

Post-Merger ERP and BI Initiatives Integration Strategies and Frameworks for Success

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ABSTRACT

The paper focuses on the strategies and frameworks for effecting Enterprise Resource Planning and Business Intelligence systems in a merger and acquisition environment. The major challenges are presented, such as data inconsistency, misalignment of processes, cultural resistance, and technical compatibility, with robust solutions like data standardization, process reengineering, and advanced dashboarding techniques. Emphasis is, therefore, placed on practical case studies of the best industry practices that delineate how these strategies enhance operational performance and the decision-making process. These insights can help shepherd an organization through complex integration landscapes and assure a cohesive, successful merger transition.

Keywords: ERP integration, BI tools, Mergers and acquisitions (M&As), Data standardization, Process reengineering, Change management, Dashboarding, Operational performance

1. Introduction

It is for this highly competitive level that characterizes today's business environment, that companies are quickly adopting and opting for mergers and acquisitions as a course to expand business. However, the main challenge that these firms face is how to consolidate the different information systems of other firms involved, especially in Enterprise Resource Planning and Business Intelligence tools. This is important because such systems handle core data and processes as far as fluent operations are concerned.

Integration of the ERP and BI systems can turn out to be intricate and thorny. Every company normally has its processes, technologies, and corporate cultures, which will complicate the integration process without a doubt. The challenge is combining these systems in such a manner that, besides keeping away from disruption in day-to-day operations, the overall performance also improves.

The paper will present practical strategies and methods for

successfully merging ERP and BI. Companies leverage better decision-making with the data to enable a seamless merger process while improving performance. We shall now examine the tried-and-tested methods to respond to the technical challenges and cultural differences of mergers, thus mapping out a course through which firms can achieve the value they are looking for in their M&A activities.

This comprehensive guide will aid organizations in balancing and reconciling the ERP and BI systems so that these companies can make good use of related synergies and achieve long-term sustainability in the post-merger scenario. This revised version provides a better-structured and more complete introduction to set the scene for the detailed exploration in the rest of the paper of strategies and methods for ERP and BI integration.

2. Strategic Importance of ERP and BI Systems in Mergers and Acquisitions

In this regard, the integration of ERP and BI systems in merger and acquisition deals assumes a critical dimension to realize

strategic synergies, cost savings, and improved operational efficiency. M&As have turned into some of the prevalent strategies aimed at growing a corporation and expanding its market. However, the success of such ventures often depends on how well information systems are integrated, especially the ERP system and the BI tool that make up the backbone of modern business operations.

ERP systems bring together various functions, such as finance, human resources, supply chain management, and customer relationship management, to aid organizations in process automation and decision-making. BI tools complement ERP with advanced data analytics, reporting, and visualization capabilities. The integration of such systems post-merger is of prime importance to achieving operational efficiency and realizing synergies.

Added to this is the complexity of aligning different corporate cultures, business processes, and technological infrastructures. Enterprise resource planning systems integration improves data accuracy as it reduces redundancies and manual entry—these reduce human error and waste much time. This integration provides employees with access to real-time accurate and complete information to support better decision-making¹.

Besides, BI integration in M&As involves the strategy of interconnecting several systems like ERP, CRM, HR systems, and so forth, for the smooth and consistent extraction of data. The automation of data extraction and transformation processes can reduce manual effort mostly to sustain concentration on the core activities of M&A².

An actionable plan on its own is indispensable for successful integration, which needs to include system evaluation, data migration, process standardization, and user training. This would help businesses fight the complexities of ERP and BI integration with some technological solutions and lay down communication channels to get the expected gain from the merger or acquisition.

In other words, the integration of ERP and BI systems has grown to be one of the major factors in M&As, delivering a single platform with data-driven insight and improved operational performance. The strategies and methodologies for effective integration of ERP and BI post-merger are the themes of this paper, explaining how data-driven insight can strengthen decision-making capability³.

