ERP Implementation in the Education Sector Using a Hybrid IT Governance Framework

Enterprise resource planning (ERP) aims to enhance business productivity, quality and efficiency by integrating operations and processes. Most major ERP implementations to date have been in the manufacturing and services vertical as compared to the educational vertical. Educational institutions globally have begun to realize the benefits of ERP (such as cost reduction of operations, business process standardization/integration, and enhancement of productivity and value) and are currently investing heavily in it. Yet, these institutions are apprehensive of the fact that ERP projects are prone to failure.

IT governance principles focus on accountability of IT-related decisions, business-IT alignment, risk management, performance measurement and value delivery to ensure optimum value. The hybrid IT governance framework, ERP-BPM-SIRV (i.e., enterprise resource planning/business process management/saving, investing and returning value), presented here, consists of various steps and processes based on the findings from an ERP implementation at a premier Indian business school. ERP-BPM-SIRV takes dimensions of IT governance from various established frameworks such as COBIT®, Val IT and the 4A Framework, and established theories proposed by Peter Weill and Jeanne Ross. Dimensions from multiple models are included to make ERP-BPM-SIRV comprehensive enough to respond to challenges (e.g., identifying business and IT goals, project team formation, top management support, IT maturity, project management issues) encountered during ERP implementation.

The first of its kind, this framework clearly emphasizes the input/output (I/O) of processes and identifies critical decision points based on the mentioned frameworks and theories. It indicates a sequence of important processes needed for proper planning of an ERP implementation in an academic institution to minimize the risk of failure.

CASE STUDY

In 2010, administrators of the Indian Institute of Management Lucknow (IIML) realized the need for procuring a centralized student life cycle system (CSLS) software. The need was driven by the integration of its student life cycle and office processes. This system would enable IIML to share data across various departments using a common database, minimize man power, track its various resources, control costs, and standardize and integrate various business processes.

After discussion between the IIML Board of Governors (BoG) and the Computer Advisory Committee (CAC), the chairman decided to implement a commercial off-the-shelf (COTS) ERP solution for its CSLS. CAC is responsible for making IT decisions in accordance with IIML’s academic and business objectives. A 35-member ERP Core Committee (ERPCC) was formed to implement the project. This committee was headed by the director of the institute and consisted of all functional heads, members from CAC, the financial advisor also serving as the chief accounts officer (FAO), and the chief administrative officer (CAO). This committee studied various ERP COTS offerings from different vendors in the education vertical. The ERPCC recommended PeopleSoft Campus Solutions, as it matched the majority of the processes at IIML.

The next task was to prepare a request for proposal (RFP) for the project. For this, the ERPCC collected requirements from all stakeholders. The RFP had two parts. The first part detailed the technical and functional requirements and the second part discussed, in detail, the financials, such as payment milestones and penalties. The ERPCC prepared the draft of the RFP in six months; this included multiple rounds of discussion with and input from stakeholders.

The size of ERPCC was then reduced to 12 members, forming the ERP Steering Committee (ERPS), which consisted of three faculty members from the IT area, two members...
of the computer center (CC), the FAO, the CAO, the chairman of the Working Managers’ Program (WMP), the dean of the IIML Noida campus, one person from the office of the director of IIML, and two other senior faculty members from non-IT areas. The ERPSC had both IT and non-IT representatives to facilitate effective business-IT alignment during the ERP implementation. The ERPSC was mainly responsible for shortlisting and selecting the most promising system integrator (SI) for the project and closely monitoring the ERP implementation.

The ERPSC then sent the RFP to nine highly regarded SIs with a presence in India and experience rolling out similar projects in the education vertical. The SI would be responsible for carrying out the end-to-end ERP implementation and also working closely with the ERPSC. The ERPSC followed the Combined Quality Cum Cost Based System (CQCCBS), to identify an appropriate SI for IIML. CQCCBS ranks each vendor using a weighted average of the financial and technical parameters specified in the tender document.

The chosen SI appointed a 12-member onsite team for the ERP project implementation at IIML. This team conducted an as-is study to understand the existing processes at IIML. For this, the team interacted closely with end users. After completing the as-is study, the SI team proposed a to-be report that highlighted the way best practices could be adopted in the ERP implementation at IIML. Figure 1 shows the timeline of all major events during this process.

