be interpreted as evidence of causality.

Overall, the combined qualitative and quantitative findings emphasize the importance of continuous user engagement, post-implementation support, organizational preparation, and adaptive change-management strategies [6], [8].

Table 1. Survey results for revised evaluation dimensions on a 1-5 scale (M ± SD)

Dimension	ASP (n=74)	KEK (n=26)	LIMAK (n=19)	OST (n=17)
ERP Importance & Feasibility	3.30 ± 0.55	3.12 ± 0.48	**3.71 ± 0.75**	3.47 ± 0.80
ERP Outcomes & Conditions	2.98 ± 0.39	3.05 ± 0.44	**3.46 ± 0.72**	3.26 ± 0.51
Training & Preparedness	3.22 ± 0.62	3.13 ± 0.64	**3.72 ± 0.58**	3.10 ± 0.89
Implementation & Change	3.20 ± 0.60	3.16 ± 0.55	**3.72 ± 0.67**	3.13 ± 0.97
Post-Impl. Support	3.18 ± 0.67	3.17 ± 0.69	**3.58 ± 0.80**	3.21 ± 0.99
Organizational Preparedness	3.14 ± 0.79	3.00 ± 0.69	**3.63 ± 1.01**	3.24 ± 1.03
Competitiveness Potential	2.88 ± 0.75	3.23 ± 0.71	**3.47 ± 0.84**	3.06 ± 1.09

Note: Group sizes are shown in the table header. Valid n is lower where responses were missing (ASP Organizational Preparedness n = 73; ASP Competitiveness Potential n = 72).
Source: created by the authors

Table 1 show that LIMAK achieved the highest mean scores across all seven revised evaluation dimensions. Particularly strong results were observed for ERP Importance and Implementation Feasibility (M = 3.71, SD = 0.75), Training and Staff Preparedness (M = 3.72, SD = 0.58), Implementation and Change Management (M = 3.72, SD = 0.67), and Organizational Preparedness (M = 3.63, SD = 1.01). KEK reported the lowest Organizational Preparedness score (M = 3.00, SD = 0.69). ERP Outcomes and Implementation Conditions ranged from 2.98 in ASP to 3.46 in LIMAK. After no-feedback codes were treated as missing, ASP Competitiveness Potential was M = 2.88 (SD = 0.75; n = 72 valid responses).

5.1 ERP Importance and Implementation Challenges

The combined ERP Importance and Implementation Feasibility dimension averaged approximately 3.35 across all organizations. The direct ERP-importance item shown in Figure 1 averaged 3.68 across 130 valid responses, indicating that respondents generally viewed ERP as important to organizational objectives [3]. The distinction is important because the composite also includes perceived implementation and maintenance feasibility.

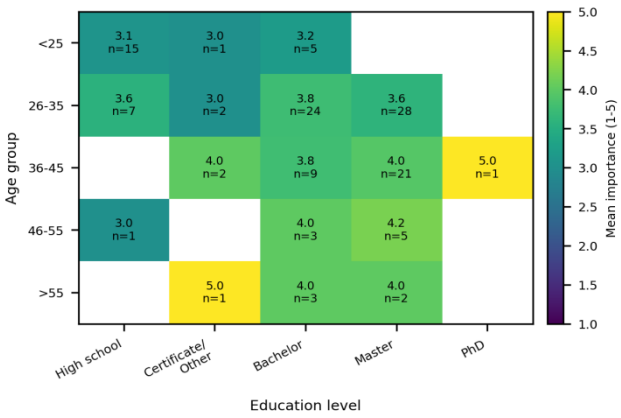

Fig. 1: ERP Importance Item by Age Group and Education Level
Source: created by the authors

The revised ERP Outcomes and Implementation Conditions dimension averaged approximately 3.10. This exploratory composite combines perceived operational outcomes with enabling implementation conditions and reverse-codes the financial-resource constraint item so that higher values consistently represent more favorable conditions [4].

As shown on Figure 2, LIMAK recorded the highest score on ERP Outcomes and Implementation Conditions (3.46), followed by OST

(3.26), KEK (3.05), and ASP (2.98). The organization-level pattern is consistent with differences in infrastructure, resource constraints, implementation support, and resistance to change described in the case studies [5].