3. Challenges in Post-Merger ERP and BI Integration

Several challenges face the post-merger integration of ERP and BI systems; the solving of these issues is central to realizing the successes or fruits of a merger or acquisition. These are critical points of understanding if one is to see full merger potential realized.

Data Inconsistency: Harmonizing Disparate Data Structures

This may lead to inconsistent data since the format, structure, and quality of the data are different in both organizations. Various companies can have different ways of naming and structuring data, which may create integration challenges. For example, naming conventions and data types used for similar data fields are different in different companies; thus, another company may use other naming conventions or data types, leading to confusion and errors during the integration⁴.

A data governance framework is important in the sense that it

mitigates data inconsistency. Procedures for data standardization, cleaning, and transformation will be part of the framework. Common data standards and formats will ensure that integrated data is free from inconsistencies and inaccurate values. This framework keeps the integrity of the data and makes the flow of the data seamless across systems⁵.

Process Misalignment: Streamlining Operations Across Merged Entities

Different business processes within different ERP systems can be the reason for operational inefficiency. For instance, one company may have an automated procurement process, but the other company may depend on a human approval process that creates delays and inconsistencies.

Leaders need to properly analyze and reengineer business processes to meet the strategic objectives of the merged entity. Business process reengineering refers to redesigning workflows to make them free of redundancies, many of which are created due to a merger and hence improve productivity. As a result of process alignment, organizations will be able to achieve efficiency that also helps to carry out their strategic objectives.

Cultural Resistance: Overcoming Change Management Barriers

Moreover, staff can be resistant to changes in well-known systems and processes, hence hampering the integration. Cultural differences across the merging organizations can increase this resistance, hence causing a lack of collaboration and adaptation.

Cultural resistance must be managed under an effective change management program, in which communication strategies, training programs, and stakeholder engagement are oriented toward building buy-in and support for the cause. Organizations can tape cultural factors that help facilitate the smooth adoption of integrated ERP and BI systems by encouraging a culture of collaboration and adaptation⁶.

Technical Compatibility: Integrating Diverse IT Systems

As it combines systems based on various ERP architectures, BI tools, and technologies, which can differ tremendously, integration may be very difficult. For example, a cloud-based ERP system can require a great deal of customization and middleware solutions to be integrated with an on-premise tool for business intelligence.

Finally, perform an IT due diligence assessment on the technical compatibility of the systems. This shall contain IT hardware, the safety of the network, and software integration capabilities. In this way, organizations may early enough identify potential compatibility problems to plan for customizations or replacements that would allow seamless integration.

4. Strategies for ERP and BI System Harmonization

A strategic approach would be required for the integration of ERP and BI systems post-merger so that the merged entity is aligned with its corporate vision and achieves its objectives. Here are the steps for each strategy in detail, including practical examples and case studies from the industry.

Developing an Integrated Business Systems Strategy

The business systems strategy should support the overall corporate vision. The step is vital in ensuring that the integration supports the strategic goals of the merged entity. This involves

knowing the needs and objectives that are unique to the organizations and piecing them together into a cohesive plan.

Any strategic alignment framework should provide for goal setting, stakeholder analysis, risk assessment, and roadmap development. This framework ensures that all facets of the integration are considered but aligned with the broader corporate strategy.

Table 1: Gantt Chart for Business Systems Strategy Implementation.

Task	Q1	Q2	Q3	Q4	Q5	Q6
Stakeholder Analysis	X					
Goal Setting	X					
Risk Assessment			X			
Strategy Development			X			
Implementation Roadmap				X		
Execution					X	X

Adopting a Phased Integration Approach

This phased integration approach will minimize disruptions and allow for iterations of enhancement. Such an approach will no doubt provide for the prioritization of the critical functions while the integration of less critical systems on an incremental basis proceeds to minimize the risk of operational downtime.

Such a phased integration plan should detail explicit milestones, deliverables, and evaluation criteria. This plan provides a structured approach toward integration, as every phase has to be successful before there is a move to the next phase.

Table 2: Phased Integration Timeline.