THE ERP-BPM-SIRV FRAMEWORK IN USE
As a result of the findings obtained during the ERP implementation at IIML, the ERP-BPM-SIRV framework was developed. The framework, as shown in Figure 2, consists of various steps that are performed sequentially over time (t₀ – t₁): t₀ represents the time at the start of the ERP implementation and t₁ represents the time at the end of the ERP implementation:

1. Performance measurement—IIML identified business principles (BPs) from its vision and mission. BPs were then translated to IT principles (ITPs). Based on the BPs and ITPs, IIML identified various key growth indicators (KGIs) (i.e., increase in productivity, cost control, increase in research and consulting output) and key performance indicators (KPIs) (i.e., return on investment [ROI], reduction in cost, number of publications, consulting projects). Using KPIs, IIML monitored its IT investment and performance measurement.

2. Enterprise architecture—IIML identified its current enterprise architecture (EA) based on the level of initial business process integration (BPI) and business process standardization (BPS) (i.e., BPIₜ₀ and BPSₜ₀). Here t₀ stands for time before ERP implementation started. IIML was of the view that the proposed ERP implementation would lead them to a centralized EA.

3. IT architecture—This follows the EA. IIML identified the current IT architecture (ITA) through technology-related policies and practices, such as auditing and data encryption, which are used to handle IT infrastructure such as software, hardware, networks and databases. This current ITA helps IIML determine the readiness of ERP implementation.

4. Risk management—Selecting the right CSLS solution from options including COTS, cloud-based ERP and developing in-house solutions is important in order to reduce the risk of ERP implementation. The ERPSC had to choose the appropriate CSLS option based on budget constraints (IT

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**Figure 1—Timeline of Major Events**

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<tr>
<td>ERPCC formed</td>
<td>Preparation of RFP</td>
<td>ERPSC formed</td>
<td>EOI sent to SIs</td>
<td>SI selection process</td>
<td>As-is study</td>
<td>To-be study</td>
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<td>(35 members)</td>
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<td>(12 members)</td>
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Figure 2—The ERP-BPM-SIRV Framework, ROI

BP—Business Principles
ITP—IT Principles
BPI/S—Business Process Integration/Standardization
E/A (Deliverables)—Expected/Actual (Deliverables)

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investment decision) and technical and organizational parameters as illustrated in figure 3. In this case, the ERPSC preferred COTS over cloud CSLS and in-house CSLS.

5. **Business-IT alignment**—Members of the ERPSC had participation from the business and the IT domain to ensure proper business-IT alignment. Business-IT alignment ensures that the IT is contributing to the business strategy. IIML used an organizational chart to identify business and IT stakeholders.

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<th>Figure 3—Parameters for Evaluating All CSLS Options</th>
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<td>1. Cost (license, implementation, annual maintenance cost [AMC])</td>
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<td>2. Time</td>
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<td>3. Level of customization needed</td>
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<td>4. Knowledge of existing business processes</td>
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<td>5. Change management</td>
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6. **RFP preparation**—The ERPCC collected technical requirements and functional requirements from stakeholders for preparing the RFP. It was a challenging task because it required multiple rounds of discussion with respective members of every department of IIML.

7. **Portfolio management**—The ERPCC prepared the RFP and decided on the modules to be bought based on budget and functional requirements.

8. **SI selection**—IIML had to decide on an SI for rolling out the ERP project. The ERPSC evaluated various SIs based on technical and financial parameters. They adopted a combined quality and cost-based system to score and rank the SIs.

9. **Monitor implementation**—The SI and the ERPSC worked closely during the implementation of the ERP project. The timeline and cost required for implementation were determined and monitored during the implementation process to make sure that the actual deliverables were in line with expected deliverables.

10. **Value assessment**—The level of BPS, BPI, and standardized and secure technology all had an impact on ROI, productivity and cost control. Goal assessment used KPIs and KGIs.

**CONCLUSION**

Driving optimum value from ERP investment is a challenging task. This hybrid IT governance framework, ERP-BPM-SIRV, proposes that an academic institution should execute IT governance principles, such as identifying KGI and KPI, proper business/IT alignment, SI evaluation, RFP preparation, portfolio management, and monitoring implementation to derive optimal value from ERP projects. This framework also helps mitigate challenges (such as defining a clear understanding of strategic goals, ERP team formation, top management support, IT maturity and project management issues) during ERP implementation.

IIML followed IT governance principles to achieve the desired value from the ERP system. ERP has created value for IIML in the form of increased BPS and BPI, better cost control, and increased productivity. The ERP-BPM-SIRV framework can be useful for other educational institutions planning to implement ERP.

**ENDNOTES**


7 Op cit, Weill, P. 2004
10 *Op cit*, ISACA 2012
15 *Op cit*, ISACA 2008