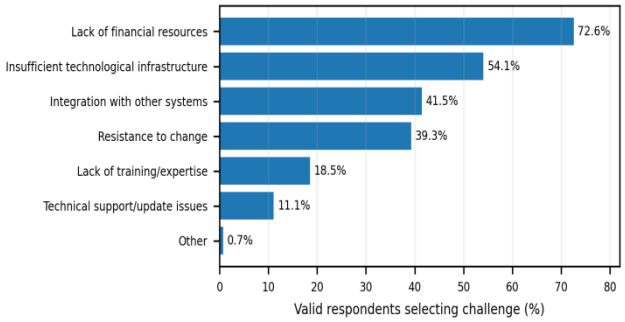

Fig. 2: Top Implementation Challenges (% of 135 Valid Respondents)
Source: created by the authors

5.2 Training and Change Management

Across the four organizations, Training and Staff Preparedness differed significantly by organization (Kruskal-Wallis p = 0.0208). LIMAK's average of 3.72 reflected the success of structured, user-focused training programs that simplified ERP adoption. In contrast, OST (3.10) and KEK (3.13) showed the need to plan more targeted and ongoing user education. These results, that are also displayed on Figure 3 show that ongoing, focused training is important, but they don't prove that training directly increases overall ERP satisfaction [6].

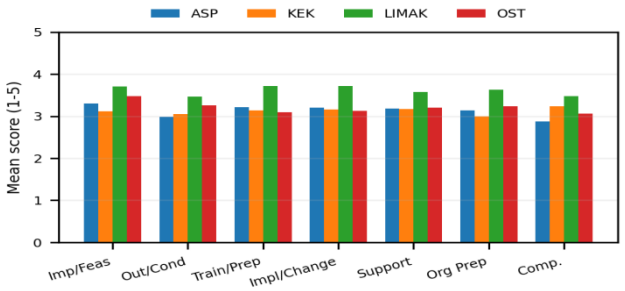

Fig. 3: Average Rating for Revised Evaluation Dimensions by Company
Source: created by the authors

Implementation and Change Management showed a similar descriptive pattern: LIMAK led with 3.72, ASP scored 3.20, KEK 3.16, and OST 3.13, results which are shown on Figure 4. The overall Kruskal-Wallis test reached the 0.05 threshold (H = 7.84, p = 0.0495), although no individual pairwise comparison remained significant after Bonferroni correction. The qualitative case evidence nevertheless indicates that management-user alignment and leadership engagement differed substantially across projects [7].

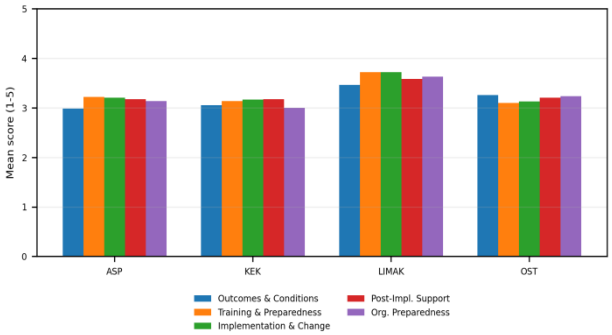

Fig. 4: Selected Implementation Dimensions by Company
Source: created by the authors

5.3 Technical Support and System Sustainability

Employees who participated in the questionnaire highlighted post-implementation technical support as important to ERP sustainability [8].

The overall average rating of 3.24, as displayed on Figure 5 shows moderate satisfaction, even though the four organizations had different variations. LIMAK (3.58) received the most positive feedback for its proactive maintenance and vendor collaboration. ASP (3.18), KEK (3.17), and OST (3.21) pointed out the need to have more IT Support people in-house with more technical knowledge of Oracle e-Business Suite, but also the need for better collaboration with the vendor providing these services.

The Kruskal-Wallis test did not identify a statistically significant difference among organizations for this dimension (H = 3.00, p = 0.3922), indicating that the descriptive differences should be interpreted cautiously.