Phase	Duration	Key Milestones
Phase 1: Planning	6 months	Systems Audit, Strategy Development
Phase 2: Critical Integrations	12 months	Core ERP Functions Integration
Phase 3: Full Integration	18 months	Complete BI Integration
Phase 4: Optimization	6 months	Post-Integration Review

Implementing Data Standardization

Data standardization leads to improved data integration and accuracy throughout the organization. Specific data standards and formats are designed, which further enhance the flow and consistency of the data.

The framework of data standardization needs to incorporate all the steps involved in data cleansing, transformation, and validation to ensure the accuracy and consistency of data. This framework is needed at the front end to make the data ready for integration.

Reengineering Processes to Align with New Business Goals

Reengineering involves the identification, analysis, redesigning, and implementation of workflows to eliminate redundancies and increase productivity; such a step should be

initiated so that the process runs in tandem with the strategic goals of the merged entity.

Table 3: Data Standardization Checklist.

Task	Responsible Party	Deadline
Data Cleansing	Data Governance Team	Month 1
Data Transformation	Data Engineering	Month 3
Data Validation	QA Team	Month 4
Data Integration Testing	Integration Team	Month 5

The process reengineering framework provides support for strategic goals because it ensures efficient and effective processes. This process flow diagram can explain the steps of process reengineering, which may provide clarity concerning changes in workflow.

Effectively Managing Change During Integration

Best practices in change management involve communication strategies and training programs. These would enable the handling of cultural resistance issues and make certain that the integrated ERP and BI systems are adopted without a hitch. To support that, an ERP and BI integration has to be helped out by a framework of change management provisioning for the involvement of stakeholders and continual improvement.

A flowchart could be used to illustrate the change management process, including feedback loops for its continuous improvement.

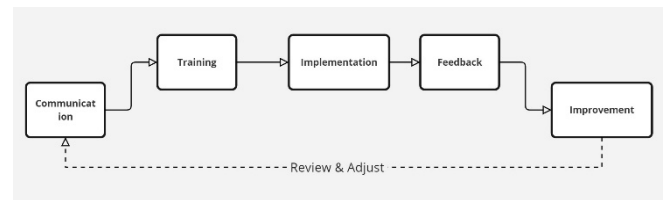


Figure 1: Change Management Process Flowchart.

5. Comparative Analysis of ERP and BI Integration Techniques

The following, therefore, are ways of integrating the ERP and BI systems using the Middleware Solution and Custom Development. All these options have different advantages with trade-offs that would require an organization to choose the best option that fits the needs of their organization, their strategic goals, or the resources available.

Middleware Solutions vs. Custom Development: A Comparative Overview

Middleware solutions provide a layer between various systems, providing them with the flexibility of communication and exchange of data without extensive custom coding. Much as most organizations seem to opt for it, often with pre-built connectors and APIs included, this tends to ensure that integration is quick with minimal resource investment⁷.

a. Implementation Speed: Middle-ware solutions are designed for fast implementations and often come with plug-and-play features that enable organizations to rapidly connect systems. Note, this speed is very important in circumstances where time is of the essence like the early stages of post-merger integration. On the other hand, Custom Development requires a

fully-fledged setup from design, coding, testing, and validation of the integration solution hence making the project timeline rather long.

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c. Resource Intensity: Concerning the consumption of resources, normally, a middleware solution requires fewer internal resources since it is constructed on already existing platforms and vendors that offer their services. Thus, it eliminates the necessity for developing specialized development teams and aids in investing internal resources of the organization into other strategic activities. On the other hand, custom development requires huge investments in skilled developers, related IT infrastructure, and constant support, making it very resource-intensive.

d. Customization: This is the major distinguishing factor across a solution. Most of the middleware solutions provide standard features that can not accommodate all the idiosyncratic integration needs of an Organization. They work best for companies with simple, almost commodity-like integrations. On the other hand, Custom Development gives one the flexibility to create very specialized solutions capable of dealing with complex data flows, Proprietary systems, and Unique business processes, making it the preferred choice when requirements are specific or advanced.

