Analysis of ERP Core System Integration Issues with Other HR Applications

Executive Summary

The main challenge comes from HR data being spread across multiple applications (ERP Core System, BUMN e-Office, E-Portal). As a result, routine processes—such as training/certification validation, issuance of transfer decrees, and candidate shortlisting—are done manually, consuming significant time and carrying high compliance and workplace safety risks.

The recommended solution is a targeted integration based on risk and compliance priorities, using middleware/API so each application continues operating independently while key data remains automatically synchronized.

Problem Identification

Key issues based on user feedback:

- Training & certification data are processed manually because official letters are issued in BUMN e-Office (not ERP Core System). Evaluating the number and list of employees with training/certification requires manual data extraction and checking → time-consuming.
- Transfer decrees (SK mutasi) are created in BUMN e-Office; only after issuance does the HR service unit update ERP Core System. This includes operator reassignments or multiskill rotations. The process is inefficient, and data between e-Office and ERP Core System remain unintegrated → high risk of assigning operators without the required certification (audit findings, potential workplace accidents).
- Candidate data for vacant positions require queries from both ERP Core System & E-Portal (job clusters) → manual work slows down long/shortlisting.

User Questions

1. Should all applications be fully integrated with ERP Core System?
2. What are the impacts—especially in terms of budget—since HRIS and its governance are managed at the Holding level?

3. As end users, we want efficiency and accurate data for correct decision-making & planning—what are the implications?

Answers & Analysis

1. Should ERP Core System be integrated with all related applications?

Ideally, yes—particularly for critical data domains impacting safety, compliance, and strategic decisions, such as:

- Training & certification (linked to transfer decrees and operator assignments).
- Job clusters, candidates, and vacancies.
- Decrees (SK) & employee movements.

Risks if not integrated:

- Data inconsistency between ERP Core System and BUMN e-Office.
- Manual processes prone to input errors.
- Excessive time spent on administration instead of analysis.
- High operational risk (misassignment of uncertified operators).

Note: Full integration does not require migrating all processes into ERP Core System. A more agile approach is middleware/enterprise integration (API gateway, ESB, event streaming, or data warehouse) so applications remain functional but key data syncs automatically.

2. Impact (including budget & Holding governance)

- Additional budget is almost certain, covering:
    - Development of interfaces/APIs between ERP Core System, BUMN e-Office, E-Portal, and others.
    - Adjustments in existing applications (fields/formats, event hooks, security).
    - Infrastructure (middleware, data warehouse, ETL/ELT tools, monitoring & audit trail).
- Governance & ownership: Holding must approve integration (project prioritization, budget allocation, ERP Core System vendor coordination, SLA).

- Change management: user training, structured UAT, updated SOPs, cutover & fallback mechanisms.

TCO perspective: integration costs are typically lower than continuing manual processes, which create compliance risks, safety hazards, audit findings, and delays in filling critical roles.

3. Impact on users (efficiency & data accuracy)

With targeted integration:

- Efficiency: no more repetitive manual reconciliation.
- Accuracy & real-time: faster, better decisions for transfers, assignments, and recruitment.
- Auditability & compliance: clear data trails reduce audit findings.
- Workforce planning: training/certification availability and candidate eligibility can be derived automatically.

Recommended Practical Steps

1) Quick Wins (8 weeks):

- Rule-based integration preventing operator assignment without valid certification (validation gate before decree takes effect).
- Sync SK metadata from e-Office to ERP Core System (event-based or daily batch) to reduce update delays.
- Centralized dashboard for monitoring training & certification status (with expiry notifications).

2) Next Phase (2–4 months):

- Bidirectional APIs between ERP Core System ↔ e-Office ↔ E-Portal for job, competency, certification, and vacancy data.
- HR data warehouse for analytics (eligibility matrix, job supply-demand, audit findings Pareto, vacancy aging).
- Master Data Management (MDM) & data quality rules.

3) Governance & Risk:

- Define a single source of truth per domain (e.g., certification in e-Office, assignments/org structure in ERP Core System).
- Synchronization SLA, RACI matrix, and role-based access controls.
- Structured UAT, phased cutover, and rollback plans.

Conclusion

Not all modules need immediate full integration. Prioritize domains related to safety, compliance, and strategic decisions (certification–assignment, transfer decrees, candidate/job cluster data). Use a phased, middleware/API-based approach to deliver quick wins while controlling costs and managing change risks.

Terminology

ERP Core System: Systems, Applications, and Products (ERP system)

BUMN: State-Owned Enterprise

HR: Human Resources

HRIS: Human Resources Information System

SK: Decree/Appointment Letter

SPI: Internal Audit Unit

API: Application Programming Interface

ESB: Enterprise Service Bus

ETL / ELT: Extract, Transform, Load / Extract, Load, Transform

DWH: Data Warehouse

SLA: Service Level Agreement

UAT: User Acceptance Testing

SOP: Standard Operating Procedure

TCO: Total Cost of Ownership

MDM: Master Data Management

RACI: Responsible, Accountable, Consulted, Informed matrix

e-Office: Electronic Office system

E-Portal: Platform for job cluster data in BUMN