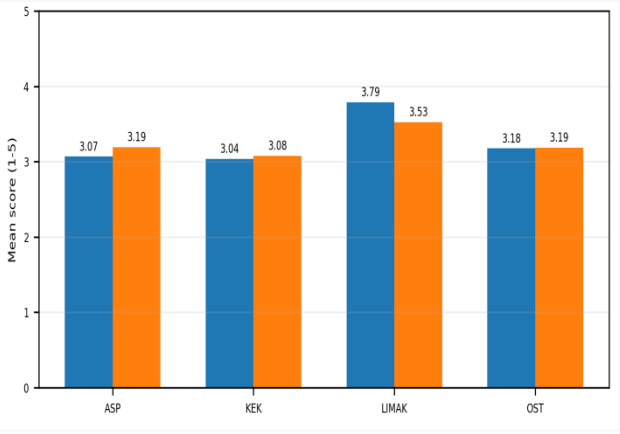

Fig. 5: Direct Technical-Support Item Scores During and After Implementation
Source: created by the authors

5.4 Organizational Readiness and Adaptability

Organizational Preparedness averaged approximately 3.19 as also shown on Figure 6. LIMAK's higher score (3.63) reflected more mature project planning and resource coordination, while KEK (3.00), ASP (3.14), and OST (3.24) showed lower readiness, particularly in aligning internal processes before go-live. Differences between the organizations were not statistically significant for this dimension ($H = 4.75$, $p = 0.1912$) [9].

The average number of implementation-challenge categories selected per valid respondent was 2.65 in KEK, 2.34 in ASP, 2.26 in LIMAK, and 2.25 in OST (n = 16 valid OST responses). Across 135 valid challenge responses, lack of financial resources was the most frequently selected challenge (72.6%), followed by insufficient technological infrastructure (54.1%), integration with other systems (41.5%), and resistance to change (39.3%). Challenge count showed a small inverse association with Organizational Preparedness that reached nominal statistical significance (Spearman rho = -0.173, $p = 0.0453$, n = 134). Organizational Preparedness was also positively associated with Training and Staff Preparedness (rho = 0.592, $p < 0.001$) and Implementation and Change Management (rho = 0.686, $p < 0.001$).

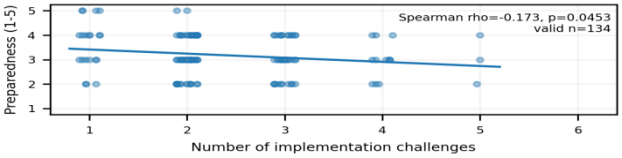

Fig. 6: Respondent-Level Organizational Preparedness vs Number of Implementation Challenges
Source: created by the authors

5.5 Strategic Perception of ERP Systems

It is very interesting that part of the participants in the questionnaire showed optimism for the strategic potential of ERP systems [4]. ERP Competitiveness Potential had an overall mean of 3.05 across 134 valid responses. LIMAK scored 3.47, followed by KEK (3.23), OST (3.06), and ASP (2.88; n = 72 valid responses). These scores, as displayed on Figure 7 indicate variation in expectations regarding ERP's future contribution to organizational competitiveness and digital transformation [3].

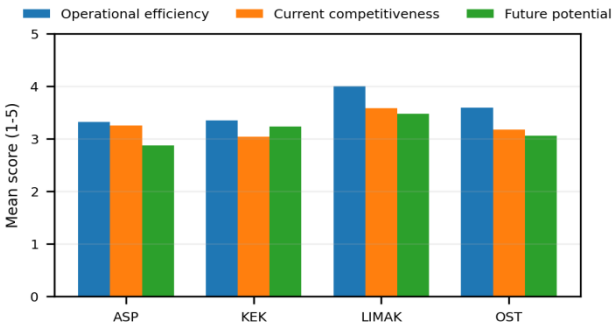

Fig. 7: ERP Impact Metrics by Company
Source: created by the authors

5.6 Summary

Descriptive statistics of the questionnaire showed that the levels of direct ERP importance were rated high, and the levels of implementation outcome, training, change management, support, readiness, and competitiveness perceptions were rated differently in the organizations under study. The descriptive results show that LIMAK received higher ratings. Qualitative evidence suggests that specific training, leadership engagement and aftercare could have developed an environment conducive to implementation, while the regression analysis identified ERP Outcomes and Implementation Conditions and ERP Competitiveness Potential as the independent quantitative predictors of overall satisfaction [6], [7]. Overall, the findings indicate that successful ERP implementation in public institutions requires continued investment in people, processes, management involvement, infrastructure, and vendor capability assessment in addition to the technology itself [2], [9].

6 Quantitative Analysis and Modeling

6.1 Descriptive Statistics

The descriptive statistics in Table 1 summarize the seven revised ERP evaluation dimensions using valid 1-5 responses. Values coded 0 and blank responses were treated as missing, and the financial-resource constraint item was reverse-coded before calculating ERP Outcomes and Implementation Conditions. LIMAK recorded the highest mean score in every dimension, while ASP, KEK, and OST showed more moderate evaluations. These descriptive results provide the basis for the inferential analyses that follow.