e. Cost: It becomes a critical element for the choice of an approach to integration. The Middleware Solution is usually cost-effective, has lower development and implementation costs, and is of great value in organizations operating on small budgets. It could also be very beneficial to investors who want to get their returns more quickly. This is compared to Custom Development, where higher upfront costs and associated continuous expenses on its maintenance and updates are required for the same purpose.

f. Implementation Speed: Middle-ware solutions are designed for fast implementations and often come with plug-and-play features that enable organizations to rapidly connect systems. Note, this speed is very important in circumstances where time is of the essence like the early stages of post-merger integration. On the other hand, Custom Development requires a fully-fledged setup from design, coding, testing, and validation of the integration solution hence making the project timeline rather long.

h. Flexibility and Scalability: The middleware solutions provide flexibility within the confinements of the tools and connectors available. The cloud-based middleware, like IPaaS, enhances scalability, letting organizations easily scale the integration as business needs change. Custom Development offers the most flexibility, enabling bespoke solutions to scale with an organization. However, how far down the scalability of such solutions goes is as good as the robustness of the design and architecture, which again depends upon the caliber of the development team.

i. Maintenance: In these two approaches, the maintenance

requirements are pretty different. In Middleware Solutions, the vendors provide support through regular updates and patch management, which takes away a heavy burden from internal IT teams. Custom Development requires that maintenance be in-house with the development team in effect, ongoing maintenance in the form of updates, bug fixes, and enhancements, all of which can become resource-intensive over time.

j. Use Case Suitability: This positioning gives Middleware Solutions better ground in organizations that plan to achieve any standard integration quickly and effectively. They are targeted at companies with less complex integration needs or ones that can function adequately with the standard out-of-the-box features of middleware. In contrast, Custom Development will be better placed for an organization whose needs of integration are unique or complex and can't be served with any ease by any of the standard solutions. This approach is also often chosen by companies that have to integrate proprietary systems, have specialized workflows, or process large amounts of complex data.

6. On-Premise vs. Cloud-Based Solutions: Choosing the Right Environment

Integrated business intelligence and enterprise resource planning systems are of central importance in real-time insight development, reporting capability fertilization, and advanced predictive analytics support. This information system assimilates data from diverse sources to provide a unified view of business activities and important performance measures. This is important for the maintenance of agility and responsiveness to dynamic market conditions⁸.

Solutions such as Microsoft Power BI provide a good example of linking resource planning with data analysis. In such integrated systems, extracting critical data, processing, and visualizing it is easy-thereby facilitating informed decision-making and strategic planning. On their part, the integrated BI ERP solutions ensure that the different systems involved in decision-making have a similar set of accurate information by synchronizing the data across all systems.

While implementing the integration of BI and ERP systems, an organization has to decide among various alternatives: Middleware Solutions, Custom Development, On-Premise, and Cloud-Based Integration. All of these alternatives have different benefits and thus need to be chosen according to the requirements, resources, and strategic objectives set by an organization⁹.

Cloud-Based Solutions: Quick scaling with very minimal maintenance, such solutions provide several benefits, including reduced infrastructure costs, inbuilt disaster recovery, constant updating processes, and improved security features.

On-Premise Solutions: This will suit organizations that have stringent requirements in terms of control and security over their data. On-premise systems provide greater control over the security of their data, full control over the integration environment, and customization given regulatory compliance.

The decision-makers have to think carefully about the needs of their organization and then choose an integration strategy. Guidance parameters that have been cited include the need for scalability, cost implications, security requirements, and technical capacity in terms of managing and maintaining the system. Only through this careful consideration of the elements

would organizations be able to choose the integration technique that best enhances their ERP and BI systems within the post-merger landscape.

7. Impact Assessment: Measuring the Success of ERP and BI Integration

The next section will give a set of key performance indicators that would apply in the effective measurement of success for the ERP and BI integration. A table is provided in detail to track and gauge the metrics over time for an organization.