6.2 Kruskal-Wallis Tests and Post-Hoc Comparisons

Given the ordinal nature of Likert-scale responses and unequal sample sizes, Kruskal-Wallis H tests were conducted for each revised evaluation dimension. At the nominal alpha = 0.05 level, inter-organizational differences were found for five of seven dimensions: ERP Importance and Implementation Feasibility (H = 8.80, p = 0.0321), ERP Outcomes and Implementation Conditions (H = 8.30, p = 0.0402), Training and Staff Preparedness (H = 9.75, p = 0.0208), Implementation and Change Management (H = 7.84, p = 0.0495), and ERP Competitiveness Potential (H = 7.96, p = 0.0469). Bonferroni-adjusted pairwise Mann-Whitney U tests showed that LIMAK scored significantly higher than KEK for ERP Importance and Implementation Feasibility and higher than both ASP and KEK for Training and Staff Preparedness. No pairwise contrast remained significant after correction for Outcomes and Conditions, Implementation and Change, or Competitiveness Potential. Post-Implementation Support (H = 3.00, p = 0.3922) and Organizational Preparedness (H = 4.75, p = 0.1912) did not differ significantly across organizations. Results of Kruskal-Wallis Test can be found on Table 2.

Table 2. Kruskal-Wallis Test Results

Dimension	H	p-value
Importance & Feasibility	8.80	0.0321
Outcomes & Conditions	8.30	0.0402
Training & Preparedness	9.75	0.0208
Implementation & Change	7.84	0.0495
Post-Impl. Support	3.00	0.3922
Organizational Preparedness	4.75	0.1912
Competitiveness Potential	7.96	0.0469

Source: created by the authors

6.3 Correlation Analysis

Spearman rank correlation analysis was used to examine relationships among the seven revised ERP evaluation dimensions using pairwise valid observations. All correlations were positive. The strongest relationships were between Training and Staff Preparedness and Implementation and Change Management (rho = 0.844), Implementation and Change Management and Post-Implementation Support (rho = 0.793), and Organizational Preparedness and Post-Implementation Support (rho = 0.714). Implementation and Change Management was also associated with ERP Outcomes and Implementation Conditions (rho = 0.630) and ERP Competitiveness Potential (rho = 0.695) as shown on Table 3. These results indicate that implementation quality is associated with several mutually reinforcing organizational factors rather than a single isolated dimension.

Table 3. Spearman Correlation Matrix (I=Imp/Feas; O=Outcomes; T=Training; C=Change; S=Support; P=Prep; K=Comp.)

Dim.	I	O	T	C	S	P	K
Imp/Feas	1	.53	.41	.49	.39	.46	.35
Out	.53	1	.53	.63	.57	.52	.58
Train	.41	.53	1	.84	.69	.59	.56
Chg	.49	.63	.84	1	.79	.69	.70
Sup	.39	.57	.69	.79	1	.71	.67
Prep	.46	.52	.59	.69	.71	1	.63
Comp	.35	.58	.56	.70	.67	.63	1

Source: created by the authors

6.4 Composite ERP Success Index

To provide an overall descriptive comparison of ERP implementation performance, an exploratory Composite ERP Success Index was calculated as the average of available revised dimension scores when at least six of seven dimensions were present. Missing/no-feedback dimensions were excluded from the respondent-specific denominator. Because the dimensions include both multi-item and single-item measures, and because Importance and Implementation Feasibility showed weak internal consistency, this index is used for descriptive ranking rather than as a validated latent scale.

LIMAK achieved the highest composite score (3.614), followed by OST (3.208), ASP (3.131), and KEK (3.125). The 0.006 difference between ASP and KEK indicates that their overall descriptive performance was essentially similar, while LIMAK remained clearly higher across the revised composite framework. Table 4 displays the Score and the Rank for each of the companies.

Table 4. Composite ERP Success Index

Company	Score	Rank
LIMAK	3.614	1
OST	3.208	2
ASP	3.131	3
KEK	3.125	4

Source: created by the authors

6.5 Regression Model for ERP Satisfaction

Multiple linear regression analyzes were used to assess the extent to which the new evaluation dimensions accounted for the variance in overall ERP satisfaction independently from each other. The survey item for overall ERP experience was

used as the dependent variable. The seven revised dimensions were entered simultaneously. 0/no feedback and missing values were treated as missing. The output reported in Table 5 displays unstandardized regression coefficients (B), standard error, t statistic and associated p-value for the complete cases (n = 133). The updated model explained 53.4% of the variance in overall ERP satisfaction ($R^2 = 0.534$; Adjusted $R^2 = 0.508$). ERP Outcomes and Implementation Conditions (B = 0.557, p = 0.0009) and ERP Competitiveness Potential (B = 0.347, p = 0.0014) were the only statistically meaningful independent variables. The coefficients for the Training and Staff Preparedness, Implementation and Change Management, and Post-Implementation Support were positive but insignificant. The coefficients for ERP Importance and Implementation Feasibility and Organizational Preparedness were negative but insignificant. VIF values were below 5 for all predictors except for Implementation and Change Management (VIF = 7.87) pointing to meaningful overlap between the implementation-related dimensions, such that the resulting coefficients for the individual predictors should be interpreted cautiously.

Table 5. Multiple Regression Predicting ERP Satisfaction (complete-case n = 133)

Predictor	**B**	**SE**	**t**	**p**
Intercept	-0.539	0.370	-1.457	0.1477
Imp./Feas.	-0.117	0.119	-0.983	0.3274
Outcomes/Conditions	0.557	0.163	3.412	<0.001
Training/Preparedness	0.240	0.164	1.461	0.1466
Implementation/Change	0.128	0.223	0.576	0.5656
Post-Impl. Support	0.088	0.143	0.612	0.5416
Org. Preparedness	-0.119	0.102	-1.167	0.2456
Competitiveness	0.347	0.107	3.259	0.0014

Source: created by the authors

7 Conclusion

The comparative study called for ERP implementations to align with organizational structures, regulations, and institutional readiness in the public sector. The four organizations experienced different combinations of data migration issues, infrastructure inadequacies, resource challenges, and organizational change resistance. In the case studies, Oracle E-Business Suite was associated with more process integration and better information management, although institutions had different opinions on how successful it was.

Revised analysis supported these results and reversed the financial-resource constraint item (treating 0/nofeedback and blanks as missing values and differentiating exploratory composite measures from survey items). In addition, the average score across the seven revised evaluation dimensions was highest for LIMAK. At the nominal alpha = 0.05 level, Kruskal-Wallis tests identified differences in ERP Importance and Implementation Feasibility (H = 8.80, p = 0.0321), ERP Outcomes and Implementation Conditions (H = 8.30, p = 0.0402), Training and Staff Preparedness (H = 9.75, p = 0.0208), Implementation and Change Management (H = 7.84, p = 0.0495), and ERP Competitiveness Potential (H = 7.96, p = 0.0469).

Correlation analysis showed strong positive associations among training, implementation and change management, support, organizational preparedness, and competitiveness perceptions. In the regression model ($R^2 = 0.534$; Adjusted $R^2 = 0.508$), ERP Outcomes and Implementation Conditions (B = 0.557, p < 0.001) and ERP Competitiveness Potential (B = 0.347, p = 0.0014) were significant independent predictors of overall ERP satisfaction. Quantitative findings stress operational feasibility, conducive conditions, and calculated importance, while qualitative findings stress leadership, training and development, infrastructure implementation, and continued support.

These results confirm that an ERP implementation is more of an organizational change initiative than a technical implementation, and it reiterates the importance of leadership, good change management and training, technical support, and realistic expectations of infrastructure and resources [7], [9]. These correlations should be interpreted as relationships, not causal effects. The Internal Consistency of ERP Importance and Implementation Feasibility was poor (Cronbach's alpha = 0.468), and that of ERP Outcomes and Implementation Conditions was moderate (alpha = 0.623). Therefore, the Composite ERP Success Index should be interpreted as exploratory and the Implementation and Change Management variable itself showed high multicollinearity (VIF = 7.87), and the omnibus group tests were interpreted heuristically at the nominal alpha = 0.05 level. Future research may replicate the measurement model on larger samples and explorations of other public-sector organizations, or add dimensions from the cloud-based ERP, artificial intelligence and high-level analytics literature [3], [4].