Key performance indicators are one of the most important metrics for measuring the success of ERP and BI integration. Key metrics will include System Downtime, a measure of aggregate system downtime due to problems with the integration, indicating reliability; a User Adoption Rate, reflecting what percentage of staff employees are using the system effectively, speaking to the success of training and usability; and lastly, Process Completion Time by looking at the length of time taken to complete key processes before and after integration to understand efficiency improvements. Finally, ROI from Integration would be an estimate of the return on investments in integration, while Data Accuracy would guarantee that information is reliable enough for informed decision-making. The rate of compliance measures adherence to industry standards after integration, which becomes very important in terms of regulatory compliance. All these KPIs, when put together, give a vivid picture of the success of the integration and what is to be improved¹⁰.

8. Enhancing Operational Performance with BI

An integrated post-merger BI solution in an ERP environment has enormous potential to enhance the operations of the organization through the delivery of information gathered from real-time data on activities and performance. This section considers some of the more common BI tools and techniques that might be used for these purposes.

Integrating Data for Real-Time Analysis

Such integration of BI tools with ERP systems may allow for real-time data analysis and reporting. Since an ERP system contains all relevant business data, this type of integration provides current data for BI analysis, reflecting all business activities and hence forming the basis for well-informed decision-making.

The framework for BI-ERP integration typically includes data integration, real-time analytics, and custom reporting. This framework allows for smooth flows of data between systems and offers organizations effective ETL processes¹¹.

Custom Reports and Dashboards: Tailoring Data Visualizations

Custom reports and dashboards are developed about various business functions to provide operations with a clear, correct view. For example, the finance departments would utilize the dashboard to indicate the cash flow analysis, while the human resource departments use it to determine the rate of employee turnover.

The development of custom business intelligence reports and dashboards involves the collection of user requirements, designing the report, and deploying it. This framework aids in ensuring that the reports satisfy different business functions'

requirements¹².

Table 4: Sample KPIs for post-merger dashboards.

Business Function	Key Performance Indicator (KPI)	Reporting Frequency
Finance	Cash Flow Analysis	Monthly
HR	Employee Turnover Rate	Quarterly
Supply Chain	Inventory Turnover Ratio	Weekly
Sales	Customer Acquisition Cost	Monthly

Data Analytics and Forecasting: Predictive Insights for Strategic Planning

The tools of BI allow ERP data to be analyzed for trends and patterns, thus enhancing operations and creating forecasts that will allow planning for future growth while avoiding potential pitfalls.

One framework for constructing executive dashboards is by specifying what data should appear, the visualizations, and the access controls. This ensures that metrics such as ROI, market share, and operational costs are effectively monitored¹³.

9. Dashboarding to Augment Visibility

Effective dashboarding is at the core of providing end-to-end visibility of organizational performance and supporting decision-making. This can be achieved with the help of executive and operational dashboards along with personalized reporting tools, fostering further visibility and accountability across the organizational hierarchies¹⁴.

Executive Dashboards: Strategic Decision-Making Tools

An executive dashboard is created to serve as a top-level tool for seeing important metrics and performance indicators by senior management. A dashboard allows a detailed perspective of organizational performance for the top-level or senior executives in a firm, helping these individuals make strategic decisions using real-time data. They also include some metrics that are standard in most organizations: revenue growth, profit margins, customer satisfaction, and market share.

These dashboards shape lots of complicated data into simple yet visual presentations that the chart helps to present, facilitating strategic decision-making. They aid the executive in identifying trends and assessing risks in the allocation of resources. They provide a holistic approach to individual organizational performance for long-term planning of goals.

In many businesses, it's usually applied to executive dashboards intended for the identification of critical metrics, designing intuitive visualization, and assurance of data accuracy. A framework for executive dashboards will have the requirement to assimilate and integrate data from multiple sources, be user-friendly, and ensure safe and secure access to protected information.