Declaration of Generative AI and AI-assisted Technologies in the Writing Process

During the preparation of this work, the author(s) utilized artificial intelligence (AI) technologies solely for the purpose of linguistic refinement and grammatical correction. Following the application of these tools, the author(s) comprehensively reviewed, verified, and edited the resulting text. The author(s) maintain full accountability and responsibility for the accuracy, integrity, and final content of the publication.

References:

[1] Y. Gong, J. Yang, and X. Shi, Towards a comprehensive understanding of digital transformation in government: Analysis of flexibility and enterprise architecture, Government Information Quarterly, vol. 37, no. 3, 2020 https://doi.org/10.1016/j.giq.2020.101487.

[2] N. Roztocki, W. Strzelczyk, and H. R. Weistroffer, Enterprise systems in the public sector: Current research landscape, Information Systems Management, vol. 42, no. 2, pp. 161–188, 2025. https://doi.org/10.1080/10580530.2024.2361617.

[3] L. Tangi, M. Janssen, M. Benedetti, and G. Noci, Digital government transformation: A structural equation modelling analysis of driving and impeding factors, *International Journal of Information Management*, vol. 60, 2021. https://doi.org/10.1016/j.ijinfomgt.2021.102356.

[4] B. Zhu, R. Zhong, and C. Wei, Measuring digital government service performance: Evidence from China, China Economic Review, vol. 83, 2024. https://doi.org/10.1016/j.chieco.2023.102105.

[5] G. T. Pontoh, A. Indrijawati, Arga Bhayangkara Handayanto, Try Sutriani Supardi, and R. A. Tahang, Transforming public sector operations with enterprise resource planning: Opportunities, challenges, and best practices, Corporate Law & Governance Review, vol. 6, no. 2, 2024. https://doi.org/10.22495/clgrv6i2p1.

[6] Z. T. Butarbutar, P. W. Handayani, R. R. Suryono and W. S. Wibowo, Systematic literature review of Critical success factors on enterprise resource planning post implementation, Cogent Business & Management, vol. 10, 2023. https://doi.org/10.1080/23311975.2023.2264001.

[7] M. Idilbi and E. Abu-Shanab, Critical Success Factors for ERP Implementation: Two Directions Focusing on Employee Perceptions in Qatar, *International Journal of Technology and Human Interaction*, vol. 18, no. 1, 2022. https://doi.org/10.4018/IJTHI.297613.

[8] M. Bradford, R. A. Bucy, and M. Adıvar, Implementing ERP with Maintenance and Support in Mind: Exploring the Efficacy of Application Management Services for the Post-Implementation Phase, *Journal of Information Systems*, vol. 38, no. 2, 2024. https://doi.org/10.2308/ISYS-2022-064.

[9] M. Ashar, H. Haliah, and Nirwana, ERP in Public Sector Reform: A Systematic Literature Review of Technological, Organizational, and Institutional Factors, Journal Research of Social Science, Economics, and Management, vol. 4, no. 10, 2025. https://doi.org/10.59141/jrssem.v4i10.810.

[10] Khan, M. Y., Ab-Rahim, R., & Yeng, S. K. (2025). A Conceptual Overview of Enterprise Resource Planning Systems, *International Journal of Academic Research in Business and Social Sciences*, 15(5), 1339–1363. http://dx.doi.org/10.6007/IJARBSS/v15-i5/25490.

[11] N. Zuma and N. Sibindi, Challenges of implementing enterprise resource planning and the role of knowledge management: Evidence from the National Youth Development Agency, South African Computer Journal, vol. 35, no. 2, 2023. https://doi.org/10.18489/sacj.v35i2.17410.

[12] M. R. N. M. Qureshi, Evaluating Enterprise Resource Planning (ERP) Implementation for Sustainable Supply Chain Management, Sustainability, vol. 14, no. 22, 2022. https://doi.org/10.3390/su142214779.

[13] S. Pu, Y. Ou, and O. Bai, Government Public Services and Regional Digital Transformation for Sustainable Development: An Innovation Ecosystem Perspective, Sustainability, vol. 17, no. 12, 2025. https://doi.org/10.3390/su17125314.

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All authors contributed substantially to the conception and design of the study, data collection, data analysis, and interpretation of results. Ernest Shahini drafted the manuscript, while Denis Saatciu and Ana Ktona critically revised it for important intellectual content. All authors reviewed and approved the final version of the manuscript. The authors confirm that no undisclosed individuals contributed to the preparation of this article

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