Operational Dashboards: Real-Time Process Monitoring

Examples of such operational dashboards are detailed in-the-moment presentations of business processes and functions, allowing the direct manager to view a whole vista of activities as they unfurl so that corrections can be made in real-time to ensure that operational action is falling into alignment with strategic

intention. Normally, these dashboards concern production efficiency, inventory levels, order fulfillment, or customer service response times.

The operational dashboard leads to operational efficiency as all the vital information needed for identifying the cause of the bottleneck, streamlining the process, and improving resource use is given to the managers. This is used for real-time monitoring and quick response to changes in operational conditions, thus making greatly desired continuous improvement possible.

Development of operational dashboards includes the selection of relevant metrics, making real-time data feed integrations, and developing customizable view levels for different user levels. In this regard, such a framework ensures the managers have the most current and actionable data.

Customizable Reporting: Empowering Data-Driven Culture

Customizable reporting tools are made such that users can tailor both reports and visualizations to meet the needs presented at any single point. The ability of such tools helps users generate relevant insights towards roles and responsibilities that further ensure better and more accountable decision-making.

Customizable reporting puts power in the hands of users; it would let them analyze the data in a manner most helpful to their objectives. This facilitates a culture of being data-driven by making it easier for employees across all ranks to access and interpret relevant information.

Interfaces in the customizable reporting framework are interactive end-user aids; they have powerful data querying tools as well as an assortment of visualization styles. They provide the ability to share reports and insights with colleagues.

10. Future Trends in Post-Merger ERP and BI Integration

Several developments in technology are further going to influence the integration of the ERP and BI systems to a very great extent in the context of mergers and acquisitions. These trends bring opportunities for enhanced scalability, efficiency, and security¹⁵.

Cloud-Based ERP and BI Solutions

Some of the key advantages of cloud-based solutions include scalability, cost-effectiveness, and increased collaboration. It is easy to increase the operations of an organization and access data from any location after implementing cloud hosting for both the ERP and BI systems, which helps different groups to collaborate better.

In terms of migrating ERP and BI systems to the cloud, a strategic framework should include structures such as assessment, planning, migration, and post-migration optimization. Such a framework helps any organization to shift smoothly to the cloud while gaining maximum benefits from the adoption of cloud-based solutions¹⁶.

AI-Driven Integration

Artificial intelligence and machine learning can automate data integration, enhance analytics, and predict accuracy. AI-driven tools simplify mapping, automate processes, and predict analytics for more efficient and effective integration. An AI integration framework should entail data preparation, model training, system integration, and continuous learning. This is

meant to ensure that AI tools are effectively integrated within an ERP and a BI system so that actionable insight is realized.

Blockchain for Data Integrity

Blockchain technology can be used to ensure data integrity and improve the security of integrated ERP and BI systems. Blockchain provides a protected, transparent, immutable transaction record, hence improving confidence and compliance in data management.

The blockchain implementation plan would consist of use cases, system design, and deployment strategy. This plan helps in effectively integrating blockchain technology to secure data transactions¹⁷.

About only the cloud-based solutions, AI-driven integration, and blockchain technology, the organizations are better positioned to scale, improve efficiency, and enhance security in the post-merger integration initiative.

11. Conclusion

In such a context, efficient post-merger ERP integration will secure all the promises of M&As. By adopting strategic system harmonization-driven by a focus on operational performance improvement through robust dashboarding solutions-organizations will be capable of sailing through all the complexities of ERP integration to attain sustainable success within the post-merger landscape. Integrate BI tools with ERP to give a comprehensive view of operations, drive data-driven decisions, and improve productivity and efficiency for customer satisfaction. New tools and methodologies spawned from the continued evolution of technology will further facilitate the process of integration, helping organizations to extract more value out of M&A activities. In this revised edition, BI initiatives have been included, and references for the integration of BI with ERP systems to act as a single comprehensive guide for the successful post-merger integration of ERP. A white paper now provides detailed practical guidance on ERP and BI integration as a part of the post-merger integration process, stressing strategic planning and the role of technology in making the integration process successful.

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